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POLLEN ANALYSIS OF WINTER HONEYS COLLECTED FROM PAUNI TAHSIL OF BHANDARA DISTRICT, (MAHARASHTRA STATE)

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ABSTRACT

The paper incorporates a qualitative and quantitative analysis of pollen contents in six squeezed honey samples of *Apis dorsata* hives collected from Pauni tahsil of Bhandara district..Five were found to be unifloral. *Cajanus cajan*. represents the predominant pollen type in three samples ranged from (78.84% to 50.19%) are designated as *Cajanus honey*.the other two predominant pollen types are *Lathyrus sativus* (82.81%) and *Lagascea mollis* (45.09%). In multifloral honey *Alternanthera sessilis* and *Lagascea mollis* formed secondary pollen types. The other significant pollen types recorded include *Capsicum annuum*, *Sphaeranthus indicus*, *Coriandrum sativum*, *Tridax procumbens*, *Citrus sp.*, *Brassica sp.*, *Pisum sativum* and *Cleome gynandra*. The pollen counts ranged from 12,000 to 96,000. The data reflects the floral situation of the place where particular honey was produced and the identification of geographical origin based on the presence of a combination of pollen types of that particular area.

Keywords: Pollen, Honey, *Apis dorsata*, Pauni tahsil

INTRODUCTION

Melittopalynology is an applied branch of palynology dealing with the study of pollen grains in honey samples and its application in Apiculture. Plant produces nectar and pollen both of which are avidly sought after by the bees to provide nutrition to the colony. Melittopalynology is concerned with the identification of pollen in honeys. Evaluation of plants for their utility as sources of bee forage provides the information needed to assess the potential for bee keeping in an area. Melittopalynological studies are thus helpful in bee management and in promoting the bee -keeping development. Laboratory studies, using melittopalynological methods have been made to evaluate sources of pollen and nectar for honey bees in different parts of the country namely Maharashtra (Bhusari *et al.*, 2005, Phadke,1962, Kumar and Jagtap, 1988, Kalkar and Shende, 2009,2010. Mate, 2013, Borkar Laxmikant and Mate Devendra., 2014, Mate Devendra,2015) Andhra Pradesh (Ramanujam and Khatija, 1991, Kalpana and Ramanujam,1991, Moses,1987), Karnataka (Yoganarasimhan, 1982, Agashe and Ranjaswami, 1997, Sheshagri, 1985, Bhargava *et al.*, 2009), Lucknow (Suryanarayana, 1976) and Indian honeys (Sen and Banarjee, 1956, Nair, 1964, Seethalakshmi,1993). Present investigation incorporates a qualitative and quantitative pollen analysis of six honey sample from Pauni tahsil of Bhandara District. In order to identify the chief bee foraging plants recognize the uni and multifloral honeys and identify areas suitable for bee-keeping industry in this area. It is further investigated that a study of this nature would also highlight the geographical source of the honey sample.

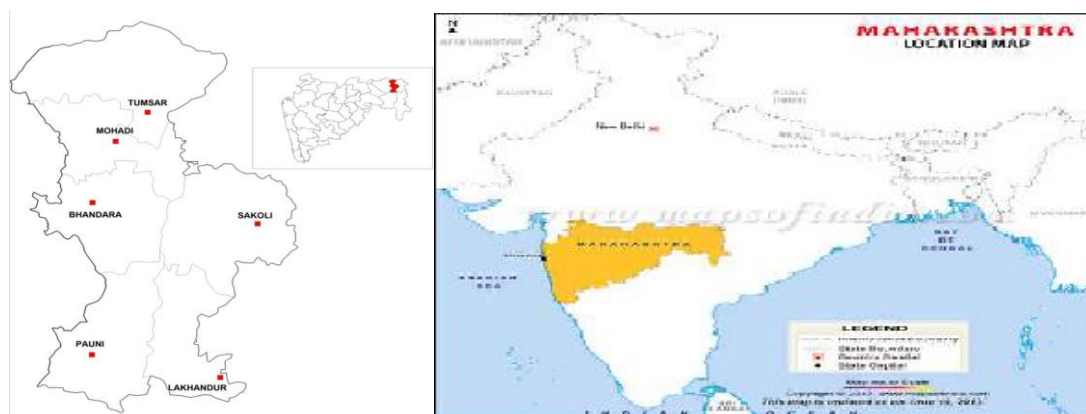


Fig. 1: Map of Maharashtra Showing Bhandara District & Pauni Tahsil

MATERIALS AND METHODS

Six honey samples viz., BHA-PAU-Itg, BHA-PAU-Kah-A, BHA-PAU-Kah-B, BHA-PAU-Pau, BHA-PAU-Ama, BHA-PAU-Gud were collected during the winter season from different villages from pauni tahsil. All the samples represent squeezed honey collected from the natural *Apis dorsata* hives.

The squeezing (pressing) of the honey combs was carried out under personal supervision and only honey bearing portion of the comb was used for this purpose. 1 ml of the honey sample was dissolved in 10 ml of distilled

water & centrifuged. The sediment obtained was treated with 5 ml glacial acetic acid. The acetic acid was decanted and the material was subjected to acetolysis (Erdtman, 1960) for analysing the pollen content in honeys qualitatively & quantitatively, three pollen slides were prepared for each sample. The recorded pollen types were identified with the help of reference slides collection & relevant literature. For quantification of pollen types recorded, a total of 300 pollen grains were counted at random from the three palynoslides prepared for each samples. Based on their frequencies, the pollen types encountered were placed under the pollen frequency classes recommended by the International Commission for Bee Botany Louveaux *et al.*; (1978) viz., predominant pollen types (>45%), secondary pollen types (16-45%), important minor pollen types (3-15%), and minor pollen types (<3%). Non-melliferous (anemophilous) pollen types were excluded while determine the frequencies of melliferous pollen types (International Commission for Bee Botany Louveaux *et al.* ;1978). The absolute pollen count of each sample was determined in accordance with the method recommended by Suryanarayana *et al.* (1981). Unacetolysed samples of honey were examined for the study of honeydew elements (fungal spores, hyphal threads and algal filaments)

RESULTS AND DISCUSSIONS

Of the 6 honey samples collected from Pauni tahsil, Five sample represented predominant pollen type i.e unifloral. *Lathyrus sativus* (82.81%) and *Lagascea mollis* (45.09%) formed predominant pollen type in two sample (BHA-PAU-Ama and BHA-PAU-Gud), *Cajanus cajan* ranged from (78.84% to 50.19%) represented the predominant pollen type in three samples (i.e. BHA-PAU-Itg, BHA-PAU-Kah-A, BHA-PAU-Kah-B) while One multifloral (BHA-PAU-Pau). The other significant pollen types recorded includes (secondary and up to minor pollen) *Cajanus cajan*, *Lathyrus sativus*, *Lagascea mollis*, *Capsicum annuum*, *Alternanthera sessilis*, *Sphaeranthus indicus*, *Tridax procumbens*, *Coriandrum sativum*, *Brassica sp.*, *Citrus sp.*, *Pisum sativum*, *Cleome gynandra*, *Aegle marmelos*, *Celosia argentea*, *Blumea sp.*, *Dodonaea viscosa*, *Leucaena leucocephala*, *Prosopis juliflora*, *Hyptis saveleons*, *Parthenium hysterophorus* and *Casaeria elliptica*

Table 1: Pollen frequency class & frequencies (%) in *Apis dorsata* winter honeys

Sample No.	Type of Honey	Absolute Pollen Count (APC)/g	HDE/P	Pollen Type
BHA-PAU-Itg	Unifloral	96000/g	HDE/P=0.02	P - <i>Cajanus cajan</i> (50.19) S - <i>Capsicum annuum</i> (30.00) I - Nil M - Cel (1.23), Blu (0.23), Dod (0.50), Pis (0.25) UN - Nil NMP - <i>Sorghum vulgare</i> (17.60)
BHA-PAU-Kah -A	Unifloral	80000/g,	HDE/P =0.01	P - <i>Cajanus cajan</i> (78.84) S - Nil I - <i>Alternanthera sessilis</i> (9.40) <i>Sphaeranthus indicus</i> (4.52) <i>Lagascea mollis</i> (6.20) M - Leu (0.23), Pro (0.30), Lat (0.22) UN - 0.29 NMP - Nil
BHA-PAU-Kah –B	Unifloral	74000/g	HDE/P=0.01	P - <i>Cajanus cajan</i> (78.08) S - <i>Capsicum annuum</i> (15.82) I - Nil M - Lag(1.29), Sph (1.29) Hyp (1.0), Pis (0.18) UN - Nil NMP - <i>Sorghum vulgare</i> (2.34)
BHA-PAU-Pau	Multifloral	12000/g	HDE/P=0.02	P - Nil S - <i>Alternanthera sessilis</i> (39.02)

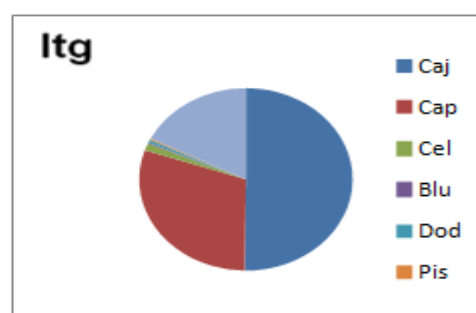
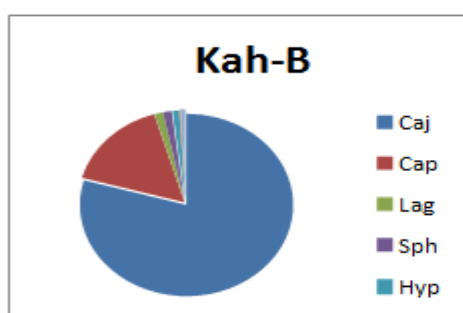
				<p><i>Lagascea mollis</i> (40.82)</p> <p>I - <i>Capsicum annuum</i> (3.02)</p> <p><i>Coriandrum sativum</i> (3.80)</p> <p><i>Tridax procumbens</i> (5.72)</p> <p>M - Hyp (1.24), Par (2.08), Cas (1.0), Aeg (0.23)</p> <p>UN - Nil</p> <p>NMP- <i>Sorghum vulgare</i> (3.07)</p>
BHA-PAU-Ama	Unifloral	74000/g	HDE/P =0.02	<p>P - <i>Lathyrus sativus</i> (82.81)</p> <p>S - Nil</p> <p>I - <i>Alternanthera sessilis</i> (5.76)</p> <p><i>Citrus</i> sp. (7.72)</p> <p><i>Sphaeranthus indicus</i> (3.71)</p> <p>M - Nil</p> <p>UN - Nil</p> <p>NMP- Nil</p>
BHA-PAU-Gud	Unifloral	75000/g	HDE/P=0.02	<p>P - <i>Lagascea mollis</i> (45.09)</p> <p>S - <i>Cajanus cajan</i>(20.12)</p> <p>I - <i>Aegle marmelos</i> (3.08)</p> <p><i>Lathyrus sativus</i> (3.14)</p> <p><i>Althenanthera sessilis</i> (3.10)</p> <p><i>Brassica</i> sp. (6.19)</p> <p><i>Pisum sativum</i> (8.70)</p> <p><i>Cleome gynandra</i> (3.48)</p> <p>M - Nil</p> <p>UN - Nil</p> <p>NMP- <i>Sorghum vulgare</i> (7.13)</p>

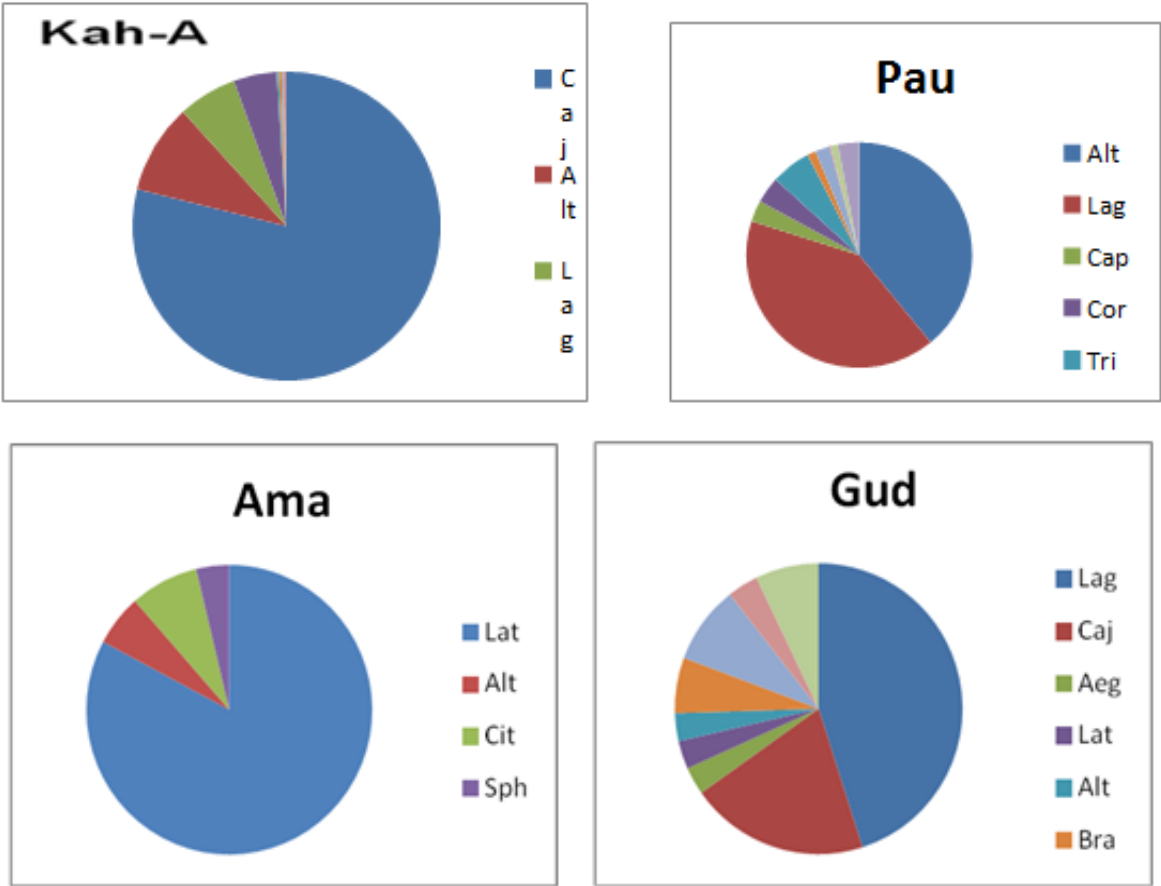
Table 2: Showing Pollen Morphology of Melliferous / Non-Melliferous taxa

Pollen types	Pollen Size, Shape and Symmetry	Aperture Pattern	Pollen wall (Sporoderm) Structure and Sculpture
<i>Aegle marmelos</i> (Linn.) Corr.Serr.	10-15 µm, Amb circular; 23 × 21 µm, Spheroidal, isopolar, radially symmetrical	Tetracolporate, colpi elliptic almost 5 µm wide near equator	Exine ±3 µm thick, muri well developed, lamina polygonal, surface reticulate
<i>Alternanthera sessilis</i> (Linn.) R. Br. ex. Dc.	19.5-21µm, Amb spheroidal; 16-21× 17-22 µm, oblate spheroidal; radially symmetrical	Pantoporate, pores 12 in number, 4-5 µm in diam, lodged in the pentagonal or hexagonal luminoid depressions, one in each and almost as wide as the luminoid depressions which are 12 in number, interporal distance 6-7µm	Exine 2 µm thick, tectate, luminoid depressions pentagonal or hexagonal 6-8µm in diam., psilate, luminoid ridges simplibaculate.
<i>Blumea</i> sp.	21-24 µm, Amb spheroidal, isopolar, Radially symmetrical	Tricolprate, colpi long	Exine 3 µm thick, surface echinate, spines 5-6 µm long, 4 spines in the interapertural region interspinal area psilate
<i>Brassica</i> sp.(Linn) Koch	30-33 µm, Amb rounded triangular to almost spheroidal; 27-31× 24-27 µm, prolate spheroidal; radially symmetrical	Tricolplate, colpal ends tapering, tips acute	Exine 2.5 µm thick, sub tectate, surface reticulate, heterobrochate, meshes narrow at mesocolpal regions giving a striate look, lumina polygonal

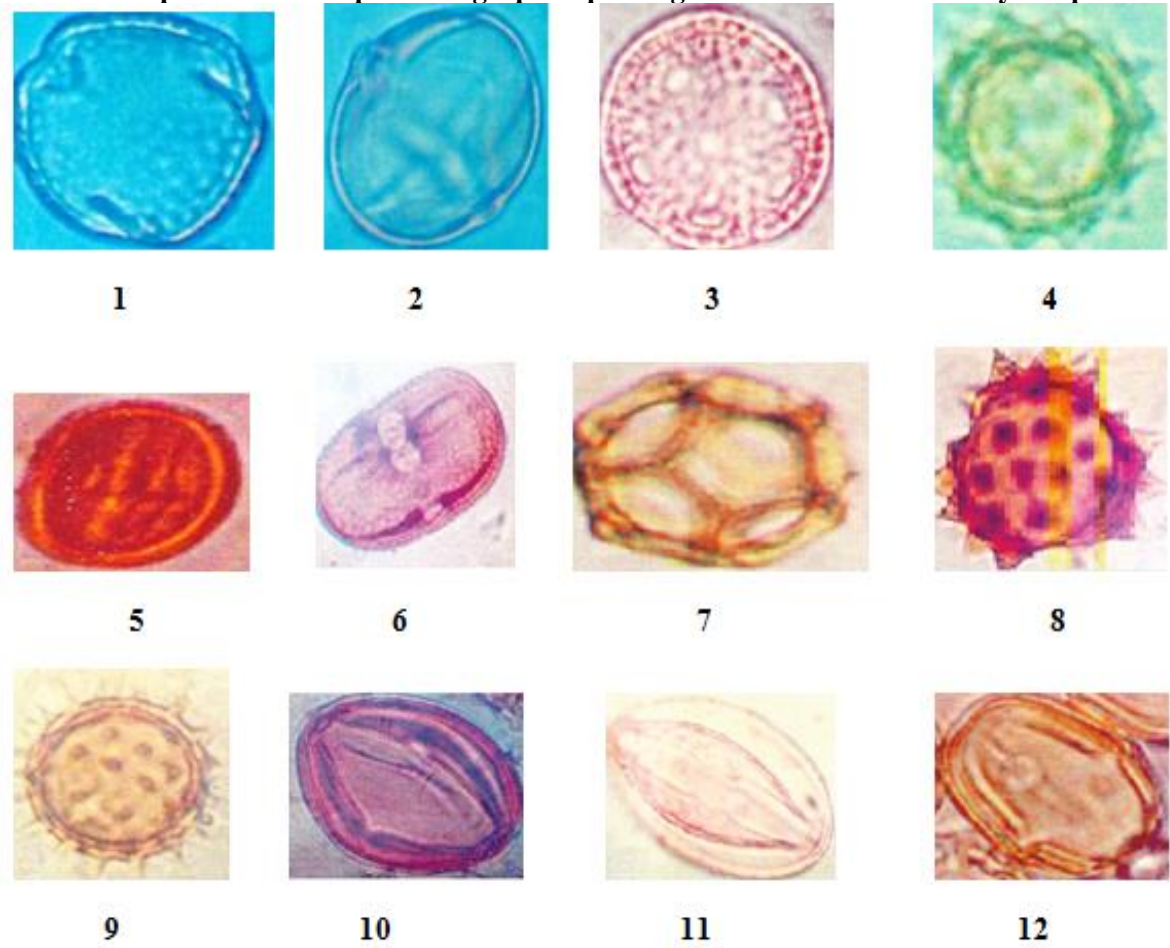
<i>Cajanus cajan</i> (Linn.) millsp.	35-37 μ m Amb rounded triangular ; 32-34 \times 35-39 μ m, oblate spheroidal; radially symmetrical	Tricolporate, colpi long, ends tapering, tips acute, ora circular	Exine 3.1 μ m thick, sub tectate, surface reticulate, heterobrochate, meshes smaller near the apertural regions and larger elsewhere, lumina hexa to pentagonal, psilate muri simplibaculate
<i>Capsicum annuum</i> Linn	29-34 μ m, Amb spheroidal; 29-35 \times 26-30 μ m, subprolate; radially symmetrical	Tricolporate , colpi constricted at oral region, ends tapering, tips acute, ora prominently lalongate	Exine 1.5 μ m thick, tectate, surface faintly granular to almost psilate
<i>Celosia argentea</i> Linn	30-35 μ m spheroidal radially symmetrical	Pantoporate, pore No. 15- 20, circular. Diam; 4-5 μ m, pore membrane flecked with granules, interporal distance 8-11 μ m	Exine 2 μ m thick, tectate, interporal space coarsely granular
<i>Coriandrum sativum</i> Linn	23-28 μ m, Amb seen only occasionally , rounded triangular; 35-28 \times 15-16 μ m perprolate constricted of the equator, Radially symmetrical	Tricolporate, colpi long, narrow, ora lalongate to circular	Exine 1.5-2 μ m thick at poles and 2.5 – 3.5 μ m thick at equator, subtectate, surface finely reticulate
<i>Casearia elliptica</i> Willd	29-37 μ m, Amb spheroidal ; 28-36 \times 27-33 μ m subprolate radially symmetrical	Tricolporate , colpi with tapering ends, ora lalongate	Exine 1.5 μ m thick, tectate, surface psilate
<i>Citrus</i> sp.	27-29 μ m, Amb squarish, 26-30 \times 25-27 μ m, prolate spheroidal radially symmetrical	Tetracolporate, colpi linear, tips acute, ora lalongate	Exine 2 μ m thick subtectate, Surface Reticulate. Heterobrochate, meshes smaller near the apertural regions and larger elsewhere, lumina hexa to pentagonal or irregular, psilate, muri simpli to locally duplibaculate
<i>Cleome gynandra</i> Linn	19-21 μ m, Amb spheroidal, 18-22 \times 14-16 μ m, prolate spheroidal; radially symmetrical	Tricolporate, colpi with tapering ends, ora faint, lalongate	Exine 1 μ m thick, sub-tectate, surface finely reticulate, homobrochate, lumina polygonal, smooth, muri simplibaculate
<i>Dodonaea viscosa</i> (Linn).Jacq.	29-32 μ m, Amb subtriangular to rounded with slightly projecting obtuse angles: 30-33 \times 26-29 μ m prolate spheroidal, Radially symmetrical	Tricolporate, colpi long and narrow, almost reaching the poles, ora lalongate with Plate Fig. heavy endexinous thickening on the polar sides	Exine 2.5 μ m thick, subtectate, surface faintly microreticulate

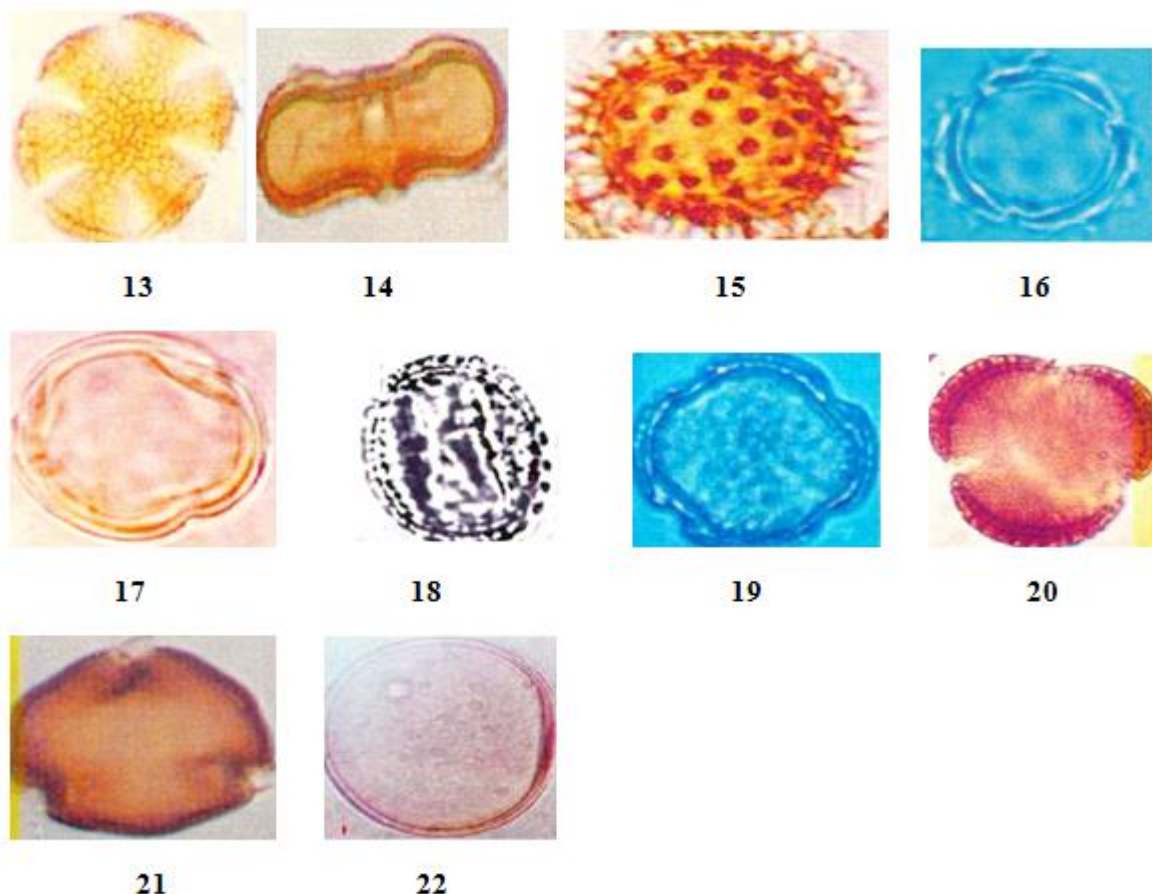
<i>Hyptis suaveolens</i> (Linn.) Poit	35-39 µm, Amb spheroidal; 32-35× 36-39 µm, oblate spheroidal ; Radially symmetrical	Hexacolpate, colpi long, tips acute	Exine 2.5 µm thick, subtectate, surface reticulate (at places retipilate), reticulum homobrochate, lumina polygonal to circular with few free pila heads, muri simplibaculate
<i>Lagascea mollis</i> Cav.	38-42 µm, Amb spheroidal to rounded triangular; 33-35 × 39-43 µm, oblate spheroidal ; Radially symmetrical	Tricolporate, colpi linear, tips acute, ora lalongate	Exine 5 µm thick tectate, surface echinate, spines 6.5 µm long, base 2.3 µm broad
<i>Leucaena leucocephala</i> (Lam.) de Wit	52-59 µm, Amb spheroidal : 47-49×51-58 µm, sub oblate: Radially symmetrical	Tricolporate colpilong, tips acute, ora lalongate	Exine 4 µm thick, subtectate surface microreticulate, homobrochate
<i>Lathyrus sativus</i> Linn.	42 × 31.5 µm, prolate to perprolate , Radially symmetrical	Tricolporate, colpi long, ends tapering, ora circular to slightly lalongate	Exine 1.5 µm thick, subtectate, surface reticulate
<i>Prosopis juliflora</i> (Sw.) Dc	36-39 µm, Amb rounded triangular; 38-42× 30-35 µm, prolate to subprolate; Radially symmetrical	Tricolporate, occasionally syncolpate, colpi tapering towards poles, tips acute, ora lalongate	Exine 3.2 µm thick, tectate surface faintly reticulate
<i>Pisum sativum</i> Linn.	55-58 25-28 µm, prolate to perprolate; radially symmetrical	Tricolporate, colpi long, ends tapering, ora circular to slightly lalongate	Exine 1.5 µm thick, subtectate, surface reticulate
<i>Parthenium hysterophorus</i> Linn	16.6 to 19.8 µm, Amb spheroidal , oblate spheroidal, radially symmetrical	Tricolporate colpi long, ends tapering, tips acute, ora lalongate	Exine 3 µm thick, tectate , surface echinate, spines short 2 µm, to 3 µm, , long 2 µm, in diam at base
<i>Sphaeranthus indicus</i> Linn.	28-33 µm, Amb spheroidal; 26-29x 30-34 µm, suboblate; Radially symmetrical	Tricolporate, colpilinear, tips acute ora lalongate	Exine (without spines) 3 µm thick, tectate, surface echinate, spines 4- 5 µm long , 3 µm broad at the base
<i>Tridax procumbens</i> Linn.	31-38 µm, Amb rounded triangular to squarish; 30-35x 32-38 µm, oblate spheroidal; Radially symmetrical	Tri to tetra colporate, colpi linear, sharply tapering, ora faint, circular	Exine 5 µm (without spines) thick, tectate, surface echinate, spines 6 µm long, 2.5 µm in diam, at base





Photoplate- Microscopic Photograph of pollen grain encountered in honey sample





- | | | |
|-------------------------------------|--------------------------------|------------------------------|
| 1) <i>Cajanus cajan</i> | 2) <i>Capsicum annum</i> | 3) <i>Celosia argentea</i> |
| 4) <i>Blumea</i> sp. | 5) <i>Dodonaea viscosa</i> | 6) <i>Pisum sativum</i> |
| 7) <i>Alternanthera sessilis</i> | 8) <i>Sphaeranthus indicus</i> | 9) <i>Lagascea mollis</i> |
| 10) <i>Leucaena leucocephala</i> | 11) <i>Prosopis juliflora</i> | 12) <i>Lathyrus sativus</i> |
| 13) <i>Hyptis saveleons</i> | 14) <i>Coriandrum sativum</i> | 15) <i>Tridax procumbens</i> |
| 16) <i>Parthenium hysterophorus</i> | 17) <i>Casaria elliptica</i> | 18) <i>Aegle marmelos</i> |
| 19) <i>Citrus</i> sp. | 20) <i>Brassica</i> sp. | 21) <i>Cleome gynandra</i> |
| 22) <i>Sorghum vulgare</i> | | |

A total number of 22 pollen types (21 melliferous and 1 non-melliferous anemophilous taxa) referable to 12 families have been recodered from Pauni tahsils(Photoplate). The samples No. BHA-PAU-Pau showed the maximum number of pollen types (9) and the sample No. BHA-PAU-Ama showed the minimum number (4).

In the sample (BHA-PAU-Itg) however the pollen of *Sorghum vulgare* were found to be good number(17.60%). The absolute pollen counts ranged from 12,000/g to 96,000/g and the HDE/P ratio ranged from 0.01 to 0.02. The details of the pollen analysis of the 6 honey samples (melliferous/nonmelliferous) are represented in table 1. Similarly individual palynograph (Pollen spectra) of each honey sample and composite palynograph has also been given to show the pollen contents of the samples of Pauni tahsil.(Fig Itg,Kah-A, Kah-B, Pau ,Ama, and Gud) The distinguishing morphological features of the pollen types encountered in the present study have been given.(Table-2). The bee forage plants of Bhandara tahsil are of 3 categories:

1.Crop plants: *Cajanus cajan*, *Brassica* sp. *Capsicum annum*, *Lathyrus sativus*,*Coriandrum sativum*, *Pisum sativum* and *Sorghum vulgare*.

2. Arborescent taxa/shrub: *Citrus* sp., *Casaria elliptica*, *Leucaena leucocephala*, *Prosopis juliflora*,*Dodonaea viscosa*, and *Aegle marmelos*.

3. Herbaceous weeds: *Celosia argentea*,*Cleome gynandra*, *Parthenium hysterophorus*, *Sphaeranthus indicus*, *Tridax procumbens*, *Blumea* sp.,*Alternanthera sessilis*, *Lagascea mollis*, *Hyptis saveleons*,

Of these three categories the crop plant *Cajanus cajan*, *Capsicum annum*, *Lathyrus sativus* constitute the chief bee forage plant in this tahsil during winter season. Besides the shrub and weed are secondary or

important minor nectar or pollen source for the honey bees. Our observation indicate that *Cajanus cajan* represents abundant nectar and pollen source to *Apis dorsata*

The region selected for the present study has good potential for sustaining bee keeping ventures because of the diversity of nectar and pollen taxa. Since *Cajanus cajan* Member of Fabaceae is major source of bee forage plant for honey bees therefore efforts should be made to increase its cultivation. The other plant encountered in these honey samples are the members of families like Solanaceae, Amaranthaceae, Asteraceae, Sapindaceae, Lamiaceae, Umbelliferae, Rutaceae, Brassicaceae, Capparidaceae, Salicaceae and Caesalpiniaceae in this area.

To improve the bee-keeping industry a proper understanding and mutualism between bees and available plant taxa in the region and in a particular season is necessary. The identified taxa were not only the economic crops but also play an important role in the development of bee-keeping in this region.

This data reflects the floral situation of the place where particular honey was produced and the identification of geographical origin based on the presence of a combination of pollen types of that particular area.

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THE POTENTIAL POLLINATORS OF *CICER ARIETINUM* L.

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ABSTRACT

The present investigations are being carried out during three consecutive years at Amravati. The plant species were visited daily or on alternate day, for visitors censuses. The pollinating foragers in *Cicer arietinum* were the bees including *Apis dorsata*, *A. florea*, *A. cerana indica*, black bee (unidentified), *Ceratina* spp., *Syrphidae* fly and *Trigona* spp., which visited the flower regularly. Out of which *A. florea* were found to be more in number and very frequently visiting the flower. Other visitors were wasp, thrips and ants. The pollen load carried out by *A. dorsata*, *A. florea* and *Trigona* spp. was found to be 23304.6 - 30353.4, 17196.3 - 22314.6 and 3435.4 - 7118.1 pollen respectively during the first year. However, during second year pollen load carried out by *A. dorsata* was found to be 23720.4 - 26393.5, *A. florea* 15127.6 - 22077.5 and *Trigona* spp. 4237.5 - 4464.9 pollen respectively. While during third year pollen load carried out by *A. dorsata* was found to be 24581.7 to 27720.8, by *A. florea* 15097.5 to 22116.6 and by *Trigona* spp. 4725.8 to 6949.5 pollens respectively for three study sites.

Keywords: Amravati, *Cicer arietinum* L., pollinators, *Apis florea*, *A. dorsata*, *A. cerana indica*

INTRODUCTION

Cicer arietinum L. an important pulse plant cultivated in many states of India. It is one of the important crops cultivated by the farmers of Vidarbha region of Maharashtra. The role of insects as pollinators was first reported by Kolreuter in 1763. Insect pollination can play an important role in maintaining a sustainable and profitable agriculture with minimized disruptions to the environment. Good bee pollination and optimize crop yield are thus part of sound environmental management policy efforts to quantify the value of bee pollination (Delaplane and Mayer, 2000). The present research work was started with the aim to know the role of insects in pollination of the crop *C. arietinum* L. cultivated in Vidarbha and thus to enhance the yield of this crop. During the present investigation detail study different parameters of insect pollinators was carried out.

MATERIALS AND METHODS

The present investigations are being carried out during the period 2005-2007 at Amravati (20°54' to 20°57' North Latitude and 77°43' to 77°48' East Longitude) situated in Amravati district of Maharashtra State. The observations were taken from different cultivated fields around Amravati city.

POLLEN LOAD CARRIED OUT BY INSECT

Pollen load carried out by insect was estimated as per method proposed by (Dafni, 1992).

FLOWER VISITORS DYNAMICS, CENSUS AND ACTIVITY

The flower visitors were observed for their visit timings at the different study sites during the flowering period of plant. During the initial, peak and final phases of the blooming period, the types and timings of the visitors were noted.

FLOWER VISITOR BEHAVIOUR

The conduct of insect visitors was observed at different hours of the day during the flowering period at each study sites and the activities of the forager during a visit were noted. Photographs were taken with the help of Digital Camera (Sony Make).

RESULTS AND DISCUSSION

The present research work was started with the aim to know the role of insects pollination of the crop plants cultivated in Vidarbha and thus to enhance the yield of crops. It was proposed to study the population of pollinators, their activity, behavior and their role in crop pollination.

It is important to study the process of pollination and pollinators in crop plant because more than 80 % of all flowering plants species rely on different animals for pollination (Torchio, 1990 and Nabhan and Buchmann, 1997).

Pollen and nectar being a chief source as food material of pollinators offered by flowers in order to have their services as pollinating agent (Simpson and Neff, 1983). From the present observations pollen and nectar were found to be major floral rewards and colour, shape, size, odour and scent served as attractants for the visitors.

Floral visitors are guided by several stimuli for their visit to the flowers including flower, colour, shape, odour and energetic rewards (Faegri and Pijl, 1979; Sihag, 1982; Sihag and Kapil, 1984 and Rathi and Sihag, 1993).

The flower of *Cicer arietinum* is white or pink in colour. During the present investigations different foragers were observed on flowers for pollen and nectar. The bees are found to be the faithful visitors. The behaviour of bees is more or less similar. *A. dorsata*, *A. florea*, *A. cerana indica*, black bee (unidentified), *Ceratina* spp., Syrphidae fly and *Trigona* spp. visit the flower regularly to collect the pollen. Average visit length of the bees was 4-20 second and visits 1 to 6 flowers in single bout.

The pollen load carried out by *A. dorsata*, *A. florea* and *Trigona* spp. was found to be 23304.6 - 30353.4, 17196.3 - 22314.6 and 3435.4 - 7118.1 pollen respectively for three study sites during the first year. However, during the second year pollen load carried out by *A. dorsata* was found to be 23720.4 - 26393.5, *A. florea* 15127.6 - 22077.5 and *Trigona* spp. 4237.5 - 4464.9 pollen respectively. While during third year pollen load carried out by *A. dorsata* was found to be 24581.7 to 27720.8, by *A. florea* 15097.5 to 22116.6 and by *Trigona* spp. 4725.8 to 6949.5 pollen (Table No.2) respectively for three study sites.

The pollen load carried out by *A. dorsata* was found to be maximum as compared to *A. florea* and *Trigona* spp.

The amount of loose pollen on the body of insect varies on different body parts. Usually there is about twice as much on a bee thorax as on its abdomen and pollen gathers tend to have more pollen than nectar gathers (Free and Williams, 1972 and Kendall and Solomon, 1973). Positive correlations between pollen load and reproductive success have been attributed to several related phenomena.

In *C. arietinum* main pollinating foragers were the bees including *A. dorsata*, *A. florea* (Fig. No.2), *A. cerana indica* (Fig.No.5), black bee (unidentified) (Fig.No.1), *Ceratina* spp. (Fig. No.3), Syrphidae fly (No.4), *Trigona* spp. (Fig. No.06). *A. florea* were found to be more in number and visiting the flower very frequently in all study site. The visit frequency of medium size bees was more as compared to small and large size bees. The visitor's activity was recorded more during morning hours i.e. from 09.30 am to 01.00 pm. During afternoon hours from 01.00 to 04.00 pm activity of visitors was found to be less. Again from 03.30 to 05.30 pm the activity was found to be increased. Other visitors were wasp, thrips and ants. Length of the visit in an average of all the bees was found to be 2 to 40 seconds and visits 1 to 6 flowers in a single bout (Table No.1).

Tayyar *et al.* (1996) reported many bumble bees (*Bombus* spp.) and honey bees (*Apis mellifera* L.) visiting open flowers of *C. arietinum*.

During the present investigations it is noted that the pollen collecting insects harvest the pollen grains from several flowering species. Pollen pick-up and pollen load carried out by forager is an indication of mutual relationship amongst crop plants and flower visitors from this area.

TABELS

Table No. 1: Visitor censuses in *Cicer arietinum*

Forager	Forage type	Length of visit in sec	Time of visit	Flower visited per trip	Visit frequency
(Site-1)					
<i>A. dorsata</i>	P/N	06 – 15	09.30 -05.30	2 - 4	VF
<i>A. florea</i>	P/N	10 - 15	09.30 -05.30	3 - 4	VF
<i>Trigona</i> spp.	P/N	08 - 10	09.30 -05.30	2 - 6	VF
<i>Ceratina</i> spp.	P	05 - 20	09.30 -05.30	1 - 4	VF
Syrphidae fly	P	03 - 04	09.30 -05.30	1 - 5	VF
BCB	P	05 - 40	09.30 -05.30	2 - 6	VF
<i>A. cerana indica</i>	P/N	02 – 30	09.30 -05.30	2 - 4	VF
(Site-2)					
<i>A. dorsata</i>	P/N	08 – 15	09.00 –05.30	4 - 6	VF
<i>A. florea</i>	P/N	10 - 22	09.30 –05.30	3 - 5	VF
<i>Trigona</i> spp.	P/N	08 - 17	09.30 -05.30	2 - 4	VF
<i>Ceratina</i> spp.	P	05 - 20	09.00 –05.30	1 - 4	VF
Syrphidae fly	P	03 - 15	09.30 –05.30	1 - 5	VF
BCB	P	05 - 40	09.30 -05.30	2 - 6	VF
<i>A. cerana indica</i>	P/N	02 – 25	09.30 -05.30	1 - 4	VF
(Site-3)					
<i>A. dorsata</i>	P/N	08 – 18	09.30 –05.30	2 - 4	VF
<i>A. florea</i>	P/N	05 - 20	09.30 –05.30	4 - 6	VF
<i>Trigona</i> spp.	P/N	10 - 25	09.30 -05.30	3 - 5	VF

<i>Ceratina</i> spp.	P	05 - 20	09.30 –05.30	1 - 5	VF
Syrphidae fly	P	03 - 04	09.30 –05.30	2 - 6	VF
BCB	P	04 - 40	09.30 -05.30	2 - 4	VF
<i>A. cerana indica</i>	P/N	02 – 35	09.30 -05.30	1 - 5	VF

P-Pollen, N-Nector, VF-Very frequent

Table No. 2: Pollen load carried out by insect in *C. arietinum*

Forager	YEAR-I	YEAR-II	YEAR-III
(Site-1)			
<i>A. dorsata</i>	23304.6	23720.4	24581.7
<i>A. florea</i>	17196.3	20512.8	22116.6
<i>Trigona</i> spp.	7118.1	4464.9	5058.9
(Site-2)			
<i>A. dorsata</i>	26937.0	25522.2	25684.5
<i>A. florea</i>	22314.6	22077.5	19701.3
<i>Trigona</i> spp.	5999.4	4237.5	6949.5
(Site-3)			
<i>A. dorsata</i>	30353.4	26393.5	27720.8
<i>A. florea</i>	19047.5	15127.6	15097.5
<i>Trigona</i> spp.	3435.4	4362.3	4725.8

Pollinators visiting the flowers



Fig:1Black colour bee visiting the flower



Fig:2A. *florea* visiting the flower



Fig.3:*Ceratina*spp.visiting the flower



Fig.4: Syrphidae fly visiting the flower



Fig.5 :*A. cerana*indicavisiting the flower



Fig.6 :*Trigona* spp. visiting the flower

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PHOTOCATALYST BiOCl-CHITOSAN AND THERE PHOTOCATALYRIC ACTIVITY FOR METHYLENE BLUE DYE

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ABSTRACT

In this research, the degradation rate of BiOCl-Chitosan photocatalyst on Methylene Blue dye was determined by using batch method. The effects of some parameters such as pH, dye concentration, effect of temperature, effect of oxidant and irradiation time on the degradation rate of dye and the complete degradation of dye was examined by monitoring COD and CO₂ level of reaction mixture.

Keywords: Photocatalytic degradation, BiOCl-Chitosan, Congo red, pH, dye concentration

INTRODUCTION

Phenothiazine and Azo dyes are a main resource of colored organic compounds that have extensively been used in industry for applications such as textiles, paper, leathers, additives and analytical chemistry [1]. At the time of production and textile manufacturing processes, a large quantity of effluent containing dyestuffs with intensive color and toxicity are dumped into the aquatic systems [2]. Therefore it is more important to remove dyes from wastes, because the presence of even small amounts of dyes is clearly visible and influences water environment considerably. It is necessary to find an effective method of wastewater treatment in order to remove dyes from effluents. Advanced oxidation processes (AOPs) are the techniques of destruction of dyes and many other organics in wastewater and effluents [3-6]. Among the various AOPs, semiconductor mediated like TiO₂, ZnO, Fe₂O₃, ZnS, WO₃ and CdS [7-13]. In order to achieve a more effective photocatalytic degradation, the effect of some parameters such as pH, dye concentration and irradiation time on the degradation rate of dye solution were also examined

In this work, the effects of some parameters such as dye concentration, pH, irradiation time and amount of catalysts on the degradation rate of dye solution were examined.

MATERIALS AND METHODS

Preparation of BiOCl Chitosan composite Nps.

The BiOCl Chitosan composite photocatalysts were also prepared by a chemical coprecipitation method at 50°C. First, BiCl₃ was dissolved in 1 M HCl. The pH of the suspension was then adjusted to nine with the drop wise addition of aqueous ammonia under vigorous stirring, and to this mixture drop wise addition of chitosan solution (obtained by dissolving chitosan in 1M HCl with 24 hr constant steering) the creamy white colored precipitate was obtained after aging for 20 min. Finally, the precipitates were collected by centrifugation, washed with deionized water several times, and dried at 60 °C for 8 h.

In this research work batch method is used for photodegradation process. The progress of photocatalytic degradation was monitored by Chemical Oxygen Demand (COD) analysis which was measured by the dichromate reflux method [14]. The concentration of the solution samples was measured by UV Vis spectrophotometer (EI 2371). The degree of photodegradation (X), as a function of time, was calculated by $X = (C_0 - C)/C_0$ where C₀ is the initial concentration of dye, and C the concentration of dye at time t.

RESULTS AND DISSCUSION**Effect of pH**

pH is considering one of the most important parameters which affect the photo catalytic oxidation process.

The surface charge of BiOCl-Chitosan was affected pH of the Solution. Because BiOCl-Chitosan is amphoteric in nature. BiOCl-Chitosan surface will remains positively charged in acidic medium and negatively charge in alkaline medium. MB dye is a cationic dye in the acidic pH there was a poor adsorption, because the BiOCl-Chitosan Surface and cationic dye both are positively charge in the acidic medium. Therefore, decrease in pH causes decrease in degradation rate. High pH favors adsorption on the catalytic surface, which result in high decolonization efficiency.

Under different experimental conditions, the rate constant increases from $4.22 \times 10^{-4} \text{ S}^{-1}$ to $5.45 \times 10^{-4} \text{ S}^{-1}$ with the increase in pH 5.0 to 9.0. However the rate constant values decrease to $5.13 \times 10^{-4} \text{ S}^{-1}$ by increasing pH to 10.

The observation indicates the rate of degradation increase with increase in pH but after of pH 9.0, the rate of reaction decreased under experimental conditions with increasing to pH 10 (Fig. 1).

However, from the above study it is been observed that the reaction rate was slightly increased with increasing the pH of the medium. The increase in rate of degradation of dyes in alkaline medium might be explained on the basis of the fact that larger number of hydroxyl ions were available at higher pH values, OH^- ions would generated more $\cdot\text{OH}$ radicals by combining with the hole and these hydroxyl radicals are considered responsible for the degradation of dye. However, after a certain value of pH further increase in pH of the medium decreased the rate of degradation. It is because of the fact that catalyst could not remain in the cationic form due to the greater concentration of OH^- ions and as such as the reaction rate decreased and would not feel any force of attraction between negative charge semiconductor surface (due to adsorption of OH^- ions) and the neutral form of the dye. There is a greater probability for the formation of hydroxyl radicals ($\cdot\text{OH}$) which is oxidizing species responsible for degradation of dye [15].

EFFECT OF DYE CONCENTRATION

To study the effect of dye concentration on rate of photocatalytic reaction, it is important to take different concentration of the dyes and study effect of it on rate of photocatalyst reaction. So results obtained are elaborated below as: MB dye concentration variation was study by taking different concentration from 1×10^{-5} mole dm^{-3} to 10.0×10^{-5} mole dm^{-3} . The results were shows in the Fig. 2. The photocatalytic degradation rate is found to be increase from $5.29 \times 10^{-4} \text{ S}^{-1}$ to $5.45 \times 10^{-4} \text{ S}^{-1}$. With increase in concentration of M.B. dye up to 2×10^{-5} mole dm^{-3} . Further increase in concentration decreased the degradation rate from $4.98 \times 10^{-4} \text{ S}^{-1}$ to $3.27 \times 10^{-4} \text{ S}^{-1}$.

Ahead increase in dye concentration to certain limits, reduces the catalytic activity of BiOCl -Chitosan photocatalyst. This is because, concentration of dye increases the catalytic surface area is fixed, due to this only limited numbers of dye molecule attached at the active site of the catalyst and remaining dye molecules persists in solution until earlier attached molecules are degraded and also increases in the dye concentration photocatalyst surface prohibits the interaction of radiations with photocatalyst particles. Moreover the increase in dye concentration decreases the path length of photons entering into the dye solution and reaching to photocatalyst. At higher concentrations a significant amount of radiations may be absorbed by the dye molecules itself rather than catalyst which may lead to reduction in numbers of catalytic excitation and thus decreases the rate of formation of holes, hydroxyl radicals and superoxide ions, as a result efficiency of the photocatalyst decreases [16].

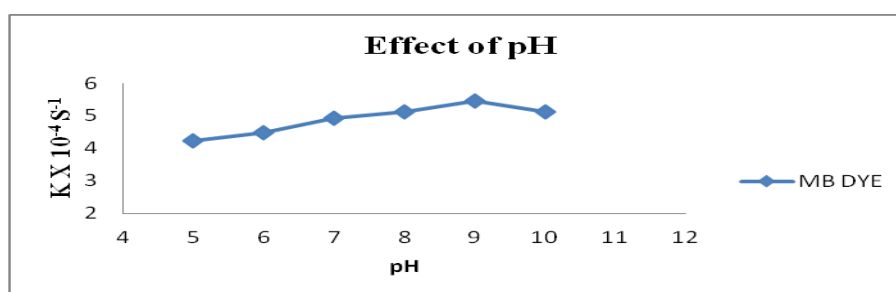


Fig. 1: Effect of pH on photocatalytic degradation rate of BiOCl - Chitosan on MB dye.

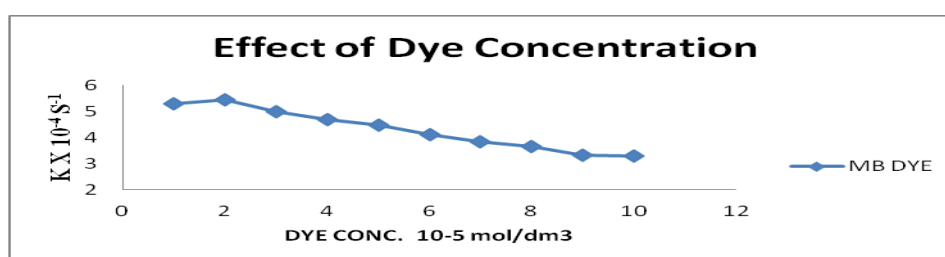


Fig. 2: Effect of Dye concentration of MB dye on photocatalytic degradation rate of BiOCl - Chitosan photocatalyst.

EFFECT OF CATALYST AMOUNT

To study the catalytic activity depends on amount as well as surface area of photocatalyst. Therefore to know the effect of varying catalyst amount on degradation rate of photocatalytic reaction a range of 50 mg/100 mL to 300 mg/100 ml has been taken.

In the photocatalytic process, the reaction takes place on the surface of the catalyst, therefore amount of catalyst loaded to the system affect the efficiency of the reaction [15]. The result shows that the rate of degradation of the MB dye increased from $4.0 \times 10^{-4} \text{ S}^{-1}$ to $5.45 \times 10^{-4} \text{ S}^{-1}$ with the increase in amount of BiOCl-Chitosan from 50 mg/100 mL to 250 mg/100 ml. However due to increase in amount of BiOCl-Chitosan up to 300 mg/ 100 ml resulted into decreased in rate constant from $5.29 \times 10^{-4} \text{ S}^{-1}$ of photocatalytic reaction (5.30). The MB degradation rate found to be increase with increasing BiOCl-Chitosan loading up to a 250 mg/100 ml and then slightly decreased with increasing BiOCl-Chitosan loading above 300 mg/100 ml (Fig. 3).

The Dyes degradation rate found to be increased on increasing BiOCl-Chitosan loading up to a certain value and then slightly decreased with increasing BiOCl-Chitosan loading. The increased degradation rate that followed the increase in the catalyst loading could be attributed to the fact that a larger amount of photons are adsorbed, thus accelerating the process. When all the compound solution molecules are adsorbed on BiOCl-Chitosan no improvement was achieved by adding more catalyst. The decreased in efficiency, might be due to an increased opacity of the suspension and to an enhancement of the light reflectance, because of the excess of BiOCl-Chitosan composite. Additionally, in the case of high catalyst loads we observed agglomeration and Sedimentation of BiOCl-Chitosan which makes a significant fraction of catalyst to be inaccessible to either absorbing the dye or absorbing the radiation, with consequent decrease in active sites available for the catalytic reaction [17].

EFFECTS OF TEMPERATURE

To study the effect of temperature on rate of photocatalytic degradation process it is to consider a range of temperature from 30°C to 50°C. After the study a certain readings are obtained which shows the changes in rate of photocatalytic degradation reaction are as follows.

The photocatalytic degradation rate of M.B. dye shows that the increase in temperature led to decrease the rate from $7.14 \times 10^{-4} \text{ S}^{-1}$ to $6.21 \times 10^{-4} \text{ S}^{-1}$ of photocatalytic degradation (Fig. 4).

Increase in temperature led to decrease the rate of degradation. This gradual decrease in the reaction rate values might be due to the following reasons: the adsorption rate decreased with increasing temperature because the adsorption is a heat releasing process and increase in reaction temperature tends to increase electron-hole recombination and with increase in temperature the solubility of oxygen in water decreased [18].

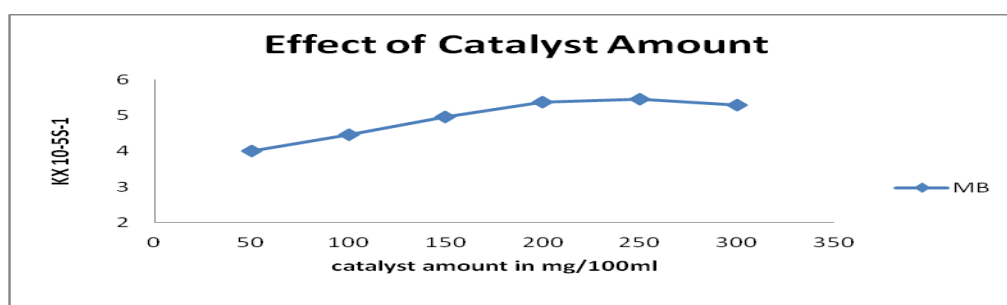


Fig. 3: Effect of BiOCl-Chitosan photocatalyst amount on rate of photocatalytic degradation of MB dye.

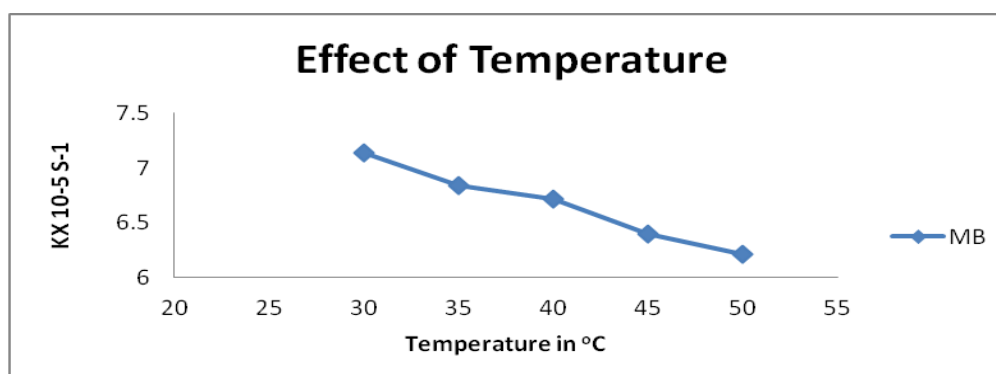


Fig. 4: Effect of Temperature on rate of photocatalytic degradation of MB dye by BiOCl- Chitosan photocatalyst.

EFFECT OF LIGHT INTENSITY AND IRRADIATION TIME

The effect of light intensity on rate of degradation has been also investigated. In order to study the effect of light intensity, the experiments were performed by varying light intensity from 10×10^3 lux to 35×10^3 lux for MB dye solution of 2×10^{-5} mole dm^3 /100 mL at pH 9.0. The result shows that the rate of degradation increased from $4.02 \times 10^{-4} \text{ S}^{-1}$ to $5.45 \times 10^{-4} \text{ S}^{-1}$ with increasing light intensity on the catalytic surface from 10×10^3 lux to 35×10^3 lux (Fig. 5).

It is found that light intensity was increased gradually the rate of degradation of dye molecules also increased. These changes in rate of degradation of dye molecules by variation in light intensity was due to the reason that as the light intensity was increased number of photons reaching the catalyst surface also got increased, so number of excited catalyst molecules increased and resulted into as increase in the number of holes, by hydroxyl radicals and supra oxide ions (O^\cdot). When the light intensity was increased more than 35×10^3 lux, temperature got increased therefore higher intensities were avoided [19].

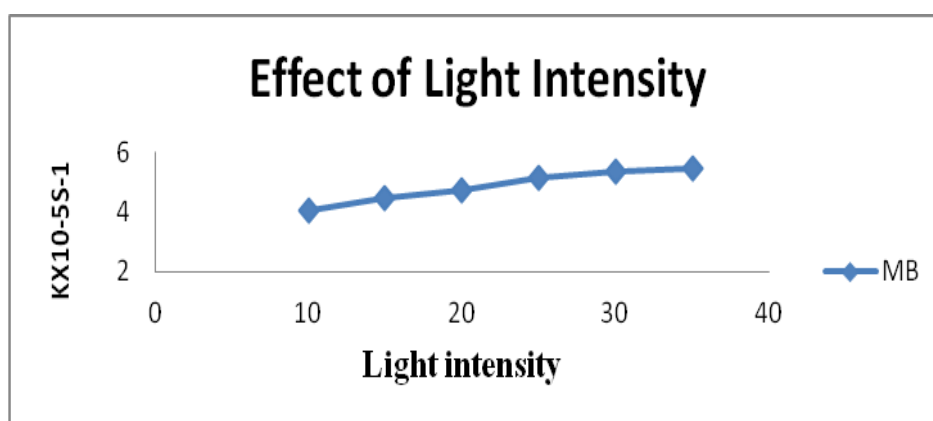


Fig. 5: Effect of light intensity on rate of photocatalytic degradation of MB dye by BiOCl- Chitosan photocatalyst.

Effect of H_2O_2

Degradation rate has been studied at different concentrations of hydrogen peroxide. The added oxidants enhance the rate of degradation by several ways: same as preventing the electron hole recombination by accepting the conduction band electron or by increasing the hydroxyl radical concentration or by producing other oxidizing species to accelerate the intermediate compound oxidation rate. To keep the efficiency of the added H_2O_2 at the maximum, it is necessary to choose the optimum concentration of H_2O_2 according to the type and concentration of the pollutants. The effect of addition of H_2O_2 in the range of 2.0×10^{-6} mol dm^3 to 14.0×10^{-6} mol dm^3 on the photocatalytic oxidation has been investigated (Fig. 6).

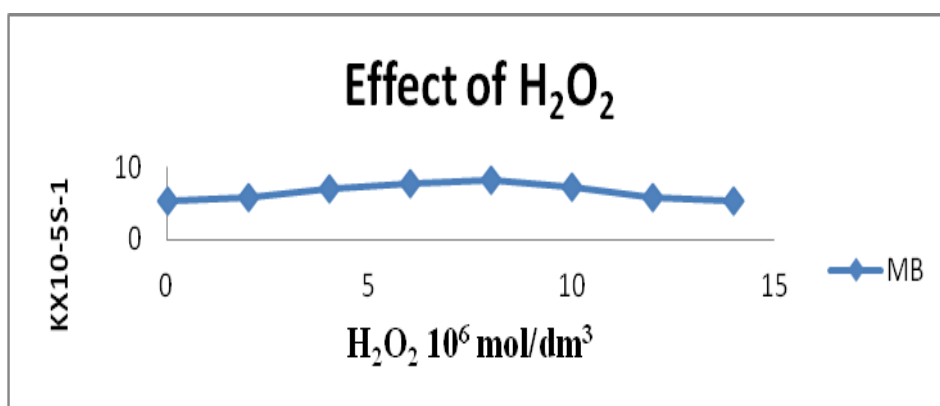


Fig. 6: Effect of hydrogen peroxide amount on rate of photocatalytic degradation of MB, MO, RHB. and CR dyes by BiOCl- Chitosan photocatalyst.

Effect of $\text{K}_2\text{S}_2\text{O}_8$

The varying the concentration of $\text{K}_2\text{S}_2\text{O}_8$ from 2.0×10^{-6} mole dm^{-3} to 14.0×10^{-6} mole dm^{-3} , were used to investigate the effect of $\text{K}_2\text{S}_2\text{O}_8$ on degradation rate of MB dye. The observation shows that the addition of $\text{K}_2\text{S}_2\text{O}_8$ from 2.0×10^{-6} mole dm^{-3} to 8×10^{-6} mole dm^{-3} is increased the degradation rate from $5.45 \times 10^{-4} \text{ S}^{-1}$ to $7.29 \times 10^{-4} \text{ S}^{-1}$ in 30 min. Further the addition of $\text{K}_2\text{S}_2\text{O}_8$ 8.0×10^{-6} mole dm^{-3} decreased the degradation slightly (Fig. 7).

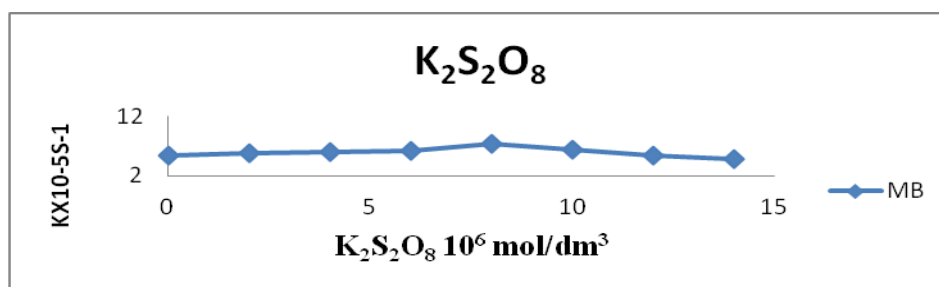


Fig. 7: Effect of hydrogen persulfate on rate of photocatalytic degradation of MB dye by BiOCl- Chitosan photocatalyst.

COD AND CO₂ MEASUREMENT DURING MINERALIZATION OF GIVEN DYES

During 160 min. of irradiation, reduction in COD value from 231 mg/l to 0 mg/l (Fig. 8) and increase in CO₂ value from 28 mg/l to 211 mg/l indicated the photodegradation of treated dye solution (Fig. 9).

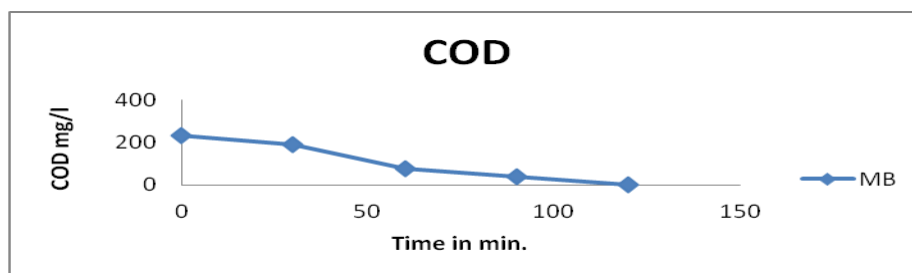


Fig. 8: Rate of COD decreases during photocatalytic degradation of MB dye by BiOCl- Chitosan photocatalyst.

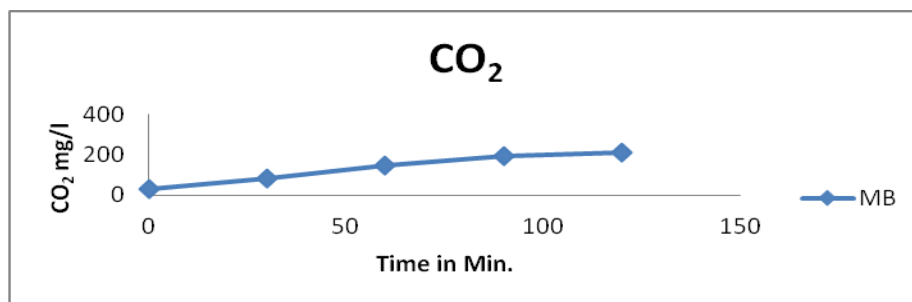


Fig. 9: Rate of CO₂ increases during photocatalytic degradation of MB dye by BiOCl- Chitosan photocatalyst.

CONCLUSIONS

The following conclusions could be drawn from the present investigation:

1. Control experiments demonstrated that the remarkable amount of catalyst was needed for the effective destruction of dye.
2. The photodegradation degree of dye was obviously affected by the initial dye concentration.
3. Efficiency of photocatalytic processes strongly depend upon the pH of the solution and the nature of dye.
4. The Photocatalytic efficiency of BiOCl- Chitosan was noticeably affected by temperature and by oxidants.
5. The COD and CO₂ values confirm the complete mineralization of MB dye.
6. Finally, it can be concluded that BiOCl- Chitosan is an efficient recoverable photocatalyst in MB degradation.

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UBER'S SUCCESS: A STORY OF REAL OR DELUSIONED SUCCESS

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ABSTRACT

On June 21, 2017, the CEO of one of the leading app-based ride sharing network UBER Technologies Inc., Travis Kalanick resigned under mounting pressures from major investors amid a range of controversies that started last year. This came up when the company finds itself with no potential successor to take over the operations of the company and continued to linger with a host of problems ranging from a toxic work culture to pursuing aggressive business practices, along with key management issues. The departing of key executives from the major leadership panel has had major financial implications clubbed with major governance issues tarnishing the company's reputation. The present case outlines the major problems that struck the organization and ultimately led to the devaluation of the stocks in the light of an awaiting IPO.

INTRODUCTION**Company Profile**

It was in December 2008 that Garrett Camp and Travis Kalanick, the master mind of the giant app-based ride sharing network first thought about the idea at the LeWeb technology conference where they were unable to find a taxi to reach the event. Realizing that this problem would be faced by a number of travelers, he launched Uber as 'UberCab', a black car service in 2009. The first version of the app based service was pioneered by Garrett Camp, Conrad Whelan and Oscar Salazar along with Travis as the 'Mega advisor'. He was referred as the chief incubator on board. Headquartered in San Francisco, the privately owned startup now provides transport operations in 83 countries and food delivery services as "UberEATS" and "UberFresh" in more than 633 cities worldwide and values \$69 billion (\$50 billion by its secondary investors) (Survivor, 2017).

When it was first launched in San Francisco in 2010, prices were almost 1.5 times to that of a regular taxi. In response, a pool service was also started as a means of being pocket friendly to users, which at the same time served as being environment friendly. What was distinctive about Uber was that the cabs were actually privately owned vehicles of the owners registered as drivers with the company and were not provided by the company to its drivers. With growing investor's interest, customer driven demand in the market and the organization's aggressive marketing for the ease of use of this service, according to Bloomberg, the company was able to earn a net revenue of \$6.5 billion and was valued at \$69 billion (Newcomer, 2017). Drivers at Uber are like small businesspersons who operate at their own will and flexibility. Also, records provided by Uber reported that of the total number of drivers, 14% of the drivers were female which meant inclusiveness towards both sexes (Huet, 2015). Its largest competitor, Lyft is presently valued at \$7.5 billion (Etherington, 2017). It currently accounts for almost 1.5 million drivers worldwide according to a report by Benenson Strategy Group (Hall & Krueger, 2014).

MANAGEMENT

Ryan Graves was officially the first employee of Uber. He was the General Manager and was soon promoted to become the CEO. In December 2010, Graves voluntarily stepped down from the CEO position and handed it over to Kalanick. Graves took the role of COO and gradually became the SVP, Global Operations.

The share of voting rights in the management were a matter of concern as Travis and his allies in the company enjoyed as to what is called a "super-voting" share through which they were allocated 10 votes per share, thus Kalanick's voting power was a bone of contention during management meetings and often led to biased decision making. He further had plans of a repurchase program wherein the employees were free to sell their share in the company and give away their voting rights which will ultimately be given to Kalanick. The management questioned this proposed program on ethical grounds as the company already wrestled with lot of issues.

With the ever increasing number controversies surrounding the ride hailing leader, there came a series of resignations and terminations one after the other majorly from the top level positions, including a COO, CFO, General Counsel, Head of Engineering, etc.. Kalanick himself went on an indefinite leave from June 14.

Kalanick, amidst a series of controversies conceded his post on 21st June, 2017. The company was left bereft of a CEO. There was no capable person in place who could take over as the CEO immediately after Kalanick stepped down. In fact, the company had to actively look for a CEO who would be capable of heading Uber in

the midst of all the controversies going on in the company. For close to two months while the company had also been actively searching for a COO since March 2017, it functioned without a CEO.

In the meantime, when there was no CEO, COO, CFO or any capable potential successor to Kalanick, 14 people who reported to Kalanick were given the responsibility to run the company. Kalanick remained on the Board, even after his resignation, and acted as an advisor.

Finally the search came to an end when on August 30, 2017 Dara Khosrowshahi took over as the new CEO.

THE CASE

Uber, a name that has become synonymous with taxi service, not just in the US, but also in many other countries, had more to it behind the stage than just the “most successful startup” tag that it earned. The rising market share and aggressive growth strategies worked wonders for Uber initially but something was not right. The company has always had issues from the employees, customers and management however these issues were latent or trivial in the sense how Uber considered them. But as the saying goes—“Little things make big things happen” became a reality for Uber, surrounding it in a vicious circle of never ending problems.

It was all hunky dory till the first four years of its operations. Uber was running like a well-oiled machinery. Problems started sparking off in June 2015. There were violent protests in France against Uber by the taxi drivers. Earlier in the year, France had passed a legal regulation under which it was made compulsory for all the taxi drivers to obtain a license - that did not come cheap. Uber drivers were operating without this license, which led to an anti-Uber sentiment among French taxi drivers. This was the first incident of Uber being in a controversial situation and found itself in murky legal waters.

Drivers at Uber complained that they were falsely driven by higher pays as promised by the company (Hook, 2017) but they could not even manage to earn as much as half of it in the last one year as the number of drivers have been rising on the app thereby reducing their visibility. Also, the company did not permit them to accept tips by customers. Uber drivers were highly dissatisfied and felt that very little was being done for them by the company in this regard and thus, they felt disconnected. In January 2017, in a suit filed against Uber, the company agreed to pay \$20 million to its drivers for falsely promising higher earnings (Hook, 2017).

The company used a program internally called the “Hell” program from 2014-16 as a push to dominate strategy to keep track of the drivers of the rival company-Lyft wherein it created fake rider accounts that helped the company track the number of Lyft drivers that were real time available at particular places and then deployed its own drivers at those locations that were under-served by Lyft. Lyft had to then file a lawsuit which was though dismissed by the US district court later. “Hell” was discontinued at the end of 2016 (O’Kane, 2017).

In February 2016, Uber settled a lawsuit, vide which, it agreed to pay \$28.5 million to about 25 million riders and was not allowed to use phrases such as “industry-leading” or “best-in-class” in its advertisements. (Isaac, 2016).

By July 2016, the company was fighting more than 70 lawsuits in federal courts while Lyft (its major competitor in the US) had only 7 lawsuits against it (Kendall, 2016). It was speculated that the Uber’s highly competitive company culture and the nature of its founding team – which believed in aggressive expansion without caring much for taking the right route was responsible for the crisis situation that arose in the company. The right route for them meant growth at the cost of an ethical culture, increasing their reach in geographies where any other firm was apprehensive of, defying laws or making profits even if it led to compensation dissatisfaction among drivers.

Kalanick along with several other CEOs of big reputed companies had joined Trump’s Strategic and Policy Forum in December 2014. Being a member of the economic advisory council, Kalanick became a supporter of Trump’s policies. In the wake of President Trump’s executive order regarding the travel ban, which resulted in widespread protests in the nation, Kalanick faced backlash not only from Uber customers but also from his own employees. This came in response when a strike imposed by New York Taxi drivers at JFK Airport was not followed by Uber and it continued to provide its services. Uber was seen as munching profits when the overall integrity of the migrants was at stake. Kalanick was forced to step down from President Trump’s Advisory Council. The US citizens started to boycott Uber (using #deleteuber on social media) due to Kalanick’s close association with the Trump administration and the company’s response to the travel ban. About 4 lakh Uber accounts were deleted and Lyft – its competitor – found a 60% increase in its new users (Bhuiyan, Everything you need to know about Uber’s turbulent 2017, 2017).

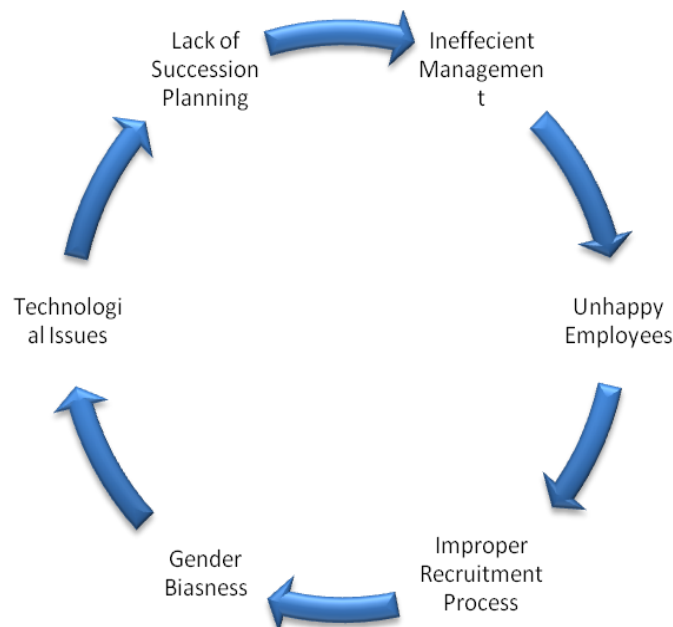


Figure 1.1 The vicious circle of Uber's Problems

Later in February this year, a former engineer of the company Susan Fowler alleged the company of systematic sexism through her whistle blowing public blog that was the catalyst to more of the controversies in the company that came to light and proved a major cause for Kalanick's resignation later. In her blog, Susan revealed the she was sexually harassed and the HR department disregarded her complaints. The case was ultimately handed over to former Attorney General Eric Holder for investigations who submitted his report in May which clearly accused the HR department's complacency and their laidback attitude in responding to such cases. Uber was seen cultivating an insensitive culture but also a toxic one. As a result, the company started an investigation into the matter. Some of the investors were not happy with the way Uber was handling the investigation. They expressed their displeasure about the fact that Uber hired a group of insiders to conduct this investigation. Mitch Kapor and Freada Kapor Klein, two of Uber's investors said "To us, this decision is yet another example of Uber's continued unwillingness to be open, transparent, and direct" (Bhuiyan, Early Uber investors Mitch Kapor and Freada Kapor Klein say the company needs to change its 'toxic' culture patterns, 2017).

In March, Uber received 215 harassment claims and bad behavior cases (Carson, 2017) due to which it hired another law firm to investigate the issue- Perkins Coie. And it had to fire more than 20 employees after this investigation into its workplace culture.

Later two more incidents of sexual harassment filed by female customers (one in California and other in Kansas city) came to light which further aggravated problems (Bhuiyan, Uber is being sued by two separate women claiming sexual assault by its drivers, 2017).

The same month, Uber's Vice President of the product and growth division had put down his papers. Because it was Uber, his departure certainly raised a lot of doubts among investors and other stakeholders in the company and was perceived to be directly related to the investigation being conducted at the company. Uber's No.2, Jeff Jones, the President and Marketing Chief and Gautam Gupta, the finance chief resigned from the company in June. Though Gupta's resignation was unrelated to what was going in and around the company, but Jeff Jones did not hesitate in saying that "It is now clear, however, that the beliefs and approaches to leadership that have guided my career are inconsistent with what I saw and experienced at Uber, and I can no longer continue as president of the ride-sharing business" (Swisher, 2017). His resignation came as a jolt to the company at a time when Travis was looking for a COO. Vice President of Mapping Brian McClendon resigned on March 20 who was one of the key executives named in Alphabet's lawsuit against Uber.

The head of the Self Driving Car Unit, Anthony Levandowski was terminated in May this year from the company amid continuous fallouts between the former engineer and his former employer, Google over the alleged theft of 14,000 internal documents from Google's self-driving car segment, Waymo, which is a division of Alphabet and providing the same to Uber. Alphabet Inc., an American multinational conglomerate was created as a result of corporate restructuring of Google in 2015. The suit filed by Alphabet, which happens to be a dominant company in the Silicon Valley, in February led to further unnerving investors of Uber.

All these issues taking place one after the other opened up a can worms to Travis following which he went on an indefinite leave of absence from 14th June. He left the day to day management of the company in the hands of a 14 member committee of senior executives. The main reason was that the company did not have any C-level official on board to take charge of these issues.

As a result of all these controversies, the then CEO, Kalanick had to eventually go on an undefined leave from June 14, 2007 onwards, citing personal issues (his mother's demise) as the reason for going on leave. However, with increasing pressure from the shareholders and major investors, he had to eventually resign from his position as the CEO on June 21, 2017. With no potential candidate to take the place of Kalanick, the company functioned without a CEO for close to two months. They needed a CEO who could take the company out of its negative image, improve the work culture in the company and simultaneously grow the business. On August 30, 2017, Dara Khosrowshahi was hired as the new CEO of Uber who primary aim he said is to reform the company's culture. He said, "two large issues that are among the most challenging in business: win at the "inner game," by removing the internal barriers to growth and restoring the energy of the company, and win at the "outer game," by showing that Uber can generate profitable growth", according to Harvard Business Review. (Zook, Uber's New CEO Will Have to Win on Two Fronts Simultaneously, 2017)

CONSEQUENCES

It is clear that from the above trail of events that the current management practices and the culture that Uber was trying to foster was being questioned again and again. The toxic culture in the company coupled with the CEO's nonchalant attitude found several top level executives resigning and leaving the company. The consequences could be studied under the following broad heads:

CEO'S APATHETIC ATTITUDE

It is true that Uber's very foundation and its success could be easily rewarded to Travis Kalanick but it is also true that it was his obstinate attitude that sometimes landed the company into controversies. An entrepreneur but not a leader, Travis could have pioneered the process of establishment of an institution of values in the company but he only had words with him.

NO PLANNED LINE MANAGEMENT HIERARCHY

The company already lacked a COO and CFO. On top of it, exits of CEO Travis Kalanick, SVP Engineering (Amit Singhal), VP of Product and Growth (Ed Baker), Uber President (Jeff Jones), Vice President of Mapping (Brian McClendon), Head of Finance (Gautam Gupta), Senior Vice President of Business (Emil Michael), Head of Self- Driving Team (Anthony Levandowski) and several top engineers from the self-driving team of Uber in a trice of about five to six months left the company' top management barren.

Kalanick's resignation also led to a split among investors, some of whom still wanted him back and others maintained an "anti-Travis" stand which demotivated other potential investors to look at Uber as before - "a profit making venture".

LACK OF EMPLOYEE TRAINING

The HR department as well as the insiders of the company was not trained to handle complaints on issues as sensitive as harassment and misbehavior from female employees. They in fact tried to camouflage these things in the light of growing revenues which has ultimately put the organization's integrity on edge.

INCOMPLETE VERIFICATION AND BACKGROUND CHECKS

Driver verification and strict background check could have avoided cases of rape and harassment that occurred in places like Delhi and California. Incidents like these bred in a sense of insecurity among women stakeholders of Uber.

Also, compensation which remained as one of the key issues for Uber drivers as they complained later on because of their increasing numbers on the app, could have been dealt with empathetically.

LACK OF INCLUSIVENESS OF FEMALE EMPLOYEES

The disparaging charges filed by Susan and other female employees and customers maligned the company's image in the markets, embedding a seed of insecurity in the minds of its customers which has also led to greater financial implications for the company.

FINANCIAL IMPLICATIONS

The most chronic impact of these unfortunate events on Uber was felt when an IPO which it planned in 2016 was delayed. Not only did all the controversies have an impact on the image and the governance of Uber, but there were severe financial implications as well. In 2016, the company was planning to raise an IPO. However,

all the issues which have been elaborated in the case above started sprouting up. This tarnished the image of the company and led to devaluation of its shares as well. It was reported that the value of share of Uber went down by 5% and that of its biggest competitor Lyft (in the US) went up, the market share of Uber went down from 84% to 77% at the end of May, 2017, according to a research firm Second Measure's data (though to its surprise the revenues of first quarter were thrice of that of previous year). This also developed a negative sentiment about the company in the hearts of corporate moguls. The investor confidence in the company was shaken and further the IPO was delayed. It still hasn't managed to raise an IPO and it remains to be seen if the new CEO is capable to re-shape the company, restore the investor faith and conviction, and enhance the brand image, so that it can proceed forward to raise an IPO.

COMMENTS

The striking thing to note about the company is that, despite the negative publicity and the soap-opera worthy controversies, Uber still remains a household name and one of the most preferred among other app-based transportation companies. It is doing well for itself. That is not to say that there was no negative impact of all these scandals. As discussed, its stocks were devalued, it couldn't raise an IPO, investor confidence was shaken, employees were left unsatisfied, management's dubiousness towards the kind of culture being followed at Uber, etc. These are just a bunch of problems from the Pandora's box of Uber's issues. All of it has put a question mark on the long term success and survival of the firm.

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UNDERSTANDING GENDER EQUALITY AMONG WORKING PROFESSIONALS: A CASE WITH PERSPECTIVE OF WORKING PROFESSIONALS

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ABSTRACT

Gender refers the social and cultural aspects which frame the roles in the society. Gender equality refers to imparting equal rights to men and women According to UNFPA, Gender equality is a human right. Women are entitled to live with dignity and with freedom from want and from fear. It is known through research and otherwise that different genders possess different abilities and limitations with respect to various attributes which even leads to palpable repercussion on business and its performance. It seems that the some of the contemporary notions associated with the concept of gender equality is antithetical to the implications of the researches on different abilities and traits possessed by genders. This study attempts to present a rational understanding of gender equality which is in line with the researches highlighting the disparity with respect to abilities and traits of different genders. The findings reveal that men and women rate themselves differently in case of traits like leadership, depression, concern for feeling, confidence, authoritativeness, relying on external information while decision making, striving towards achievement and empathy. These are found to be in accordance with researches conducted earlier. Also, our results show that a significantly higher proportion of respondents (58.3%) are of the perception that Men and Women possess different abilities and should be assigned different roles.

INTRODUCTION

GENDER EQUALITY: HISTORY AND CONCEPT

Many historical events have paved the way for the contemporary issue of gender equality. The three major waves of feminism across the globe were at the spare head to provide the imputes towards the ongoing issue. the first wave brought to the fore issues like women suffrage and political space for women, the greatest success of this wave was marked by providing women with the right to vote. it also marked its first women's liberalization movement which continued till the year 1920. The prominent leaders of the first wave in united states were Elizabeth Stanton, Lecretia Mott, Lucy Stone and Susan B Anthony. During this period women started to understand that both Career and family could be managed together and scepticism regarding traditional female role began to emerge (Lehmann,2001). This wave was not cantered upon brining about equality among men and women but the recognition of women's personal need as that of men (Goldman, 2001) The feminist movement in second wave started in early 1960 which lasted till 1980's. The second wave drifted its emphasis towards providing gender equality in laws and eradicating cultural biasness in society. It also marked a fierce struggle against on violence against women. And lastly, the third wave extended its emphasis towards providing equality of races a well. it started in early 1990's in order to overcome the short coming of second wave. the key elements of this movement include anti-racism queer theory post modernism and open sexuality. The implications of these movements relate to the fact that 51.4% of management professional related positions were held by women in 2011 in US. (Merchant, 2012)

Gender refers the social and cultural aspects which frame the roles in the society. Gender equality refers to imparting equal rights to men and women. Gender equality entails providing same rights and same opportunities to all men and women in various fields of human activities including education, labour, political rights, financial rights, marital legislation, social and cultural rights. (Universal Declaration of human rights UN, 1949)

KEY ISSUES OF GENDER EQUALITY

According to UN population FPA key issues of gender quality have been identified as:

Reproductive health: To facilitate women's empowerment and equality it is necessary to provide them with the right to control their own fertility, this entails protecting and promoting reproductive rights including the decision on no of children, their timing ,and spacing.

Economic empowerment: it is essential to address the huge economic disparity which persists between the genders due to various underlying causes .Women are often observed as victims of economic discrimination.

Education empowerment: lack of education persists among women which is evident from the fact nearly 2/3rd of the worlds illiterate adult are women.

Political empowerment: many social and legal institutions still do not provide women with basic legal and political rights which include employment, social and political participation holding a legal authority etc.

According to research report published by ministry of health and family welfare, Govt of India following have been identified as key issues relating to gender equality son preference, gender diff in education, marriage and spouse age difference, women employment, disparity access to resource, spousal violence. (Kishor & Gupta 2009)

SCENARIO OF GENDER EQUALITY IN INDIA

The above data which is an extract from a Mckinsy research reveals that every country could enhance its GDP growth by treading towards gender parity. As is depicted that in India progress towards gender equality could lead to augmented GDP 16% which amounts to 0.7 trillion dollars.

India scores 3.3 on a survey which measures people's perception of ability of the women to rise to leadership positions, while US score 5.1% and Rwanda scored highest that is 6.1 (World economic forum, 2015).

Figure-1: Impact of Gender Equality on Global GDP

	Incremental global GDP over business-as-usual scenario, ¹ %	\$ trillion
India	16%	0.7
Latin America	14%	1.1
China	12%	2.5
Sub-Saharan Africa	12%	0.3
North America and Oceania	11%	3.1
World	11%	11.8
Middle East and North Africa	11%	0.6
South Asia (excl. India)	11%	0.1
Western Europe	9%	2.1
Eastern Europe and Central Asia	9%	0.4
East and Southeast Asia (excl. China)	8%	0.9

Source: CEO's guide to gender equality, McKinsy Quarterly, November 2015

After world war II, the prominent issue under continuous attention was the issue of gender, involving discussion on both men and women, where by women suffer the inequality. Gender inequality is mostly prevalent in government and non –government organizations .Gender inequality means irregularity in economical, cultural, and legal aspects According to the United Nations Development Program's Human Development Report (2013), states that India ranks 132 out of 187 countries on the gender inequality index-where by Pakistan rank lower (123). The report states that except Afghanistan all countries in South Asia, were a better place for women than India, with Sri Lanka at the pinnacle (75).

According to census 2011, Kerela represents the highest sex ratio with 1084 females per thousand males while Haryana represents the lowest sex ratio with just 877 females per thousand males (Jha and Nagar, 2015)

DIFFERENT GENDER ABILITIES

It is a known fact that men and women are different physically, mentally and psychologically. Through medical research it is know that men and women diff significantly with respect to estimation of time, judging speed of things, methodical calculations, visualization of objects in 3D etc. this also evident from the fact that men outnumber women in terms of mathematicians, mechanical engineers, architects, airplane pilots and race car

drivers. While women are better in terms of human relations, language, autistics expressiveness, aesthetic appreciation, recognizing nonverbal communication etc. (Kimura,D., 1999)

It was noted by Edward O.Wilson of Harvard University that females tend to be more empathetic, higher in social and verbal skills and more security seeking as compared to men. On the contrary men tend to be higher in mathematical skills, independence, dominance and rank related aggression etc. (Wilson, E.O., 1992)

Many researchers have identified the difference between the genders with respect to personality traits. Gender related differences in social behaviour, temperament and cognition have been reported in imperial studies like Maccoby and Jacklin (1974). Also gender differences with regard to depression, risk taking abilities, leadership, career path etc have also been identified in various studies.

LITRTURE REVIEW

Stotsky et al. (2016) conducted a research on Trends in Gender Equality and Women's Advancement and it was found that last few decade proved to be getting near the gender equality and there is a scope of improvement in gender equality however the differences in income remain the same.

Jones and Chant (2009) conducted a research on Globalising initiatives for gender equality and poverty reduction. It was found that women are more expected to be involved into reproductive labour and which provided them with limited time dedicated to education and get employment resulting in men to be more educated, more skilled more on high paid jobs.

Oláh and Bernhardt (2008) conducted a comparative study on childbearing and gender equality. During the course of the study it was found gender equality can lead to delayed childbearing while it can also prove to be a means to keep fertility from dropping to the very low.

Chen (2004) conducted a study on the role of information and communication systems in improving gender equality in order to lead to augmented economic growth. It was concluded that gender equality in education is an important determinant to improve gender equality in employment. Also, economic development is an important driver for gender equality in labour market.

Mikkola (2007) reviewed the relationship of gender differences and economic development. It was inferred that the situation of gender inequality is greater in developing countries than developed countries. The issues faced by developing nations currently are similar to those faced by developed nations long ago which include education for females, political, legal and marital rights, employment and children mortality. Technological advances provided an impetus for gender equality in developed nations

Dickens (1998) conducted a study on implications of human resource management practices on gender equality. A part of the findings reveal that actual HRM practices differ from the normative model. The soft HRM is more people centric and has a potential impact on gender equality.

Kabeer (2005) conducted a critical analysis on women's empowerment of the third Millennium Development Goal . The study explains the concept of women empowerment and its association with education and employment. It was concluded that gender inequalities are multi-dimensional and cannot be reduced to some single and universally agreed set of priorities. Imparting education to women is necessary for making them capable to at least sign their marriage documents. And paid work is necessary to provide them independence.

Moss (2012) conducted a study on gender equality and socio economic inequality and how it impacts the health. The research proposed no of ways to promote gender and socio economic equality which include research and development, reporting of inequalities

Trevor Colling Linda Dickens conducted a research on implications of deregulation on gender Equality in British Gas. It was found that deregulation leads to gender inequality. The initiative of gender equality is responsibly taken up by private companies with the introduction of policies and managerial framework.

Costa et al. (2001) conducted a study on gender differences with respect to personality traits. It was concluded that women tend to display more negative effect, submissiveness, nurturance and concerned more with feelings while men are more concerned with ideas and displaying assertiveness. These results were surprisingly found to be more profound in European and American cultures where traditional gender roles are minimal.

Feingold (1994) conducted meta-analyses to examine gender differences in personality. It was found that males were more assertive and possessed higher self-esteem than females. While females were found to be higher in extraversion, tender-mindedness, trust and anxiety. Also, the results were found to be consistent across nations, ages and years of data collection.

Nolen-Hoeksema & Girgus (1994) studied role of gender differences in depression. The study revealed that girls and women are twice as likely to be depressed as compared to boys and men. Also, girls are more prone to depression than boys as they carry certain risk factors even before adolescence.

Jacquelynne S. Eccles (1987) conducted a model based research on gender roles and decisions concerning women's achievement. It was observed that gender segregation prevails at workplaces and both the genders possess different career paths ways.

Gneezy et al. (2003) conducted a study on disparity in performance between different genders in competitive environment. It was found that under competitive environmental conditions the performance of men enhances unlike women. Inter-gender competition has a detrimental effect on performance of women.

Croson and Gneezy (2009) conducted a research on gender differences in preferences. It was concluded that risk, social preferences, competition plays an important role in explaining the gender differences.

Byrnes et al (1999) conducted meta-analyses of risk taking abilities of men and women. It was found that male participants were more likely to take risk than female participants. Also, males were found to possess higher risk taking ability with regard to intellectual risk while women are not inclined towards risk taking even when it could be plausible to do so.

Monica M. Stallings (2000) conducted research on who is more preferable in terms of networking. It was found that women prefer to seek advice from women over men, however men prefer to seek advice from women over man.

Carole Vincent (2013) conducted a research why women earn less than men. It was found that the wage gap is because of women representation in lower end of scale, more importance to non-pecuniary aspect of job, opting for job giving more work-life balance.

Boris Groysberg (2013) conducted a research on leadership style of different genders and its impact on corporate. It was concluded that both have different way of leadership and impact the corporate.

Toussaint et al. (2005) conducted a research on gender differences in the relationship between empathy and forgiveness. It was found that women are more empathetic than men and both are forgiving. However the association between empathy and forgiveness did differ by gender. Empathy was associated with forgiveness in men—but not in women.

Kwang et al. (2015) studied the differences in the social behavior exhibited by men and women. The findings reveal that although both men and women depend on relationships for self worth but their derivation of self esteem from relationships is significantly different. Men are found to derive their self esteem more from their own relationship status as compared to women.

Mesch et al. (2011) conducted a research on the behavior of men and women with respect to charity. It was found that men and women differ in their motivations for charity. Women are found to be more empathetic, helping and caring as compared to men.

Sarsons and Xu (2015) conducted a research on the confidence gap between men and women. It was found that women are less confident than men with respect to level of agreement and accuracy of answer. Findings reveal that such confidence gaps persist even at the top of their careers.

Dreber and Johannesson (2007) studied the gender differences with regard to deception. It was revealed that men are more likely to lie for the sake of monetary gains as compared to women.

Bryne and Worthy (2013) conducted a study on reward sensitivity and information processing during decision making with regard to different genders. It was found that men tend to maximize future rewards and are able to ignore foregone reward information which hinders them from the option that provides larger immediate reward. While, females utilize external information to make decisions, even when such information may lead them toward the poorer choice.

Alice et al (1992) conducted a research on evaluation of men and women with respect to leadership roles. It was found that women have been devalued as compared to their male counterparts and the devaluation was even stronger when evaluators were men.

Francesca & Alison (2015) conducted a study on preferences of men and women with regard to high level positions in organizations. It was found that women consider high level promotions less desirable than men do.

The female participants perceived the promotions to fetch more negative results. One of the reasons for such attitude was concluded to be a requirement to compromise with other life goals.

Paula Johnson (1976) conducted a research on women and power .power in a sense how people interact in a daily it was concluded that people expect both men and women to use different way of power.

Hoffman et al. (2010) conducted a research on expression intensity and facial expression recognition with respect to different genders. It was found that females are more accurate in recognizing subtle emotional facial expressions as compared to males.

RESEARCH METHODOLOGY

The study entails a quantitative research which aims towards conducting an in-depth comprehension of gender equality. The current exploratory research is an attempt to elucidate the concept of gender equality as against the different abilities possessed by different genders. For the purpose of research both primary and secondary sources of data were concerned.

Necessary primary data for the research was gathered by way of convenience sampling method using questionnaire technique. a primary data sources were restricted to private bank and public banks in some specific states of northern India.

Respondents are primarily employees of various corporate companies, government departments banks in Delhi -NCR in order to understand the overall situation with regard to different gender abilities and gender equality. The total no of respondents were 115 including 60% male 40 female. In order to understand the impact of different abilities of genders on an organisation personal interview of 13 managerial professionals across 9 companies which includes banks, luxury hotels, FMCG companies, business consultancy firms etc.

The questionnaire focused on gathering perception regarding different abilities of men and women among the employees of the fore mentioned banks along with the perception of gender equality and different gender roles.

This study is an attempt to bridge the gap between the current common comprehension of gender equality as against the different abilities possess by men and women inorder to actualise a rational and pragmatic understanding of the concept of gender equality. Following are the objectives of the study:

- 1) To study the perception of working professionals regarding different abilities and qualities possessed by different genders.
- 2) To study the impact of different abilities possessed by different genders among working professionals.
- 3) To study the concept of gender equality as against the different abilities and qualities possessed by different genders.

RELIABILITY TEST OF THE DATA

Cronbach's Alpha reliability test was conducted to check the reliability of the scale data collected through the questionnaire.

Table 1: Reliability Test

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.935	.923	18

The Cronbach's alpha value is 0.935 which is significantly higher than 0.7 which denotes a high level of reliability of the data

DATA ANALYSIS AND INTERPRETATION

In this chapter, we will conduct analysis of the data collected through the questionnaire in order to meet the objectives mentioned above.

ANOVA Test

ANOVA test was conducted to find the significance of impact of genders on various traits of working professionals.

Hypothesis

H₀: The means of various personality traits and abilities are same across genders

H_a: There is a significant difference in the means of personality traits and abilities across genders

Table 2: Rating of Personality Traits and abilities with respect to genders

Factors	Mean	SD	F	Sig.	Factors	Mean	SD	F	Sig.
Leadership	2.383	1.5366	9.845	.002	Forgiveness	2.6261	1.45374	.575	.450
Submissiveness	2.6870	1.23093	.046	.830	Confidence	2.6783	1.55906	22.749	.000
Concern for Feelings	2.9478	1.40702	4.004	.048	Trusting Others	2.4609	1.40978	1.550	.216
Concern for Ideas	2.2609	1.70699	.607	.437	Tender Mindedness	2.7217	1.20341	1.158	.284
Depression	2.7913	1.08009	26.984	.000	Authoritative	3.0174	1.78681	82.902	.000
Anxiety	2.4696	1.29994	.144	.705	Future orientation while decision making	3.9304	.57311	2.577	.111
Assertiveness	2.4783	1.35949	2.869	.093	Rely on external information while decision making	3.3304	.73415	22.562	.000
Agreeableness	2.2087	1.61948	1.223	.271	Striving towards achievement	3.7043	.81622	10.587	.002
Networking	2.6174	1.45447	.700	.405	Empathy	3.0000	1.36369	11.232	.001

The above ANOVA table depicts the difference in the means of various traits and abilities among different genders. As is clear from the above ANOVA table that in the traits like submissiveness, concern for ideas, anxiety, assertiveness, agreeableness, networking, forgiveness, tender mindedness and future orientation while decision making H₀ is accepted as the p -value of the fore mentioned traits is greater than .05. This indicates that different genders exhibit no significant difference in their means of the fore-mentioned traits.

On the contrary, traits like leadership, depression, concern for feeling, confidence, authoritativeness, rely external information while decision making, striving towards achievement and empathy display p-values of less than .05 due to which H₀ stands rejected. This indicates that the different genders exhibit a significant difference in their means of the fore-mentioned traits.

Chi-Square Tests

Chi-square tests were conducted on various traits with respect to different genders in order to examine the significance of relationship between them.

Hypothesis

H₀: No significant relationship exists between gender and various traits

H_a: A Significant relationship exists between gender and various traits

Table 3: Pearson Chi-Square Test

	Value	Df	Sig. (2-sided)
Act deceptively in order to gain monetary benefits	.562	1	.454
Being in a competitive environment	46.594	1	.000
Risk and Reward	37.563	2	.000
Responsibilities	.871	1	.351

Pearson chi-square tests were conducted in order to examine the relationship between genders and affinity towards traits/behaviours like deception, competition, Risk and Reward and Responsibilities. The results show that in case of deception and responsibilities p-values are greater than 0.05 and consequently H₀ is accepted which indicates that men and women display no significant relationship with respect to the perception of acting deceptively in order to gain monetary benefits as well as workplace responsibilities. In case of affinity to be in a competitive environment and the ability to take risk in order to seek reward, p-values less than 0.05 which means that H₀ is rejected. This reveals that there is a significant relationship between gender and inclination towards being in a competitive environment and affinity to take risk in order to seek rewards.

Cross Tab

Cross Tabulation was conducted between genders and various traits so as to analyze the degree of association and impact of genders on these traits.

Table 4: Crosstabulation between genders and specific traits

		Gender		Total
		Male	Female	
Would you ever act deceptively in order to gain monetary benefits?	No	53	38	91
	Yes	16	8	24
Total		69	46	115
Do you like to be in a competitive environment?	No	1	26	27
	Yes	68	20	88
Total		69	46	115
Which of the following situations do you often align yourself with?	Low Risk and Low Reward	0	2	2
	Medium Risk and Medium Reward	22	39	61
	High Risk and High Reward	47	5	52
Total		69	46	115
Choose the most appropriate statement	To be promoted to a position with low responsibilities	67	43	110
	To be promoted to a position with high responsibilities	2	3	5
Total		69	46	115

23.19% of male respondents would act deceptively in order to gain monetary benefits.

While only 17.39 % of female respondents show an inclination towards such a trait.

98.55% of male respondents tend to be in a competitive environment while only 43.48% of female respondents show inclination towards being in a competitive environment.

68.12% of male respondents as against 10.87% of female respondents prefer a situation with high risk for seeking high reward. A majority of both male and female respondents (97.1% and 93.48% respectively) display preference in favour of working at a position of low responsibilities.

ANALYSIS OF PERCEPTIONS REGARDING GENDER EQUALITY

Table 5: Perception of women being paid less

	Frequency	Percent
Strongly Disagree	5	4.3
Disagree	14	12.2
Neutral	35	30.4
Agree	17	14.8
Strongly Agree	44	38.3
Total	115	100.0

Majority of the respondents (38.3%) strongly agree with the fact that women are generally paid less than men.

PERCEPTION OF GENDER EQUALITY

Table 6: Gender Roles

	Frequency	Percent
Men and Women possess same abilities and should be assigned same roles	48	41.7
Men and Women possess different abilities and should be assigned different roles	58.3	
Total	100	

Majority of the respondents (58.3%) believe that Men and Women possess different abilities and should be assigned different roles. While 41.7% of the respondents believe otherwise.

FINDINGS AND DISCUSSIONS**Findings**

For the purpose of in-depth understanding of different abilities and characteristics and the nature of different genders and its impact on the performance of the organisation, personal interviews of 13 managerial professionals across various organisations was conducted.

Majority (9 out of 13) of the managerial officials across different departments and organisations report a very significant difference in the performance of different genders. They revealed that tedious tasks particularly which involved travelling were predominantly better performed by men. However, they specified that women were better in task which involved compliance.

11 out of 13 managers stated that men and women had different career paths. Men tend to be future oriented and possess a strong affinity towards growth in career and stability. While women tend to strike a balance in their personal and professional life. Consequently, they appear to be less opportunistic than men.

With respect to values of managers don't report a very significant difference amongst the genders. Nevertheless, women were reported to be more honest and trustworthy.

It was reported that no disparity exists in the salary of the employees who are at par with respect to their position in the organization. But any such disparity only exists due to performance differences and willingness to take opportunities of growth.

The managers revealed that the organization tends to be open towards gender diversity. Such an attitude as stated would result in better attracting better skilled employees. The inherent nature and abilities of both genders are also taken into consideration for workforce building and development.

DISCUSSION**Understanding Gender Equality**

The fifth goal of sustainable development goals of United Nations states: achieve gender equality and empower all women and girls ("Gender Equality", 2017).

According to UNFPA, Gender equality is a human right. Women are entitled to live with dignity and with freedom from want and from fear. Gender equality is also a precondition for advancing development and reducing poverty: Empowered women contribute to the health and productivity of whole families and communities, and they improve prospects for the next generation ("Gender Equality", 2017).

A fundamental indicator of gender inequality in India, is a preference for sons so strong that it is manifested as limiting the birth and survival of girls. The 2001 census data for India revealed a sharp decline in the sex ratio for the population age 0-6, from 945 females in 1991 to 927 females per 1,000 males. The trend in the sex ratio of the under-seven population based on National Family Health Survey data for the period 1992-93 to 2005-06 also provides evidence of continued decline and shows that in 2005-06 the under-seven sex ratio had fallen further to 918 females per 1,000 males. Excess female mortality becomes evident in India in the period beyond one month of life. In most countries where infant and child mortality is driven by biology alone, female mortality in the first year of life beyond the first month continues to be lower than male mortality. In India, however, the post neonatal mortality rate (the number of deaths to children age 1-11 months per 1,000 live births) for females is 21, compared with only 15 for boys. (Kishor and Gupta, 2009).

In many parts of India, women are viewed as an economic and financial liability despite contribution in several ways to our society, economy and by their families. The crime against women is increasing day by day. Domestic Violence, Rape, Sexual harassment, molestation, eve-teasing, forced prostitution, sexual-exploitation, at work places are a common affair today. So, it's an alarming issue for our country. The major reasons for the gender inequality are identified as the need of a male heir for the family, huge dowry, continuous physical and financial support to girl child, poverty, domestic – violence, farming as major job for poor and the caste system.

Although the gender differential in literacy has declined over time, the differential remains high even in the youngest age group: among those 15-19 years of age, the percentage of females who are literate (74%) is 15% points less than the percentage of males who are literate (89%).

On the other end gender equality is often linked with extreme form of feminism. Very often gender equality is associated with the notion that men and women are equal.

One of the most important point to be pondered over is that most of the literature which focuses on gender equality, women empowerment and feminism overlooks the rational aspect of disparity between the nature and

abilities of both genders which is proven over years of research related to biological, psychological and behavioural aspects.

The section on data analysis and the previous discussion elucidate the different nature of men and women.

CONCLUSIONS

The study entailed an analysis of the differences in the traits of men and women.

The results reveal that men and women rate themselves differently in case of traits like leadership, depression, concern for feeling, confidence, authoritativeness, relying on external information while decision making, striving towards achievement and empathy. Our results are consistent with the findings of Groysberg (2013), Feingold (1994), Costa et al. (2001), Bryne and Worthy (2013) and Nolen-Hoeksema & Girgus (1994). The findings reveal absence of any significant difference among genders with respect to traits like submissiveness, concern for ideas, anxiety, assertiveness, agreeableness, networking, forgiveness, tender mindedness and future orientation while decision making. These finding seem to be inconsistent with some of the findings of Costa et al. (2001), Bryne and Worthy (2013) and Feingold (1994).

The results show a significant relationship between genders and tendency to be in a competitive environment. These results apart from being in accordance, can be elucidated with the findings of Gneezy et al. (2003) where under-performance of women is reported during competition. Also, different genders were found to have a significant impact on affinity towards risk taking in order to seek rewards which is consistent with the results of Byrnes et al (1999).

It was found that men and women display no significant relationship with respect to the perception of acting deceptively in order to gain monetary benefits. Yet, a slightly higher percentage of men reported to have an inclination towards such a behaviour. These are gain more or less consistent with Dreber and Johannesson (2007). Both men and women seem to prefer to work at a position with low responsibilities.

It was reported that a majority of the respondents feel that women are generally paid less than men. The reasons for the same could be attributed to a number of issues like disparity in work efficiency, different positions and roles in an organization, biasness etc. Some of these reasons could go back to the different abilities and nature of genders and also to the work-life balance and personal goals.

A significantly higher proportion of respondents are of the perception that Men and Women possess different abilities and should be assigned different roles. This reveals that majority of the people acknowledge the fact that

Significant difference in the work performance, career paths, ethics and values were reported as the majority opinion of the managers interviewed for the study. Disparity in the salaries of males and females was attributed to the difference in performance and career goals. Also, gender diversity was found to be favourable in the sense that it provides ample opportunity to maintain appropriate and efficient workforce for optimal productivity of the organization.

Our study is aimed at bringing about a rational understanding of gender equality among the governments, corporates and the people at large. Where forces of feminism and women empowerment are paramount there a more rational approach of understanding the differences in the nature, characteristics and abilities of both genders is indispensable so as prevent any radicalization and prejudiced measures which may be counter-productive and pernicious to both genders, their productivity and contribution towards the society. It is known through research and otherwise that different genders possess different abilities and limitations with respect to various attributes which even leads to palpable repercussion on business and its performance. It seems that the some of the contemporary notions associated with the concept of gender equality is antithetical to the implications of the researches on different abilities of the genders.

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WAR OF ATTRITION – A CASE ON TATA AIA LIFE!!**Chirag Prakash Arora¹ and Dr. Puja Sareen²**Student¹ & Associate Professor², Amity Business School, Amity University, Noida**ABSTRACT**

Attrition plays a very crucial role within any organization. A company is said to succeed through its employees/workforce. In the Life insurance sector, being a core Sales industry, the agents and employees are the forces that drive the organization ahead in the market. This report studies the attrition rate within Tata AIA Life Insurance Company Ltd., and tries to decipher the reasons behind the high attrition rate within the industry. The study also aims to gain knowledge on how Tata AIA Life has maintained a better attrition rate in comparison to the other organizations within the Indian market of Life Insurance.

Keywords: Attrition, Retention, Employees, Workforce.

INTRODUCTION

In any organization, let alone the life insurance sector, employees are the key to success and the achievement of organizational goals. The employees are the backbone for an industry. Attrition on the other hand is considered to be a constant problem for any organization. Especially in a global environment, which has brought in a lot of competition into the market, attrition rates are growing drastically. With regards to the life insurance sector of India, the average attrition rate in the present day market is higher than that of other industries. This is of utmost concern to the top management of the different life insurance organizations of India.

For that reason, the Government body of the life insurance industry in India, i.e. IRDA (Insurance Regulatory and Development Authority) and the top management of the life insurance organizations in India must take steadfast steps on a governmental level as well as individually in organizations to reduce the attrition rate and create strong retention strategies so as to help stabilize the flow of workforce within the industry.

Over the last few years, certain steps taken by Tata AIA Life have significantly dropped the attrition rate of the organization in comparison to the other organizations in the industry. Furthermore, Tata AIA Life plans to reduce the attrition rates even further but the process is long and slow as an entire nation wide initiative has to be implemented to do so.

BACKGROUND

Company Profile: Tata AIA Life Insurance Company Limited (Tata AIA Life) is a joint venture corporation, formed among Tata Sons Ltd. and AIA Group Ltd. (AIA). Tata AIA Life unites Tata's paramount leadership status in India and AIA's presence and status as the prime, independent listed pan-Asian life insurance group in the world with a presence in 18 markets in the Asia Pacific region. Tata AIA Life has penned down retail new business weighted premium of INR. 572CR. for the nine months ending December 2016, that corresponds to a growth rate of a staggering 85% over the previous year. As of Dec 31, 2016, the 13th month persistency of Tata AIA Life stands at 81.3%. At the end of the financial year '16, the retail claims settlement ratio of the business was at the market highest of 96.8%. Goals which the organization aims to achieve:

- Develop the finest, skilled and equipped 30,000 Life Planners (Premier Agents) and Leaders in (Life Insurance) Agency, who will perform with the best in class competence.
- Be in the Top 10 list of 'Great Place to Work in India'.

Case Profile: Standing at an astonishing rate of 40% to 50%, the attrition in the life insurance sector of India is higher than that of most other industries in the country. Life insurance being a push based core sales industry, the work and the work environment is considered not to be for all to be a part of. Over the past few years, the governing body of IRDA has taken initiatives to attract more and more prospective applicants to join the industry. Keeping in mind that the attrition in the industry was at a high, higher inflow for recruitment only helped for a short term and only showed short term benefits for the individual organizations as well. This was because, due to higher inflow, the quality of agents was affected which in turn dropped the business of the organizations causing further outflow of agents either from one organization to another or all together from the industry.

Due to the slow integration and implementation of change by the governing body of IRDA and many life insurance organizations, few private organizations have taken an initiative on their own individually to try and reduce their individual attrition rate in comparison to that of the market.

Tata AIA Life Insurance Company Ltd. is one such private life insurance organization in India which is determined to do so over the past few years.

PROBLEM STATEMENT

Over the years life insurance has not been seen as an attractive product within the market from the perspective of the customer. The industry itself has also not been seen as that lucrative from the perspective of potential applicants as it has a commission based payment structure for its agents, while most are looking for security and stability in their work and work environment. In another way, life insurance itself is a sales industry which functions on a push based sales style of business. Due to this the work load and pressure is high on the individual agents to achieve their monthly targets.

Tata AIA Life is an organization which drives and motivates its agents using the strategy of goal setting and goal orientation, which keeps its agents only goal focused helping them work more diligently to achieve if not over achieve their targets. Due to which the work pressure is high for all its agents. Many within the organization tend to leave because they can't handle or sustain the work load given to them. This in turn increases the attrition rates of the organization. As per IRDA guidelines, the work culture of Tata AIA Life was also the same. High amounts of recruitment turning into average number of sales which in the end resulted in high attrition within the company.

This in the long run was affecting the brand image of the organization not only in the minds of the customers but also in the minds of the potential and existing employees and agents of Tata AIA Life. The sales of the company dropped as the agents/ life insurance advisors would change mid way of a policy term of a customer, affecting the loyalty of the customer. Agents leaving the organization would also poach customers and other agents along with them into the other organizations they joined in which again added fuel to the fire, affecting negatively on the organization as a whole.

The brand value of Tata in Tata AIA Life is that of an ethical organization which is loyal towards its customers as well as its internal customers alike. But due to such actions being taken by the organization as well as its employees and agents, the brand value of the company was drastically being affected causing further increase in its attrition rates. The loyalty of its internal and external customers was now being questioned.

The Details: The branch manager of the Tata AIA Life at one of the Delhi NCR branches got into the organization at the stage when the branch was considered to be at the bottom section of the list of performers of the organization in pan India let alone Delhi NCR. The branch was at a stage of total distress. Agents and employees were leaving the branch for better opportunities in other organizations because the branch was not being able to sustain itself. This in turn was affecting the sales of the branch and its targets were considered to be a far cry for its existing employees.

When the branch head looked into the scenario, it was highlighted that the products sold in the market were considered to be one of the best available products. So it was understood that the product was not at fault for the poor performance of the branch. The attrition rates of the branch as well as that of the organization were at par with the market rates of attrition at that moment of time. It was understood that the agents and employees were not looked after in ways that the other organizations took care of their internal customers.

Another aspect to the scenario which came into the limelight was that any and every one who qualified the guidelines of IRDA were recruited into the organization, especially at this branch. The enthusiasm and their passion/ drive to perform was never judged nor understood. This in turn would bring in agents who would perform for some time period but would lose track in the long run, affecting the sales of the organization as well as the sales is to employee investment(monetary and non monetary investment made on an individual agent/employee) ratio of the organization.

When the branch head went into further details while conducting exit interviews and talking to his senior management in the organization on the topic of attrition and on how the branch can have a comeback strategy, he found out that, as per the inclination in the organization as well as the life insurance sector as a whole, it is seen that half (50%) of the cause of attrition is that the employee and/ or the agent has some type of disagreement with the immediate superior. 20% is understood to be on the basis that other organizations are offering better pay scales than that of the existing company where he or she is working in currently. 10% is analysed to be for a position growth/ position jump while further 10% is taken under the reasons of personal issues like family, health and so forth. 5% is taken under consideration when the management decides to removes the agent/ employee from the organization for the reasons such as misconduct or other reasons and the final 5% are kept for unknown reasons.

The dilemma of attrition had struck a chord in the branch manager's mind as well as the organization's. The branch head made the decision to drive the branch up the list within the organization but how?

How? This was the question the top management of the organizations had to make and help branch heads to implement the changes to reduce attrition within the organization. The branch head at this Delhi NCR branch eagerly awaited suggestions so that he could start the process of achieving his dream of rebuilding the image of his branch in particular so as to build trust of the brand of Tata AIA Life within his employees and agents as well as in the minds of the branch's clients and potential clients.

SOLUTION AND OUTCOME

A three (3) fold solution was decided by the top management of Tata AIA Life Insurance Company Ltd., that:

- 1) The recruitment should be of quality and not of quantity unlike other organizations, especially the government ones.
- 2) The initial training should be such that it drives the new agents to become Life Planners (Tata AIA Life's IRDA approved elite life insurance agents).
- 3) Create awareness about the necessity of life insurance in the general population who can either be potential customers or employees. (Brand and product awareness)

The implementation of these strategies was such that the organization wanted quality agents and employees to join the company keeping in mind that they have that enthusiasm and drive in them to perform to their best and help the company to achieve its goals and targets. To further implement this solution, the organization also suggested that the training of these new joiners should be such that they achieve the annual targets to get promoted within the first (1st) year of joining and become Life Planners, i.e., the premier agents of the life insurance sector of India as authorised and approved by IRDA.

Life insurance has always been such a product to sell which is not considered to be a pull based sales. It is taken as a push based sale, which means that the agents of the organization must create awareness within the clients so that they understand the need of the product resulting in higher sales. This is only possible when the agents themselves are completely aware of the life insurance as well as the financial market conditions. They also must know on how to analyse their customer's needs and accordingly communicate with them. This in the end can only be done through training of determined employees and agents who are willing to learn and develop themselves to grow within the organization. The IRDA approved model of Tata AIA Life, 'Life Planner' provides such quality holistic development opportunities to its holders and aspirants.

This solution if looked at as a simpler picture, the branch head understood that majority employed and/ or selected should achieve the targets of a life planner within their first (1st) year of joining the company and that proper initiation and training should be provided alongside twenty four (24) hour support for agents must be available. By doing so, the quality of the selected will increase giving them a better chance of becoming a life planner within the company. It is also analysed that the new agents or people holding the position of just an ordinary agent tend to leave Tata AIA Life more than the Life Planners.

Over the past few years, the organization's attrition rate has dropped drastically in comparison to the existing attrition rate in the market of life insurance in India. In comparison to the present day 40% to 50%, Tata AIA Life Insurance Company Ltd., has an average attrition rate of 30% to 35%. The Delhi branch being discussed is at an even lower attrition rate of 20% to 25% which showcases that the exact implementation of the suggestions made by the top management by the branch head in his branch drove the organization and his branch in the right direction towards achieving the targets of the branch as well as the overall organizational goals.

IMPLICATIONS

This case highlights the fact that attrition in the life insurance sector of India is at a very dire state. Private organizations such as Tata AIA Life are taking self initiatives to work on bringing down the attrition rates of their individual agencies. IRDA's efforts are affective but only for the short run as per many organizational heads such as the branch head of Tata AIA Life in one of the Delhi branches stated. The drop of 15% to 20% in the organization's attrition rate within a few years is highly commendable but still a 30% to 35% attrition rate average is also affecting the company as a whole.

The steps taken by Tata AIA Life Insurance Company Ltd. have shown a good amount of positive change for the organization but now have hit stagnation at the same attrition rate for quite some time. The aim of the organization is to build a team of agents who are positioned as Life Planners rather than simple agents within

the company to help boost sales as well as build brand and product value through their positive and interactive nature.

The question now is what more?

- What more is it possible for individual organizations such as Tata AIA Life Insurance Company Ltd., to do to further reduce the attrition rate within their individual organizations?
- What would be some more strategies and suggestions which will help reduce the attrition rate further?
- What can the branch head do to improve the position of his branch to help build up its value in the market?
- What can be some agent/ life planner employee engagement and retention strategies which the branch head can implement so that agents and employees feel comfortable and motivated to work in the same organization?

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SOCIAL MEDIA MARKETING: THE CUTTING EDGE TOOL FOR MARKETERS'**Dr. Amit Taneja¹ and Nitya Dawra²**Sr. Faculty¹ & Associate Faculty², School of Business & Entrepreneurship, F.D.D.I., Rohtak**ABSTRACT**

With the recognition of ICT, the power of social media has gained more importance. The social media is crucial in defining what we think about, how we look at the things and our social place and to discuss about the various brands and products available and popular issues in the society. Social media has been considerably influencing the various aspects of the society like cultural, spiritual, social, economical, political and religious as well as influencing a delicate level of thinking, feeling and reacting to products and events. Social media in a way disseminates information and had created the need for marketers to be present online to market their products. Apart from only social connection, these media create a loyal connection between product and individual which leads to large advertising opportunities. Similarly, other social media like Vlogs, Blogs, etc. provides a platform to post reviews on any event which needs to be publicized also can be utilized as a promotional technique for customer's adoption as well as for promotions. Now users are acquiring followers & subscribers and unswerving them to the social networking page. These media has a cutthroat edge over other traditional public media like Television, Radio because there is a time gap between social event occurrence and the point in time it is being broadcasted. This research paper lay emphasis on the stratagem which can take this viral marketing approach beyond the normal social media at hand. As a result, it can also help in building a strong community which make the marketing effective & provoke business.

Keywords: Social Media, Blog, Twitter, Facebook, Social Advertising.

INTRODUCTION

Social media marketing refers to the process of gaining website passage or interest through social media websites. Social media marketing programs generally backs up on efforts to create content that attracts attention and persuades readers to carve up it with their social networking accounts. A corporate message spreads from user to user and most likely resonates because it emerges to come from a reliance, third-party source, as opposed to the brand or company itself.

Hence, this form of marketing is driven by word-of-mouth, denotation which results in earned media rather than paid media. Social media has become a useful platform because of its easy accessibility to anyone with internet access and especially since the arrival of reliance Jio, which provided free 4G sim cards. Amplified communication for organizations cultivates brand awareness and often, superior customer service. Moreover, social media also serves as a relatively economical platform for organizations to implement marketing campaigns in terms of reaching maximum people with low cost.

Social media is sizzling. And for businesses it presents a lucrative marketing opportunity that surpasses the traditional middleman and connects companies openly with customers. This is why nearly every business on the planet—from giants like Starbucks and IBM to the local grocery stores—are exploiting social media marketing initiatives. Much like email and websites first empowered businesses, social media is the next marketing wave. If done correctly, social media marketing can also increase the efficacy of other marketing techniques – including SEO and SEM – by helping build natural links, and drive traffic, awareness, brand recognition and goodwill.

Social media marketing is marketing using online communities, social networking platforms, blog marketing, vlogs and much more. Vlogs are the most recent "buzz" in marketing. The flare-up of social media phenomenon is as mind boggling as that and the pace at which it is mounting is maddening. Faith and friendliness are the basis of social networking, and by marketing in the sphere of social media these fundamental notions need to be adhered. Global companies have recognized Social Media Marketing as a potential marketing platform, utilized them with innovations to power their advertising campaign with social media marketing.

SOCIAL MEDIA CHANNELS/PLATFORMS**TWITTER, FACEBOOK, GOOGLE+, YOUTUBE, BLOGS, VLOGS**

Social media is internet-based tools for sharing and conferring information among human beings. Social media is all about networking and networking in a way that advocates trust among parties and communities drawn in. Any site which allows users' to share their content, judgment, views and encourages communication and community building can be classified as a social media. Some popular social media sites are: Facebook, Twitter, LinkedIn, Google+, Instagram, Pinterest, Reddit, Tumblr, Medium, Torial, Flickr, Diigo and Delicious.

Marketers see social networking platforms as a vibrant market space, and if the marketers are able to satisfy the customer needs, customer themselves become the brand ambassadors of the product/ service by sharing it on their social networking accounts which gives marketers exponential reach. Social networking sites act as word of mouth. This personal communication can inspire a feeling of loyalty into followers and potential customers. An option of making choice about likes, whom to follow on these sites, products can reach a very narrow target audience.

SMART PHONES

Smart phone usage has also become a boon for social media marketing. Nowadays, many cell phones come with preinstalled social networking applications. The latest updates can be instantly accessed using cell phones, in real-time. This steady connection to social networking sites means products and companies can persistently remind and renew followers about their facilities, exercises, magnitude, etc. Because smart phones are allied to social networking sites, advertisements are constantly in sight. The use of QR codes along with products also made it easier for smart phone users to access the company's website or online services.

ENGAGEMENT

In the context of the social media, engagement means that customers and stakeholders are participants rather than viewers. Social media in business permits anyone and everyone to express and share an opinion or idea somewhere along the value chain. Each participant becomes part of the marketing department, as other customers comprehend their comments or reviews and make their choice. The engagement process is then elementary to victorious social media marketing.

APPROACHES

TWITTER

Twitter allows companies to endorse products on an individual level. The use of a artifact are explained in short messages (139 words) that followers are likely to read. These messages appear on followers' home pages. Messages can link to the product's website, Facebook profile, photos, videos, etc. This link offers direct access to followers to spend more time interacting with the product online. This interaction can create a reliable connection between product and individual and can also escort to larger advertising opportunities. Twitter prop up a product in real-time and brings customers in.

FACEBOOK

Facebook profiles are more meticulous than Twitter. They allow companies to unleash the videos, photos, and longer descriptions of the product. Videos can demonstrate the exact and detailed usage of a product, may start from easy and moves up to extreme conditions. These also can include testimonials as other followers can comment on the product pages for others to see. Facebook can connect back to the product's Twitter page as well as send out event reminders. Strategies to widen the reach with Sponsored Stories and acquire new fans with Facebook ads prolong to an uptick in spend across the site. The study attributes 84% of "engagement" or clicks to Likes that link back to Facebook advertising.

BLOGS

Blogs allow a product or company to provide detailed descriptions of products or services. The longer description may include reasoning, uses and reviews. It can include testimonials and can link to and from Facebook, Twitter and many social network and blog pages. Blogs can be updated frequently, edited and are promotional techniques for retaining customers. Other promotional uses are acquiring followers and subscribers and direct them to your social network pages.

Vlog (Video blog)

A **video blog** or **video log**, usually is a form of blog for which the medium is video, and is a form of web television. Vlog entries frequently combine embedded video (or a video link) with supporting text, images, and other metadata. Entries can be traced in one take or cut into multiple parts. The vlog category is popular on YouTube, facebook.

Personal vlogs

The personal vlog is an online video which records an individual to deliver information that they intend to launch to people. The viewers are not as varied as one's from corporation or organization.

Live broadcasting vlogs

YouTube announced a live broadcasting facet called YouTube Live in 2008. This feature was also established by other social platforms such as Instagram and Facebook.

SOCIAL MEDIA MARKETING TOOLS

Besides research tools, there are many companies offering specialized platforms/tools for social media marketing, such as tools for:

- Social Media Monitoring
- Social Aggregation
- Social Book Marking and Tagging
- Social Analytics and Reporting
- Automation
- Social Media
- Blog Marketing
- Validation

There are two benefits of social media that are important to businesses, they include:

1. Cost diminution by decreasing staff time.
2. Increase of probability of revenue generation.

Social media enables companies to:

1. Share their expertise and knowledge.
2. Tap into the astuteness of their consumers.
3. Enables customers serving customers.
4. Engages prospects through customer evangelism.

Thus the payback of social media include: brand reach and awareness, consumer interactions through deals, referrals and reputation management.

Social media provides marketers a voice and a way to communicate with peers, customers and potential consumers. It personalizes the "brand" and assists you to spread the message in a hassle-free and chatty way.

Industries like FMCG, Automobile, F&B shops have been using social media tool. Coca cola, HUL, Samsung, Ford and many of the top brands have effectively used social media for achieving their business objectives. Facebook promotes a product in real-time and brings customers in.

Few companies that have become involved in social media are:

Absolut Vodka - Online Video on YouTube and Using Facebook to house their Top Bartender fan page.

BMW - Utilizing Facebook to promote their 1-Series Road Trip and they have created a Rampenfest Page for fans.

Dunkin Donuts - They've found value in social media and have setup a microblogging Twitter account.

General Motors - GM leverages the social media to improve the online equity of its brand and make consumers feel more connected.

**IMPLICATION ON TRADITIONAL ADVERTISING
MINIMIZING USE**

Print and Television advertising are already overtaken by internet as the largest advertising market. Websites often include banner ads or pop-up ads. Social networking sites don't always have ads. In exchange, products have entire pages and are able to interact with users. Television commercials often concluded by a spokesperson asking viewers to check out the product and showing website for additional information. Print ads are also starting to include barcodes on them. These barcodes can be scanned by cell phones and computers, sending viewers to the product website. Advertising is beginning to move viewers from the traditional outlets to the electronic ones.

LEAKS

Internet and social leaks are one of the issues facing traditional advertising. Video and print ads are often leaked to the world via the Internet prior to scheduled premiere. Social networking sites like wiki leaks, etc. allow those leaks to go viral. Time difference is also a problem faced by traditional advertisers. When social events

occur and are broadcast on television, there is often a time delay between airings. Social networking sites have become a hub of comment and interaction pertaining to the event.

WHY BUSINESSES NEED TO CONSIDER SOCIAL MEDIA MARKETING SERVICES?

Size: Facebook has over 2.07 billion monthly active users globally. The average Facebook user currently has about **338** friends.

On an average, **Twitter** Usage Statistics. Every second, on average, approximately 6,000 **tweets** are tweeted on Twitter (visualize them here), which reaches to over 350,000 **tweets** sent **per minute**, 500 million **tweets per** day and around 200 billion **tweets per** year.

This is the kind of enormity Social networking sites adopt and with this comes the license to communicate impressively. But when such huge numbers are involved, there is a threat of something erroneous and when it does, it happens in a gigantic way.

Transparency: No cheat code implicated. No black hat techniques permissible. Everything that happens in the social networking backdrop is fool proof. Companies cannot provide fake authenticity in an attempt to get more people involved. Members are liberal to choose the company or opt out. Opinions made on social networking platforms are taken seriously and the more authoritative the companies get, more critically they are taken.

Reach: It is possible to make mark your presence globally and do it swiftly using social networking sites.

Boost website traffic: Social media is probably the best, hasty and painless means of redirecting traffic to company's website. By simply placing their website URL in their profile, the company can have all their profile visitors check out their website and a percentage of traffic is sure to get converted in course of time. This is the virtual way version of "word-of mouth".

Branding: Buying a toothpaste may have been impulsive all your life, but if it is conferred on a social networking site, there is likely to get brand awareness even a toothpaste. Social media is a smart way to erect brands. Social media platforms are known to be one of the most powerful and fast means of branding. Some of the big brands like Coca Cola, Toyota, Dell, IBM, McDonalds are some of the well known brands have powerfully used social media platforms to endorse themselves.

SOCIAL MEDIA MARKETING STRATEGIES

Social media marketing, or SMM, is a form of internet marketing that implements various social media networks in array to achieve marketing communication and branding goals. Social media marketing primarily envelops activities involving sharing of content, videos, and images for marketing purposes, as well as paid social media advertising.

SMM is still in its formative years. Most of the online retailers though appreciate its optimistic fallouts on the brand awareness and promotion; they are still in the early stages of adoption. For an organization enthusiastic to invest in social media marketing, it is important to realize why SMM is an important marketing strategy and how it can help:

- This is the age of customer satisfaction. It is not about selling, it is more about interacting. There is a lot to learning from the customer feedback and queries. Using social media, one can classify customers, listen to their feedback and use them to improve and innovate on products or services.
- SMM may or may not be a mass advertising strategy. It can be used to identify peer groups and advertise to that particular group. Social Media can help in identifying influencers and through them one can steer a prospective customer into making a purchase.
- SMM calls for unsullied advertising methods as the attention span of online mass is very low. This is largely due to the multitasking events. A person watching a video clip on YouTube might be concurrently updating a blog, while reading another one and watching friend's photographs on Facebook. In order to acquire their attention away from distractions the advertisement must be innovative and appealing to hold the imagination and attention of the prospect.
- At the same instance, the message must also aggravate the recipient into action; like seeking a detailed description of the product/service, or suggesting to a friend, or initiating purchase. So, if the advertisement is trying to sell something then it should be conveniently positioned with links so that the prospect can make a purchase with least effort.

- Similarly Social Media can be used to enhance customer loyalty through customer support services and hence improve customer retention.
- Social Media Marketing can also be used by brands to ward off any unenthusiastic publicity. But the brands will have to be watchful here as over doing it may further exaggerate their customers / stakeholders.

To successfully implement one's SMM strategy the following points must be kept in mind:

- The company shouldn't just hop on to the bandwagon just because others are jumping into it. The market should be analyzed first to understand whether their brand would really gain from SMM. It should try and find out whether SMM strategies fit its brand.
- The company shouldn't expect outcomes over night. SMM is a long term strategy. The ROI may take a little extra time.
- SMM is not a standalone tool for marketing. It has to be worn all along with all the other conformist marketing strategies.

ADVANCED SOCIAL MEDIA MARKETING STRATEGIES FOR SMALL BUSINESSES

The definition of sophisticated social strategy is a technique that goes beyond the normal social media presence. It reinforces a marketing message while pushing a user to another site or business profile. Before moving forward with an advanced strategy, it's imperative that your business understands social marketing, has experience engaging consumers, and that you seize a basic understanding of online marketing.

STRATEGY 1: MULTIMEDIA PRACTICE

The term "A picture is worth a thousand words" has never been factual. Consumers are now using the web to gaze for product pictures and videos; they want further information and want to see what they're considering buying. The good news is that it's easy for a company to craft and publish videos and pictures. In addition to taking photos of products, you can also take pictures at office events as a way to highlight company culture. This not only helps induce others to work with you or to buy from you, it also helps your HR department recruit new employees. Who doesn't want to work for a company that celebrates birthdays and has a good time? Showing step by step directions (videos) can have a greater impact than even the most well written article. Businesses don't have to invest huge amount of money to create good videos, either. Marketer can use relatively cheap Flip camcorder, which takes great videos and is easy for even a non-technical. Multimedia can break down the anonymous business-to-consumer sales flow and make your company emerge as friend. Using videos and images to show business processes is fun, working culture, benefits for employees, and most importantly, that you care about your customers.

STRATEGY 2: INTEGRATING OFFLINE AND ONLINE ADVERTISING

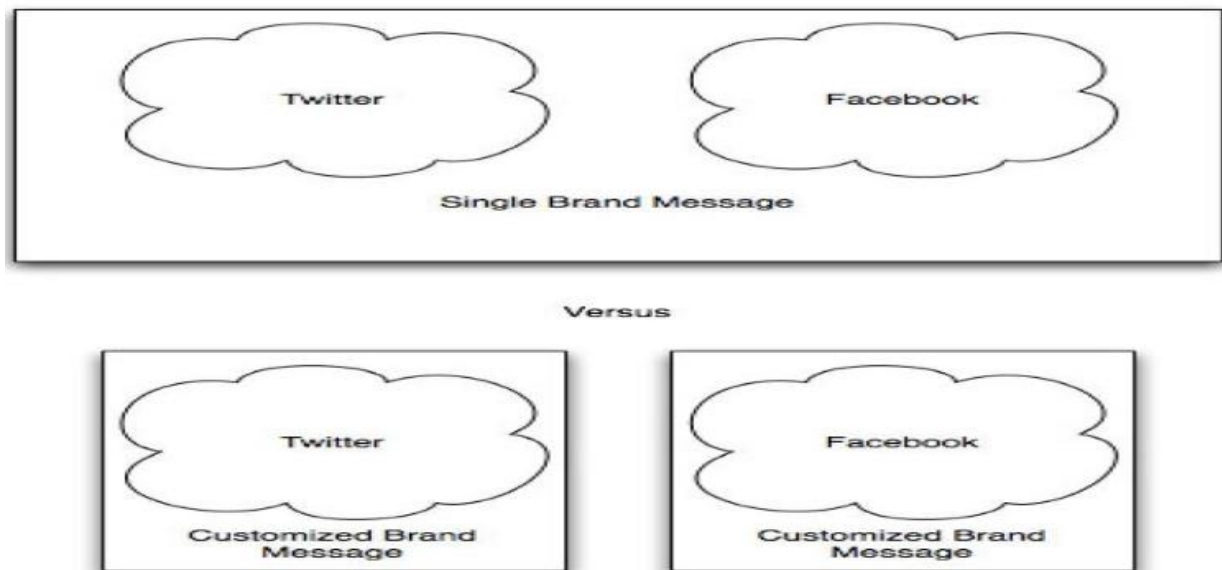
Micro businesses do some sort of offline advertising, whether it be radio, print, or cable. Social marketing allows a business to broaden their offline sales pitch. Including Facebook Page or blog URL in offline ads act as social proof, alluring potential consumers to see community and increase trust in the business. Integration of online and offline advertising can help the conversion process, and building a strong community. Introducing potential consumers to social profiles means they may join the community now and buy later.



STRATEGY 3: MESSAGE ADAPTATION

As businesses start to become more urbane with social media they are starting to leverage more online platforms. However, many companies deliver the same message over multiple platforms instead of tailoring communications for each individual site. Every social platform has an ecosystem of their own. What might be acceptable on Tumblr might be considered spam on LinkedIn. A specific style of writing might spread on

Twitter but fail on FriendFeed. Understanding that each site is unique and then customizing the message ensures they do well on each respective site. Not only does customizing messages across sites help the message spread but it keeps users from receiving multiple indistinguishable communications. Be sure to exploit the potential by sending a user that follows the business on Twitter and Facebook two different messages, instead of the same thing.



STRATEGY 4: LOCAL SOCIAL NETWORKS, BEYOND YELP

For a micro business, neighboring search can be a big win. Being noticeable to consumers looking for a products / services in their area is enormously important. There may be number of players working in the same category of business operations, So, one has to keep the check on competitors also, check inbound links to all business directories, Google maps, yellow papers, etc. Updating the links time to time so as you can be on the top of those online directories to get noticed by all new potential as well as existing customers.

STRATEGY 5: OFFERS, CONTESTS AND DISCOUNTS

Customer seeking offers, discounts and freebies. Building an online community is only the primary element of social marketing. Driving sales via that community propagate marketing, or crowd source operations are the true power of social media. One of the foremost means to excite the community is to communally do something incredible to fetch the sight by providing opportunities to win freebies through contests or offer an exclusive discounts, services to prime or non prime customers.

The screenshot shows the Amazon India homepage. At the top, there's a navigation bar with the Amazon logo, a search bar, and various links like 'Deliver to Gurgaon 122001', 'Shop by Category', 'Your Amazon.in', 'Today's Deals', 'Amazon Pay', 'Sell', 'Customer Service', 'Hello. Sign in Your Orders', 'Try Prime', 'Your Lists', and 'Cart'. A prominent banner for Mi smartphones is displayed, featuring the text 'I ♥ MI' and 'UP TO ₹1,000 OFF*'. Below this, there are icons for 'EXCHANGE OFFER' and 'NO COST EMI'. To the right of the banner, two Mi smartphones are shown. Below the banner, there's a section titled 'Toys & Games best sellers' with a 'See more' link. This section displays several products: a collection of small stuffed animals, a Rubik's Cube, a set of toy cars, a box of UNO cards, and a box of Uno Wild. To the right of these products is a large advertisement for Intel-powered gaming laptops, featuring the Intel logo and the text 'INTEL-POWERED GAMING LAPTOPS Up to ₹27,000 off on exchange*'. The ad includes a 'Choose your laptop >' button and a small image of a gaming laptop.

FACILITATORS OF E-COMMERCE IN INDIA**A. Information directories**

Listing of products and services with appropriate sub-headings to make it easy for a solemn information-seeker to find what exactly is demanded. Linked support services provided: Message boards, chat rooms, forums, etc.

B. Banks

1) Net banking/phone banking: Linking the website with trusted payment facilities like encrypted banking facility to do transactions using net banking for savings account holders as well as current account holders. A few of the special Net banking services are: Demat accounts for sale/purchase of stocks and shares, Foreign Exchange services, Bill payments for utilities, Financial Planning & advice, Electronic Funds Transfer, Loans to account-holders.

2) Credit/Debit Cards- Banks facilitates E-commerce by providing the most fundamental trade mechanism, namely the Credit or Debit Card, without which E-commerce would be impractical.

CATEGORY OF E-COMMERCE AND ITS FASHIONABLE USES IN INDIA

Today, E-commerce is an quintessence in Indian society and it has become an integral part of our daily life. Websites like Flipkart, Amazon, etc. are providing wide range of goods and services. There are websites which offers a specific product along with its allied services. The E-commerce portals provide goods and services in a variety of categories. To name a few: Apparel and accessories for men and women, Health and beauty products , Books and magazines, Computers and peripherals, Software, Household appliances, Audio/video, entertainment goods, Gift articles, Real estate and services, Consumer electronics, jewellery, Automobile booking and accessories. Single-product e-commerce Some Indian portals/websites deal in a specialized field, for example:

i) Automobiles and e-commerce

These website facilitates you with buying and selling of four wheelers and two-wheelers, new as well as used vehicles, online. Some of the services they provide are: Car research and reviews, comparison with competitors, Online evaluation, Technical specifications, Vehicle Insurance, Vehicle Finance. Eg.: Cartrade.com, cardekho.com, obv.com, etc.

ii) Online Trading and e-commerce

Online stock trading is gaining momentum in India. Services presented by the online stock trading companies include online buying and selling of stocks and shares, market psychoanalysis and research, details of companies, comparison of companies, and research on equity and mutual funds, customer services via email and chat. Online trading also has an additional benefit of real time stock trading without calling or visiting the broker's office. Major online stock trading websites in India include: ICICIDirect.com, Sherkhan.com, Indiabulls.com, 5Paisa.com, Motilal Oswal Securities, HDFC Securities, Reliance Money, IDBIPaisaBuilder, Religare, and Kotak Securities.

iii) Real estate and e-commerce

The real estate portals and sites provide information regarding the property they wish to buy/sell and rent. This information includes properties offered for sale/purchase, the cost, location, etc.

One can deal directly with developer/ owner through these websites. Allied services: Housing Finance, Insurance companies, Architects & Interior Designers, NRI services, Packers & Movers, vastu consultation. Some of the popular real estate portals include: Indiaproperty.com, 99acres.com, Magicbricks.com, and Makaan.com.

iv) Travel & tourism and e-commerce

The travel and tourism business is on increasing trend in India as India has a rich history and heritage and e-commerce is instrumental, to a large extent, in selling India as a product, heartening Indians as well as foreigners to see its multifaceted culture and beauty. The theme based tourist destinations are categorized as: Adventure -trekking, mountain climbing etc, Eco-Themes pertains to jungles, flora and fauna. IRCTC, Makemytrip, trivago, etc. are the leading e-Commerce operational in India. The Indian Travel Ministry has introduced a travel portal called Incredible India. This portico is a huge success as tourists can easily contact travel agents, tour operators and hoteliers easily. This portal not only provide real information about the tourist destinations but along with that other services like medical, education, etc. which provoked a rapid increase in bringing medical tourism to India.

v) Gifts and e-commerce

Planning a gift for any age group is not a headache these days. Variety and options of gift for loved ones are easily available on a single click. The gifts are beautifully categorized as: Collectibles like paintings and

sculptures, Luxury items like leather goods, perfumes, jewelry boxes, etc, household curios and carpets, etc, Toys & games, Chocolates, Flowers, Woodcraft & metal-craft.

vi) Hobbies and e-commerce

Everyone looks for good experiences pertaining to hobbies, like reading new books, listen to recently launched music or oldies, The websites helps with topics like Business, Art, Cookery, Engineering, Children's Stories, Health, Medicine, Biographies, Horror, Home & Garden, etc.

vii) Matrimony and e-commerce

The matrimony e-Commerce portals like shaadi.com, jeevansaathi.com, Bharatmatrimony.com, Indiamatrimony.com provide the seekers appropriate information regarding the prospective matches, including a detailed description one looks for first hand is region of their residence, their religion, caste, age, preferences, family details, education, etc. Allied services are also provided to the listed members. Earlier it is said that marriages are made in heaven, but in this internet era, they are made on marriage portals. One can search for a apt match on websites by region of residence (India or abroad), religion or caste. Allied services are offered to registered members: Astrological services, Information on Customs and Rituals, Legal issues, Health & Beauty, Fashion & Style, Wedding Planners. These services include: astrology, information on customs and rituals, legal issues, health and beauty, fashion, wedding planners, etc.

viii) Employment and e-commerce

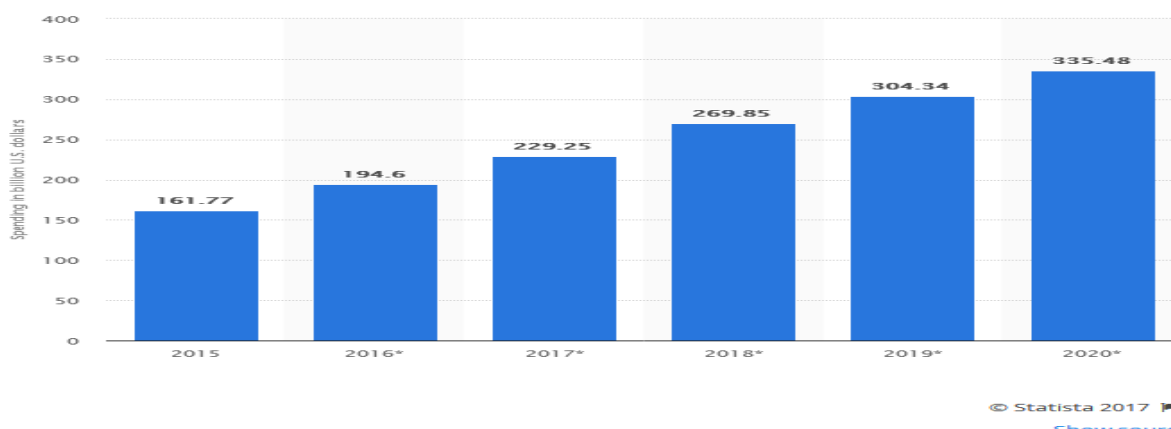
Another area where e-Commerce is extensively used is searching and offering employment. Internet has simplified the process of search for 'right people on the right job'. Matching a prospective employer's requirements with that of candidates applying for that job is also one of the service of these web portals. Two major portals like www.Monsterindia.com and www.naukri.com are active in providing job seekers with suitable employment at the click of a mouse. The service for job seekers is free and for Employers they charge a nominal fee. Jobs of all categories ranging from secretarial to software development, and in all fields and from real estate to education are listed on these portals.

ix). E-Tailing or Online Retailing and e commerce

Due to improved bandwidth, ever increasing broadband connections and increased penetration of credit card facilities to a wider population, e-Tailing or online retailing is observing a substantial growth. Internet retailers provide a wide range of facilities to the consumers, including discounted prices, comparison of product features offered by various vendors, affiliate products, similar products seen by other customers, etc. The number of consumers who purchase online is expected to cross 100 million by 2017 end with e-retail marketplace likely crossing 65% on year in 2018, an ASSOCHAM-Resurgent India study said on Monday. India is expected to have the third largest internet user base, which improves the prospects of online purchases. Some of the retail stores offering online retail facilities include: Reliance's money, Pantaloon's FutureBazaar.com, Videocon's eDigiworld.com, Vishalmart's Vishalmegamart.com, and the Tata Group's Westside. Some of the popular job sites in India include: Naukri, Monster India, Times Jobs, Careerjet, Naukri Hub, Career India, Bixee, ClickJobs, CareerAge, and Freshersworld.

x).Online Advertisements and e commerce

The Indian population accesses the internet on mobile phones, tablets, PC's from home, office, and cybercafes. There is a large section of inhabitants which are fast adapting to internet. Advertisers have acknowledged the internet as a medium for enhancing the awareness for their business activities. Online advertising in India is expected to cover all organizations and their products.



Digital advertising spending worldwide from 2015 to 2020 (in billion U.S. dollars)

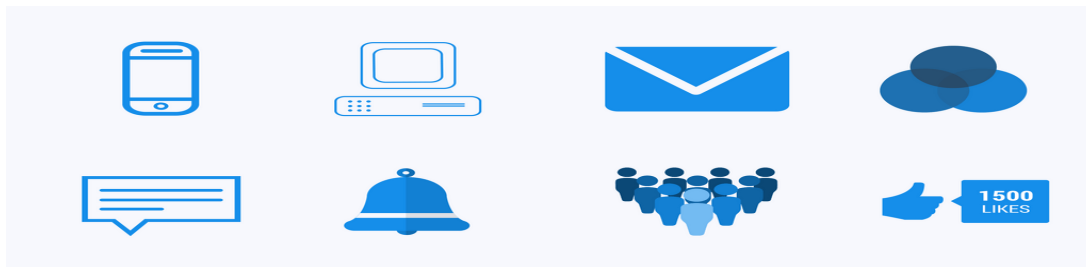
5 EXCITING SOCIAL MEDIA AND MARKETING TRENDS TO KNOW IN 2017

“The bar has been raised across the industry. The only way to stand out is to put out higher quality content than the rest.” – Noah Kagan.

1. Optimizing outreach on multiple mediums

One of the statement in marketing, “owned vs. rented land” – referring to producing and sharing content on platforms that you do or do not own. For example, posting content directly via Facebook would be considered “rented” because you don’t inevitably control the outcome of that content, whereas, blogging frequently on your website would be well thought-out “owned” because you have full control over that content.

In 2017, it’s significant for marketers to **develop manifold mediums through which your business can speak and connect with customers**. That way, if a big transformation happens on any one medium, like a significant decline in organic reach on Facebook, the business will still have other viable options at your disposal.



Multiple marketing mediums may comprise:

- Facebook Groups
- Messenger Bots
- Browser Notifications
- Slack Communities
- Email Lists
- SMS Marketing
- Blog (Organic Search)
- Facebook Ads

In other words, hedging the communication channels against any major market changes.

2. Customizing one-to-one marketing communications

Right information, to the Right person, at the Right time, in the Right form. That’s what many savvy marketers hope to attain through their one-to-one marketing efforts. But bringing the perfect message without seeming invasive or sneaky is a fine line to walk in a time where consumer information is seemingly endless.



Source: Tom Fishburne – *marketoontist*

When done right, however, one-to-one marketing can reduce marketing costs and increase the effectiveness of your campaigns. Personalization can fetch you fruitful results.

For example, Facebook and Facebook advertising might help fetch people to your bistro, but imagine bringing someone to your restaurant and everyone gets their own customized dished (based on profile information) that they're in love with. That's the power of one-to-one and marketing personalization. Technology that will help you get to one-on-one communication:

- Marketo
- HubSpot
- Pardot by Salesforce
- Clearbit

The companies and marketers that can begin to exploit these technologies sooner will have a significant advantage in their marketing.

3. Utilizing the power of Bots

One of the most exhilarating frontiers in marketing is the rise of marketing bots. An **Internet bot** is a software app that runs programmed tasks (or scripts) over the Internet. Typically, bots perform tasks that are both simple and structurally recurring, at a much higher rate than would be possible for a human alone."

As a marketer, bots can be a bit frightening on both the job perspective and implementation side. But there are tons of positives that come with automation. Eventually, bots will be able to do a variety of tasks that humans currently do like write blog posts, create graphics, deliver tailored content to users, send emails, schedule social media posts, and react to user questions.

But just like the computer automated handwriting and Netflix automated the movie industry, we will adapt and evolve into the next stage of social media, technology, and marketing, just like we've done throughout history.

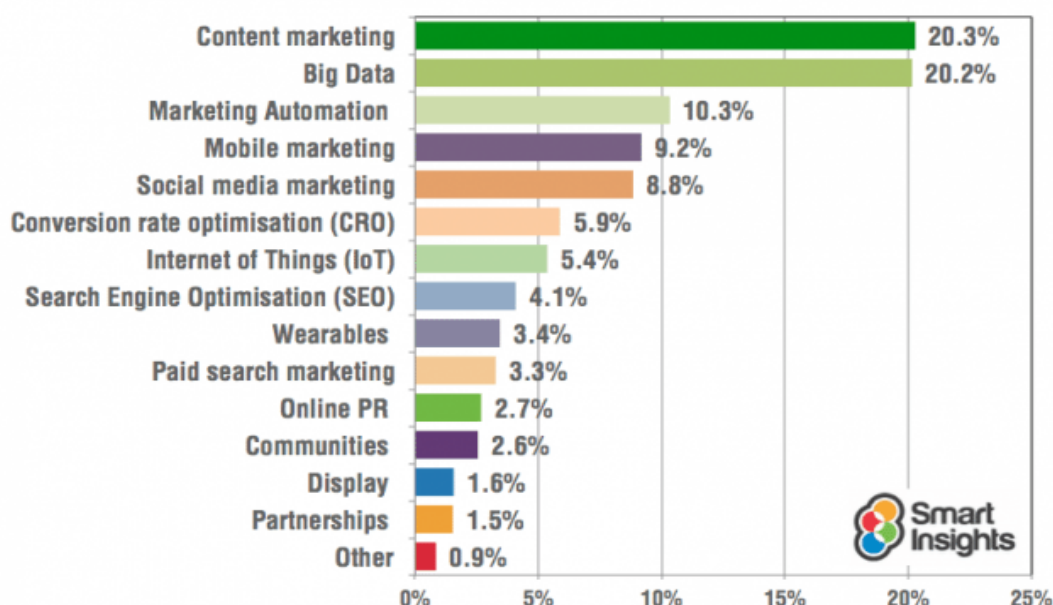
For now, the games are experimenting with basic bot functions like communicating with website visitors, implementing a Facebook messenger, or Slack bot, or conducting research.

4. Tapping into customer network opportunities

One of the more scarce marketing trends in 2017 and beyond for marketers to consider is the idea of untapped networks or channels.

For rapid growth of business, it's important to identify where large amounts of untapped customers or audiences are hanging out and work backwards from there. The best part is there are untapped network prospect in almost any marketing vertical. A good place to start might be within the top digital marketing trends of 2017.

Top-rated digital marketing techniques 2017



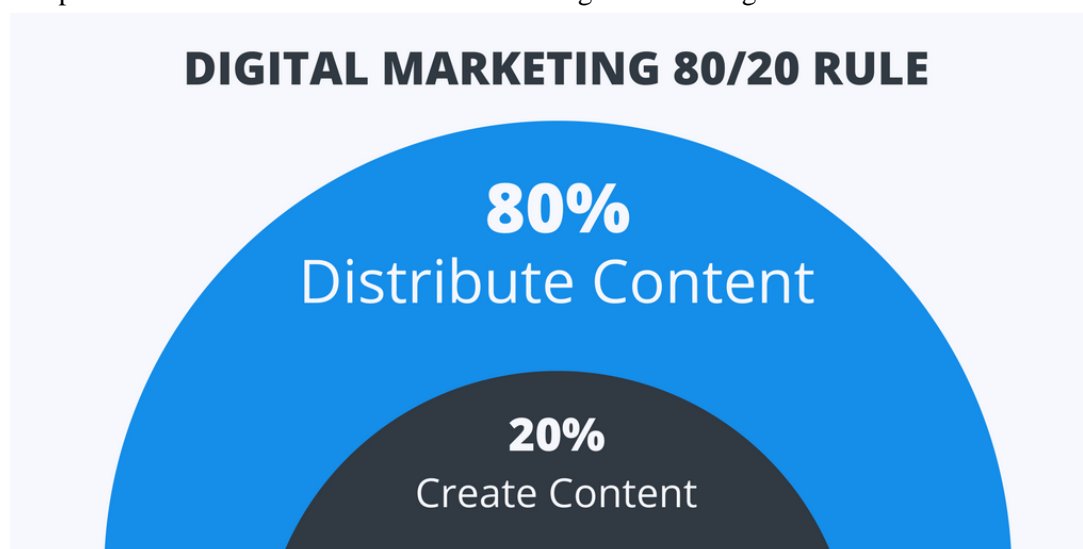
Recent example of this is the tactical use of Quora.com as a marketing channel for businesses. Once marketers discovered that populace is using Quora to ask specific questions in relation to products or challenges they were facing, they quickly embark on providing answers. And when those answers were useful, it meant thousands of views every month, giving marketers a unique opportunity to tap into a massive resource.

5. Setting a higher bar for quality content

Creating content quality over quantity is something breathtaking for the viewers as well as for marketers. Over the recent past, it seems like more and more brands are putting out incredible content across digital platforms. Everyone from micro businesses to macro enterprises is prioritizing and investing in quality content, and it's paying off big time in awareness and sales.

But producing quality content isn't inevitably a new trend to many marketers – excellence is something built into everything they generate. What is a marketing trend, however, **is creating quality content within promising mediums such as video, podcasting, and social media advertising.**

When a quality piece of content is created, the next step is to extend your reach, how far it can go. For example, if a quality blog post of 4,000-words is created, that blog post deserves a little extra acceptance, appreciation and love when it comes to promotion. You might create an infographic, a podcast episode, a short video, send it to all of followers, newsletters subscribers, pitch it to major publications, post it to various communities, and lots more. It is helpful to remember the classic 80/20 rule in digital marketing:



With the outburst of technology and marketplace, huge amount of content being published every day online, it's no longer enough to simply post and hope for the best. More effort is required to keep it upfront in noticeable range than ever before.

ADVANTAGES OF E-COMMERCE TO BUSINESSES IN INDIA

Ease of Internet access and steering are the critical factors that will result in rapid adoption of Net commerce. Safe and secure payment modes are also crucial along with the need to invent and popularize innovations such as Mobile Commerce. India is diverse in its culture and economic bounds, hearsay provides accurate and easy to understand India specific reports that capture trends, map business landscapes and custom-made reports for specific needs. The other facts on India are on retail, outsourcing, tourism, food and other emerging sectors in India due to acceptance of digital payment systems, availability of resources at doorsteps with ease to access and returns/ replace facility. E-commerce provides a new venue for connecting with consumers and conducting transactions. Online retail stores operate 24 hours a day, 7 days a week. Many virtual retailers represent a single company while others, such as Amazon, flipkart stores, represent a consortium of companies.

CONCLUSION

There is no getaway from social media these days, either for individuals or for businesses. Today, it is impossible to split social media from the online world. The social media has become the integral part of the lives, conversation is no longer considered a Web 2.0 fad -- it is taking place in homes, micro businesses and corporate boardrooms, and extending its reach into the nonprofit, education and health sectors. From feeling excitement, freshness, bewilderment, and overwhelmed, a growing number of people now speak of social media as simply another channel or tactic. Blogging can have a very affirmative effect on your Company's branding & growth. Customers with blogs gathered more leads than customers without blogs. It is of the essence to

understand that today, social media have exponential potential. They have become the brand ambassadors themselves of an ever-growing online network of people who discuss, comment, participate, share and create. Whether it's an individual, a startup, small business or a large corporation, an online presence and an ongoing conversation with your constituents is a baseline requirement -- and will take time and expertise. Companies are diverting resources and rethinking their traditional outreach strategies. And as the social media wave squander into the vast ocean of connected experiences, the term itself will become an entry in dictionaries and encyclopedias and we will embark on a new era of knowledge, accessibility and experiences unbound by distance, time or physical walls. It is high time that every business adopts social media and takes it seriously to attain the long term business gains.

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AN EXAMINATION OF CUSTOMER ATTITUDES TOWARDS HOSPITAL ADVERTISING

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ABSTRACT

With consumer choices largely shaping the emerging hospital environment and with increased competition with speciality hospitals being rapidly set up, hospitals have started adopting advertising and promotional strategies to attract patients. While the Medical Council of India does not permit advertising by physicians and hospitals to directly or indirectly solicit patients, it does allow formal announcements in the press in some cases such as starting a new practice, on change of practice or declaration of charges. Despite marketing considered as an unorthodox way to promote healthcare, hospitals in India are investing heavily in marketing and engaging in a plethora of marketing communications activities. This study aims to understand the prevailing attitudes and factors affecting the customer perceptions towards hospital advertising. Data was collected to measure customer's attitudes towards hospital advertising with the use of a questionnaire containing 19 Likert type questions anchored on a five-point scale (from strongly agree to strongly disagree) used by Moser and Freeman (2014). The results point towards a positive customer attitude towards hospital advertising since they perceive specific benefits from hospital advertising, especially in the form of information which aids in selecting hospitals. This study indicates that hospital advertising should have a strong information content aiding customer choice and also cautions that hospitals should advertise with less frequency so as not to undermine the image of the hospital.

Keywords: Hospital, Advertising, Customer Attitude, Marketing Communications.

INTRODUCTION

Hospital marketing in India is a recent development (Kambli, 2011). As per the IBEF Healthcare Report (2017), the healthcare market in India as of 2015, stood at USD 104 billion, which scaled up to the size of USD 110 billion in 2016. Expected to grow at a CAGR of 16.5 % in the period of 2008-2020, the healthcare market in India is expected to reach a size of USD160 billion by 2017 and USD280 billion by 2020. India's hospital industry comprises around 80 per cent of the total market. The number of hospitals in India, for the year 2015 stood at a 196312. Private sector's share in hospitals and hospital beds is estimated at 74 per cent and 40 per cent, respectively (www.ibef.org).

Changes in the hospital sector in India is evident as marketing becomes important in present day hospitals in the country with the emergence of consumer driven health care and consumer choice largely shaping the emerging hospital environment (Sreenivas *et al.*, 2013); corporate management becoming the norm with specialty hospitals being rapidly set up, with hospitals adopting advertising and promotional strategies to attract patients with competition intensifying (Venkatesh and Jayachandran, 2008). In developing countries, marketing has come to be recognised to impact patient's choice of hospitals by addressing issues such as quality of treatment, convenience of transport and cost (Kuhl, 2016).

While the Medical Council of India does not permit advertising by physicians and hospitals to directly or indirectly solicit patients, it does allow formal announcements in the press in some cases such as starting a new practice, on change of practice or declaration of charges (<http://www.medindia.net/education/mci-guidelines.asp>). Further, while Indians also do not expect hospitals to hard sell themselves (Kambli, 2011) and despite marketing considered as an unorthodox way to promote healthcare with hospitals perceived as a service industry with a noble cause (Debnath, 2012), hospitals in India are investing heavily in marketing, engaging in a plethora of marketing communications activities (Kambli, 2011).

In developed countries, advertising by hospitals has been well established over time. Decades ago, when hospital advertising was not a prevalently used tool, Berkowitz *et al.*, (1982) found increasing role of advertising for hospitals in the coming years and forecasted an increase in advertising budget by hospitals in the coming years. Accordingly, in the developed countries, advertising in the in the hospital sector became well established, attributed to increased competition, compelling hospitals to focus on market shares as well as the emergence of sophisticated, knowledgeable customers (Andaleeb, 1994).

Hospital advertising in India has developed in recent times and can be assumed to grow further in the years to come. Despite being perceived as unethical and leading the increased healthcare costs, private hospitals in India are advertising aggressively to attract patients (www.timesofindia.com). Further, hospitals in the country are investing in promotion of their services with an array of promotion mix including advertising, sales promotion,

publicity, personal selling and public relations via the use of print and electronic media, including magazines, newspapers, television and the internet (Sreenivas, *et al.*, 2013). It seems, “medicine is increasingly recognising itself as a business” (Moser and Freeman, 2014, pp. 14) is a sentiment gaining in strength in India as well.

With regulatory impediments such as those by the Medical Council of India not encouraging hospital advertising and hospital advertising being reported as being perceived as ‘unorthodox’ on one hand, and despite these deterrents, hospitals advertising their services increasingly on the other hand, this study examines customer attitudes towards hospital advertising. The rationale to examine customer attitude towards hospital advertising is that if customers themselves have a positive attitude towards hospitals advertising, regulatory prohibitions for hospital advertising may be considered as inappropriate. Understanding customer attitude towards hospital advertising could also guide hospitals in their promotion planning.

The paper begins with a literature review of studies wherein hospital advertising has been the focus, particularly, studies which examine customer perceptions towards hospital advertising. Next, the methodology is explained followed by findings and analysis. The paper ends with conclusions and managerial implications.

LITERATURE REVIEW

DEVELOPMENT OF HOSPITAL ADVERTISING IN DEVELOPED ECONOMIES

In the USA, since 1982, when the Supreme Court verdict allowed physicians and hospitals to advertise without sanction by the American Medical Association, advertising became the prevalent communication vehicle for hospitals (Bell and Vitaska, 1992). Concurrent to the relaxation of law in the USA regarding commercial advertisement by healthcare professionals, Moser (2008) clarifies that while some state limitations have been permitted by the court on physicians’ advertising, the court has upheld the right of professionals to engage in truthful commercial advertising.

Apart from the relaxation in the legal environment, intensified competition in the hospital environment led to an increased number of hospitals engaging aggressively in marketing, particularly, advertising (Steiber, 1987; Braunsberger and Munch, 1998; Fisher and Anderson, 1990). Additionally, this increased competition, coupled with the need for profitability, led health care organisations to adopt marketing, specifically, advertising to gain new customers (Clow, 1995). Other developments included patients becoming active participants in decisions relating to healthcare (Robinson and Cooper, 1980-81) such that doctor’s recommendations were not considered the foremost reason for hospital selection (Boscarino and Steiber, 1982). Fisher and Anderson (1990) also reported the growth in the role of consumers and their families in choosing a hospital versus relying on physician selection of hospital due to a number of changes such as the mobility of the consumer leading to frequent changes in the physician, increase in the services offered by hospitals not requiring prior physician orders, demographic changes among the consumers such as income and education level. With customers increasingly exercising discretion in selecting hospital services, Boscarino and Steiber, (1982) put forth that consumer’s awareness of differences in healthcare services will ultimately reflect in hospital utilisation. Studies (Kay, 2007; Kotler *et al.*, 2008) have reported that increased consumer-centeredness of healthcare systems leads to a competition for patients, thereby an increase in the importance of marketing in healthcare organisations (Fisher, 2014). With declining occupancy and increasing competition, while hospitals began adopting marketing, especially, advertising, Taylor (1990) argued that advertising was a new territory for hospitals with which they are not familiar with and poorly executed advertising can negatively affect hospital reputation. However, while the rise of patients being viewed as consumers in healthcare organisations began since the 1970s, Fisher (2014) still argued, marketing is still at an infancy stage in healthcare organisations.

EMERGENCE OF HOSPITAL ADVERTISING IN DEVELOPING COUNTRIES, ESPECIALLY IN INDIA

The trend of marketing gaining importance in hospitals is becoming evident in emerging economies in recent times as well. In a study based in Taiwan, Chen and Kao (2011) state that with an increase in the number of hospitals and the ensuing increased competition, hospitals in recent times have adopted marketing and advertising as means for their survival.

Specific to India, the private sector has emerged as a major constituent of the country’s healthcare industry such that private sector’s share in hospitals and hospital beds is estimated at 74% and 40% respectively (Gupta and Sharma, 2017). While in advanced countries, marketing of hospitals has become well established, in developing countries, like India, the need for marketing is being felt by the hospital industry in recent times as marketing in hospitals is becoming essential to expand the scale of operations and to enhance the financial soundness of hospitals (Srineevas *et al.*, 2013). Venkatesh and Jayachandran (2008) report that with increased competition, hospitals have adopted advertising and promotional strategies to attract patients. Similar to the developments in

the advanced countries, factors such as the rise of the patient as consumer and changed attitude of the Government has led to a market-driven health care with advertising becoming a preferred promotion device amongst hospitals in the country (Mohan, 2003). Bhardwaj (2013) also confirmed that with healthcare industry in India changing rapidly as characterised by patients proactively seeking healthcare, health care providers in the country require to increasingly market their services. In their study involving major corporate/private hospitals in India; driven by the escalating development of corporate hospitals in India which in turn is intensifying competition, Srinivas *et al* (2013) state that “marketing has become a new ‘mantra’ for the service providers in a hospital setting” (pp. 187). Chowdhary (2000) concluded, despite marketing not understood or considered urgent by many healthcare professionals, it is a priority for hospitals to generate awareness and favourable attitudes in the minds of potential clients. While Rao (2011) states that as hospital marketing slowing comes of age in the country, despite it still carrying a stigma in the eyes of many hospitals in India, the scenario has been changing in recent years such that the author proposes well designed promotional programme would provide hospitals with the opportunity to inform, persuade and even train patients for enhanced experiences.

CUSTOMER ATTITUDES TOWARDS HOSPITAL ADVERTISING

While effective communication strategies between healthcare organisations and patients can provide healthcare organisations with a competitive advantage and can also benefit patients by reducing patient information asymmetries, improved patient-provider communication can be achieved through a better understanding of patient attitudes towards such advertising (Fisher, 2014).

With respect to consumer attitudes towards hospital advertising, it has been found, in studies in the context of developed nations, that majority have favourable attitudes towards hospital advertising and these positive attitudes has been growing (Fisher and Anderson, 1990). While Flexner and Berkowitz (1981) found 51.5% had favourable attitudes towards hospital advertising; Vitaska, Frontczak and Pasternak (1988) reported 50% were favourable towards hospital advertising, 18.5% held an unfavourable attitude and 31.5% were undecided; Vitaska, Bell and Frontczak (1990) reported 49% were favourably disposed towards hospital advertising, 27% were undecided and 24% against hospital advertising (Bell and Vitaska, 1992). Also, Powills (1986a) indicated that majority of the respondents felt the hospital advertising was well done and informative; another study indicated that a majority felt that hospitals should advertise and that such advertising was helpful (Fisher and Anderson, 1990). Bell and Vitaska (1992) found that both consumers and physicians felt hospital advertising has informational value such that it increases awareness and is useful for the information about services and medical programmes. However, both consumers and physicians also felt that advertising increases the hospital prices and would benefit the larger rather than the smaller hospitals. Consumers also agreed that hospital advertising will lead to increased competition and improvements in cost efficiencies; advertising creates goodwill for the hospital and that hospitals that advertise are concerned about the medical needs of the community (Bell and Vitaska, 1992). On the other hand, Walgren and Dhabolkar (1992) found that customers have a more favourable response towards healthcare advertisement than physicians. Additionally, they found that customers responded more favourably towards healthcare advertisement with higher information content. Krohn and Flynn (2001) too found that while physicians did not favour healthcare advertising, consumers have a favourable attitude towards healthcare advertising such that it is informative and aids them in their healthcare choice. While physicians felt healthcare advertising can be deceptive and misleading as well as can lead to increase in prices, consumers perceived healthcare advertising positively such that it promotes customer awareness, leads to better services and increases competitive pressures on price, thereby leading to lower prices (Krohn and Flynn, 2001). Specifically, with regards to customer attitudes towards hospital advertising, Moser and Freeman (2014) found that customers generally have a positive attitude towards hospital advertising. Particularly, Moser and Freeman (2014) found studies that agree that the public would be provided with useful information through hospital advertising. Moser and Freeman (2011) report that respondents did not think that hospital advertising would lower their image of hospitals as well as that they would use hospitals which advertise if needed. However, they also found that not many respondents agreed that it was proper for hospitals to advertise and not many agreed that the public would be provided with useful information through hospital advertising and that hospital advertising would allow customers to make intelligent choices between hospitals (Moser and Freeman, 2011). Further, it was found respondents had a positive attitude towards hospital advertising such that they agreed that public would be provided with useful information through hospital advertising; that hospital advertising allows public to become more aware of hospital qualifications and that such advertising helps the public make more intelligent choices between hospitals (Moser and Freeman, 2014).

Johns and Moser (1989) and Moser and Freeman (2011) also reported that customer attitudes varied according to demographic characteristics. While Johns and Moser (1989) found that age and occupation had an impact on customer attitudes towards hospital advertising, they report that demographic characteristics such as income did

not have such an impact. Moser and Freeman (2011) also found that customer attitudes towards hospital advertising differed across different demographic characteristics, particularly in terms of education, income, occupation and race. However, for demographic characteristics pertaining to age, gender, marital status and number of children, the authors found similar customer attitudes towards hospital advertising (Moser and Freeman, 2011).

Contrarily, Montefiori (2008) argues that since healthcare is a credence service, the quality of which customers would find difficult to evaluate even after purchase, hospital advertising may create demand based on perceived quality which may not accurately reflect the hospital quality especially if the advertising does not carry necessary information resulting in misleading customers. Additionally, despite the mostly favourable attitude of customers towards healthcare advertising, Powills (1986b) found that a majority of the respondents are influenced by factors other than hospital advertising in their choice of hospital services (Fisher and Anderson, 1990). Infact according to various studies, among the major reasons for hospital selection were nearness to home or convenience, prior experience and doctor's recommendations (Boscarino and Steiber, 1982); proximity to the hospital and the prestige of the doctors of the hospital (Malhotra, 1983) as well as costs and word of mouth recommendation (Fisher and Anderson, 1990). Fisher and Anderson (1990) thereby put forth that while positive attitude towards advertising has been found, hospital advertising has not been a major factor influencing hospital choice. Infact, Fisher and Anderson (1990) found that hospital choice is still dictated mainly by physician recommendations. This, the authors explain by putting forth that in the case of complex or highly technical product where consumers are unable to evaluate the quality, they shall seek expert advice and healthcare being an area in which consumers are not highly knowledgeable and hence may lack confidence in their own abilities to judge a healthcare provider, reliance is placed on a trusted expert.

On the other hand, Andaleeb (1994) argued that advertising would be expected to play a major role in hospital's efforts for market share and profits. The increased importance to advertising for hospitals is due to the need to meet increased competitive pressures; to address customers who, with greater education and awareness have evolved as sophisticated buyers of health care with the ability to discriminate quality of health care offered by different hospitals, are relying less on their doctor for hospital selection. Studies have also indicated rising awareness of hospital advertisements as well as increased attention paid by customers to such advertisements; have indicated a rise in positive attitudes of customers towards hospital advertisements (Christensen and Inguanzo, 1989; Powills, 1986 (a); Steiber, 1987); while Wagner (1985) and Johns and Moser (1989b) have found that customers are increasingly selecting their health care providers through advertising (Andaleeb, 1994). Further, hospital decision being a complex choice due to economic reasons as well as varying levels of technological sophistication among hospitals, the author suggests, hospital advertising that provides useful information which reduces consumers' search costs, may be viewed more positively (Andaleeb, 1994). Specifically, Andaleeb's (1994) study revealed that greater the perception that hospital advertisements were helpful in choosing health care facilities, higher was the positive attitude towards hospital advertising; higher the perception that hospital advertising added to hospital costs, less favourable was the attitude towards hospital advertising.

Additionally, while Hekmat and Heischmidt, (1991) have revealed that attitude of customers towards healthcare advertising has mostly been positive, Moncrief and Bush (1988) found that consumers felt advertising by healthcare professionals was somewhat helpful in making a decision about health care providers. Further, several studies have shown that advertising by physicians attracts new patients, especially those from the low to middle income levels (Moser, 2008).

RESEARCH DESIGN

RESEARCH GAP

Research in the area of marketing in the context of hospitals in India has primarily focused on topics such as customer perceived value (Chahal and Kumar, 2012); patient satisfaction (Chahal and Mehta, 2013); customer choice of hospitals (Dubey and Sharma, 2013); customer relationship management (Acharyulu, 2012); behavioural intentions based on healthcare quality (Jandavath, and Byram, 2016); brand customer relationships in hospitals (Solayappan and Jayakrishnan, 2010). While a few studies have delved into the overview of the need for marketing, proposing appropriate marketing strategies of hospitals in the context of India, (Mohan, G. K., 2003; Bhardwaj, S. S., 2013; Sreenivas *et al.*, 2013; Chowdhary, N. R., 2000; Rao, 2011); these studies have not focused on advertising of hospitals, especially from the customers' perspectives.

RESEARCH OBJECTIVES

With the scarcity of studies examining customer attitudes towards hospital advertising in India, the research objective of this study is to evaluate customer attitudes towards hospital advertising. Specifically, the study aims to answer the following research questions:

1. What is the prevailing attitude of customers towards hospital advertising?
2. Are their distinct factors that affect customer attitudes towards hospital advertising?
3. Do socio-demographic variables influence customer attitude towards hospital advertising and if so, how?

DATA COLLECTION AND ANALYSIS

Data was collected to measure customer's attitudes towards hospital advertising with the use of a questionnaire used by Moser and Freeman (2014), developed by the authors based on prior research instruments designed by Hite (1982) and Miller and Waller (1979). The questionnaire contains 19 Likert type questions anchored on a five-point scale from strong disagree (1) to strongly agree (5). Boon and Boon (2012) state categorically that if the Likert questions used are unique and stand along, the questions need to be analysed as Likert type items with tools such as mode, median and/or frequencies being the appropriate tools. The authors also propose that if individual items that make up a scale are to be reported, Likert type statistical procedures including mode, median and frequencies need to be followed. Accordingly, this study analyses the data collected from 200 respondents using modes and frequencies to examine customer attitudes towards hospital advertising. Further, a factor analysis has been carried out to extricate distinct dimensions that shape customer attitudes towards hospital advertising.

DATA ANALYSIS AND INTERPRETATION

The reliability of the data indicating internal consistency was found at a Cronbach Alpha value of 0.70 which is the minimum acceptable measure for reliability.

DEMOGRAPHIC STATISTICS

50.5% of the respondents were of the age group 25-35 years; 30% were in the age group 35- 45 years and 19.5% of the respondents were more than 45 years. 74% of the respondents were male while 26% were females. 30.5% of the respondents had monthly income between Rs. 10,000-20,000; 29% had monthly income between Rs. 20,000- 30,000; 21.5% respondents had monthly income between Rs. 30,000-40,000 and rest 19% of the respondents had monthly income above Rs. 40,000. Further 70% of the respondents belonged to service class and 30% in the self-employed category.

CUSTOMER ATTITUDES TOWARDS HOSPITAL ADVERTISING

The mode: a measure of central tendency, which indicates the responses with highest frequency, has been used to report customer attitudes towards hospital advertising across each of the 19 statements. Overall, it seems there is a strong favourable attitude towards hospital advertising, with most customers agreeing or strongly agreeing with statements that indicate positive disposition towards hospital advertising. Specifically, most of this response indicate that respondents consider hospital advertising as useful sources of information with strong agreement with the statement, "The public would be provided useful information through advertising by hospitals" (mode: 5) as well as a high frequency of agreement for items such as "Advertising by hospitals would be a useful means of informing potential patients about services and specialties"; "Advertising makes the public more aware of the qualifications of hospitals" (mode of 4 for both these items). Further respondents indicated that hospital advertising having a positive influence on hospital choice with strong agreement on items such as "Advertising would help the public make more intelligent choices among hospitals" as well as the respondents indicated they would use services, if needed of hospitals that advertise indicates. Further, contrary to what was thought earlier, public opinion towards hospital advertising seems to have shifted from considering it to be inappropriate, and even unethical, to more a more positive perception, with strong agreement, indicated with a mode of 4, on each of the statements such as "It is proper for hospitals to advertise"; "Advertising will increase the quality of hospital services in the future"; When hospitals advertise, prices are lowered due to more competition"; "I would like to see more advertising by hospitals".

Contrarily, a strong general agreement with modal values of 4 for each of the statements, "In general, my image of hospitals would be lower as result of their advertising"; "I would be suspicious of hospitals that advertise" indicates customers view advertising as detrimental to hospital image. Also, most respondents agree that when hospitals advertise, the costs are passed on to their patients through higher prices, indicating a negative perception. However, for other negative statements, towards hospital advertising, respondents mostly indicated a neutral position with items such as "Advertising by hospitals would be more deceptive than other forms of

advertising”; “Advertising by hospitals would tend to lower the credibility and dignity of their services” with modal value of 3. Further, a high level of agreement on the statement, “Advertising by hospitals would benefit only quacks and incompetents”, with a modal value of 4 is perhaps an indication of customer beliefs that reputed hospitals do not require to advertise: their services would be preferred inevitably through word of mouth as also evidenced with high agreement on the statement, “You generally can rely more on what a friend tells you about hospitals than on advertising” (mode: 4). Please refer to Table 1 for details of customer attitudes towards hospital advertising, supporting the above discussion.

Table 1: Measures of Customer Attitude towards Hospital Advertising

S.No.	Statement	Mode
1	The public would be provided useful information through advertising by hospitals	5
2	When hospitals advertise, the costs are passed on to their patients through higher prices.	4
3	Advertising will increase the quality of hospital services in the future	4
4	It is proper for hospitals to advertise	4
5	Advertising by hospitals would be a useful means of informing potential patients about services and specialties.	4
6	Advertising by hospitals would be more deceptive than other forms of advertising	3
7	It is good to use the services of hospitals that offer the lowest price for routine services	4
8	You generally can rely more on what a friend tells you about hospitals than on advertising	4
9	I presently have a high image of hospitals.	4
10	In general, my image of hospitals would be lower as result of their advertising	4
11	Advertising would help the public make more intelligent choices among hospitals	4
12	I would be suspicious of hospitals that advertise	4
13	When hospitals advertise, prices are lowered due to more competition.	4
14	I would like to see more advertising by hospitals.	4
15	Advertising by hospitals would tend to lower the credibility and dignity of their services	3
16	Advertising makes the public more aware of the qualifications of hospitals	4
17	Advertising by hospitals would benefit only quacks and incompetents	4
18	It is better to contract services from reputable hospitals rather than those that offer the lowest price	4
19	I would use the services (if needed) of hospitals that advertise.	4

Overall of the 19 statements, for the nine statements indicating positive disposition towards hospital advertising respondents have indicated strong levels of agreement, indicating a positive attitude. Of the six statements that measure negative perceptions towards hospital advertising, for four statements there is a strong agreement with a modal value of 4-indicating a high level of negative attitude while in two statements, the modal value is 3, indicating a neutral position. Overall, the respondents have indicated an agreement with having a high image of hospitals at present. However, taken together with the high agreement on the statement, ‘In general, my image of hospitals would be lower as result of their advertising’ with a mode of 4, this might indicate while presently customers hold hospitals in high esteem, their image about hospitals may get lowered due to advertising. Please see Table 2 which clearly demonstrates customer attitudinal measures across the 19 statements as divided in terms of nature of these statements.

Table 2: Customer Attitude Towards Hospital Advertising in terms of Nature of Attitudinal Statements

Statement No.	Statements	Mode
Positive Statements towards Hospital Advertising: number of items: 9		
<i>Hospital Advertising adds is beneficial as it provides information: Total No. of items: 3</i>		
1	The public would be provided useful information through advertising by hospitals	5
16	Advertising makes the public more aware of the qualifications of hospitals	4
5	Advertising by hospitals would be a useful means of informing potential patients about services and specialties.	4
<i>Hospital Advertising shall shape Customer choice positively: total number of items: 2</i>		
11	Advertising would help the public make more intelligent choices among hospitals	4
19	I would use the services (if needed) of hospitals that advertise.	4
<i>Perceived beneficial consequences as a result of Hospital Advertising: total number of items: 2</i>		
3	Advertising will increase the quality of hospital services in the future	4

13	When hospitals advertise, prices are lowered due to more competition.	4
General positive predisposition towards Hospital Advertising: total number of items: 2		
4	It is proper for hospitals to advertise	4
14	I would like to see more advertising by hospitals.	4
Negative Statements about Hospital Advertising: 6 items		
Hospital advertising perceived as lowering the hospital image: total number of items: 5		
6	Advertising by hospitals would be more deceptive than other forms of advertising	3
10	In general, my image of hospitals would be lower as result of their advertising	4
15	Advertising by hospitals would tend to lower the credibility and dignity of their services	3
17	Advertising by hospitals would benefit only quacks and incompetents	4
12	I would be suspicious of hospitals that advertise	4
Negative impact of hospital advertising: total number of items: 1		
2	When hospitals advertise, the costs are passed on to their patients through higher prices.	4
Neutral Statements: 3 items		
General statements on factors considered while selecting a hospital : total number of items: 3		
18	It is better to contract services from reputable hospitals rather than those that offer the lowest price	4
7	It is good to use the services of hospitals that offer the lowest price for routine services	4
8	You generally can rely more on what a friend tells you about hospitals than on advertising	4
Overall Attitude towards Hospitals in General: 1 item		
9	I presently have a high image of hospitals.	4

FACTORS THAT SHAPE CUSTOMER ATTITUDES TOWARDS HOSPITAL ADVERTISING

An exploratory Factor analysis with Varimax rotation, revealed a KMO value of 0.663 indicating sampling adequacy and the Bartlett's test of Sphericity with a significance value of 0.000 which is less than 0.05 at 95% confidence level, a clear indication that some of the variables have significant correlation among themselves. Accordingly, we found that the factor reduction test is good to be carried out. It was found that the 19 statements were categorised across five major components that explained customer attitude towards hospital advertising. The dimensions profiled as: (i) Perceptions about hospital advertising being beneficial; (ii) Hospital Advertising viewed with suspicion; (iii) Perceived impact on hospital advertising in terms of price and information; (iv) WOM considered more reliable than advertising/influence of WOM; (v) Perceptions of the Deceptive nature of Hospital Advertising all combine to shape customer attitudes towards hospital advertising and (vi) Other Factors affecting choice of hospitals other than Advertising.

Dimension (i) : 'Perceptions about hospital advertising being beneficial' explains 16% variance in customer attitudes towards hospital advertising comprise of eight statements of the 19 statements in the instrument used, including : "I would use the services (if needed) of hospitals that advertise"; "Advertising will increase the quality of hospital services in the future" ; "I presently have a high image of hospitals" ; "It is proper for hospitals to advertise" ; "Advertising would help the public make more intelligent choices among hospitals"; "I would like to see more advertising by hospitals"; "Advertising by hospitals would be a useful means of informing potential patients about services and specialties" and "When hospitals advertise, prices are lowered due to more competition". Dimension (ii) 'Hospital Advertising viewed with suspicion' explained 8.8% of variance in customer attitudes towards hospital advertising comprises of two statements of the 19 statements in the instrument used, including, "I would be suspicious of hospitals that advertise" and "Advertising by hospitals would tend to lower the credibility and dignity of their services". Dimension (iii): Perceived impact on hospital advertising in terms of price and information explained 7.85% of variance in customer attitudes towards hospital advertising comprise of three statements of the 19 statements in the instrument used, including, "When hospitals advertise, the costs are passed on to their patients through higher prices"; "Advertising makes the public more aware of the qualifications of hospitals" and "The public would be provided useful information through advertising by hospitals". Dimension (iv) of 'WOM considered more reliable than hospital advertising' explained 7.037% of variance in customer attitudes towards hospital advertising comprises of one statement of the 19 statements in the instrument used, which is, "You generally can rely more on what a friend tells you about hospitals than on advertising". Dimension (v) Perceptions of the Deceptive nature of Hospital Advertising

explains 6.393 % variance in in customer attitudes towards hospital advertising comprises of three statements of the 19 statements in the instrument used, including “Advertising by hospitals would be more deceptive than other forms of advertising”; “In general, my image of hospitals would be lower as result of their advertising” and “Advertising by hospitals would benefit only quacks and incompetents”. Dimension (vi) of Other Factors affecting choice of hospitals other than Advertising explains 6.084% variance in in customer attitudes towards hospital advertising comprises of two statements of the 19 statements in the instrument used, including, “It is better to contract services from reputable hospitals rather than those that offer the lowest price” and “It is good to use the services of hospitals that offer the lowest price for routine services”.

Overall, the six factors making up of the 19 statements together explained 52.28% of variance in customer attitude towards hospital advertising. Clearly, additional items have an impact on customer attitudes towards hospital advertising. Please see Table 3 for details.

Table 3: Factors determining Variance in Customer Attitude Towards Hospital Advertising based on Factor Analysis

Factors	% Variance explained
Factor 1: Perceptions about hospital advertising being beneficial	16%
Statements within the Factor	Mode
I would use the services (if needed) of hospitals that advertise (Statement 19)	4
Advertising will increase the quality of hospital services in the future (Statement 3)	4
I presently have a high image of hospitals (statement 9)	4
It is proper for hospitals to advertise (statement 4)	4
Advertising would help the public make more intelligent choices among hospitals (statement 11)	4
I would like to see more advertising by hospitals. (statement 14)	4
Advertising by hospitals would be a useful means of informing potential patients about services and specialties (statement 5)	4
When hospitals advertise, prices are lowered due to more competition (statement 13)	4
Factor 2: Hospital Advertising viewed with suspicion:	8.8%
I would be suspicious of hospitals that advertise (statement 12)	4
Advertising by hospitals would tend to lower the credibility and dignity of their services (statement 15)	3
Factor 3: Perception on impact on hospital advertising in terms of price and information:	7.857 %
When hospitals advertise, the costs are passed on to their patients through higher prices (statement 2)	4
Advertising makes the public more aware of the qualifications of hospitals (statement 16)	4
The public would be provided useful information through advertising by hospitals (statement 1)	5
Factor 4: WOM considered more reliable than advertising/influence of WOM:	7.037 %
You generally can rely more on what a friend tells you about hospitals than on advertising (statement 8)	4
Factor 5: Perceptions of the Deceptive nature of Hospital Advertising :	6.393 %
Advertising by hospitals would be more deceptive than other forms of advertising (statement 6)	3
In general, my image of hospitals would be lower as result of their advertising (statement 10)	4
Advertising by hospitals would benefit only quacks and incompetents (statement 17)	4
Factor 6: Other Factors affecting choice of hospitals other than Advertising :	6.084%
It is better to contract services from reputable hospitals rather than those that offer the lowest price (statement 18)	4
It is good to use the services of hospitals that offer the lowest price for routine services (statement 7)	4

Overall Variance in Customer Attitude Towards Hospital Advertising as explained by above 6 Factors:
52.289 %

ROLE OF DEMOGRAPHICS IN SHAPING CUSTOMER ATTITUDES TOWARDS HOSPITAL ADVERTISING

Considering age as a possible demographic variable shaping customer attitude towards hospital advertising, it was found that attitudinal responses on only on one statement, “Advertising by hospitals would be a useful means of informing potential patients about services and specialties” varied significantly with age at $p=0.03$, such that 45.5% in the age bracket of 25-35 years agreed with the statement, whereas only 24.2% of respondents in the age group of 35-45 years and 30.3% in the age of 45 years and above agreed with the statement.

Within occupation sets considered: self-employed and service employees, significant differences were noted in attitudes towards hospital advertising such that for the item that hospital advertising perceived as a means of receiving useful information was agreed on an average by 63.7% by service class employees, higher than 36.3% average agreement amongst self-employed at $p=0.02$. Similarly, for the item of ‘advertising shall increase service quality’ the average agreement level of 66.2% amongst service employees, much higher than average agreement levels of 33.8% at $p=0.05$. Another item where attitudinal scores varied significantly according to occupation was ‘Advertising would benefit only quacks and incompetents’ such that while service personnel agreed with this item with an average agreement of 63.7% and self-employed agreement being much lower at 36.3% with $p=0.05$. However, customer attitudes towards hospital advertising did not vary significantly across gender as well as across income groups (Please refer to Table 4 for differences in attitudinal statements towards hospital advertising as per demographic variables-age and occupation).

Table 4: Impact of Age and Occupation on Customer attitudes towards Hospital Advertising

ANOVA: Age		Sum of Squares	df	Mean Square	F	Sig.
Advertising by hospitals would be a useful means of informing potential patients about services and specialties.	Between Groups	9.822	2	4.911	5.931	.003
	Within Groups	163.133	197	.828		
	Total	172.955	199			
ANOVA: Occupation		Sum of Squares	df	Mean Square	F	Sig.
Advertising will increase the quality of hospital services in the future	Between Groups	3.315	1	3.315	3.768	.05
	Within Groups	174.205	198	.880		
	Total	177.520	199			
Advertising by hospitals would be a useful means of informing potential patients about services and specialties.	Between Groups	8.505	1	8.505	10.240	.002
	Within Groups	164.450	198	.831		
	Total	172.955	199			
Advertising by hospitals would benefit only quacks and incompetents	Between Groups	4.600	1	4.600	3.857	.05
	Within Groups	236.155	198	1.193		
	Total	240.755	199			

Overall, in terms of demographics, customer attitudes towards hospital advertising was found to vary on only a few items for age and occupation while no differences were found within gender and income groups. It seems demographics do not impact customer attitudes towards advertising much.

CONCLUSIONS AND DISCUSSION

Overall, the Indian customer seems to have a positive predisposition towards hospital advertising with majority of respondents exhibiting agreement with the nine statements of a total 19 statements indicating a positive attitude towards hospital advertising. Of the six negative statements about hospital advertising, respondents agreed in majority to four of these statements while for two of these statements, the response was mostly neutral. Major factors that shape customer attitudes towards hospital advertising include perceptions about hospital advertising being beneficial; hospital advertising viewed with suspicion; perceived impact on hospital advertising in terms of price and information; WOM considered more reliable than advertising/influence of WOM and perceptions of the deceptive nature of hospital advertising all combine to shape customer attitudes towards hospital advertising. However, these factors together explain only about 52% of the variance in

customer attitude towards hospital advertising. This means, more items need to be unearthed through further research to understand drivers of customer attitude towards hospital advertising. Further, in case of demographics, except for age and occupation, other demographic variables such as income and gender did not impact customer attitude towards hospital advertising. Further, this study indicated demographics impact on customer attitude towards hospital advertising, albeit to a low level. That age has an impact on shaping customer attitudes towards hospital advertising concurs with similar findings of Johns and Moser (1989); that occupation also has an impact on customer attitudes towards hospital advertising coincides with findings of Johns and Moser (1989) and Moser and Freeman (2011); gender has no impact on customer attitudes towards hospital advertising finds agreement with the findings of Moser and Freeman (2011) and finally that income also does not influence customer attitudes towards hospital advertising is supported by studies by Johns and Moser (1989)

MANAGERIAL IMPLICATIONS

In terms of managerial implications, with customer perceptions that hospital advertising primarily serves customers in providing useful information was found to be an area positively influencing the overall customer attitudes towards hospital advertising, hospital advertising should ensure the content in their advertisements is high on information. Further, while overall, the respondents have indicated an agreement with having a high image of hospitals at present. However, taken together with the high agreement on the statement, 'In general, my image of hospitals would be lower as result of their advertising' with a mode of 4, this might indicate while presently customers hold hospitals in high esteem; their image about hospitals might get lowered due to advertising. This has repercussions in terms of frequency of advertising: hospitals who advertise too frequently or too aggressively, might lose esteem in the eyes of the customer. This means while hospitals would do well to advertise, the frequency of such advertisement should be not too high.

Additionally, the 19 statement instrument indicated that these items explain variance in shaping customer attitude towards hospital advertising to the extent of about 52% which points to the fact that further research is required in discovering other items that contribute towards customer attitude towards hospital advertising.

Overall, with a mostly positive attitude towards hospital advertising having been found, hospitals would benefit to advertise since customers perceive specific benefits especially in the form of information and aiding in selecting hospitals. While this study indicates that hospital advertising should have a strong information content aiding customer choice and that hospitals should advertise with less frequency so as not to undermine the image of the hospital, further research may be also carried out to understand specifically the elements of effective hospital advertising.

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EFFECTIVENESS OF TEACHING THE LOW ACHIEVERS IN ENGLISH THROUGH FUNCTIONAL COMMUNICATIVE APPROACH AND TRADITIONAL METHOD AT SECONDARY LEVEL IN THE PURBA BARDHAMAN DISTRICT OF WEST BENGAL: AN EXPERIMENTAL STUDY

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ABSTRACT

Low achievers are challenging segment of learners in Second Language Teaching in classroom situation. The teacher has to formulate experimental strategy to generate the four fundamental language skills among the learners in a heterogeneous classroom situation. Traditionally in the Indian situation the teacher is inclined to practice the Grammar Translation Method which is known as the Traditional Method to develop competencies among the learners. But the learners specifically the low achievers need to be taught with techniques that are basically and rigorously learners-centred. They can hardly be made equally competent through this method that makes use of grammar rules and translation device in teaching English in the classroom situations. On the contrary, if teaching situation is manipulated through Functional Communicative Approach, second language learning happens to be a joyful experience to the low achievers to such an extent that they get motivated to be associated in the L2 learning process. The present Study is an attempt to explore experimentally the comparative effectiveness of the Traditional Method of teaching the low achievers with Functional Communicative Approach in the second language classroom situation.

Keywords: Traditional Method, Communicative Approach, Secondary Learners

1. INTRODUCTION

Facing the second language learning situation is a hectic assignment on the part of the second language teacher. In the traditional ESL classroom situation the second language teacher is prone to promote the process of second language acquisition by mere application of the verbal skills with the help of text books without any conscious knowledge of the fact that the low achievers can least be benefitted by this teaching method. In the domain of target language learning, the second language teacher is inclined to generate *productive skills* (speaking and writing) and *receptive skills* (listening and reading) among the learners by means of grammar rules and strategy of translation from the second language text to the mother tongue and vice versa. The persistent research question is whether this long practiced method is really helpful in making the low achievers proficient in the second language in nature and practice or the much talked about functional communicative approach is more efficacious than the former in enhancing the skill development of the *low achievers* in English.

2. OBJECTIVES OF THE STUDY

The low achievers' terminal behaviour in terms of second language acquisition remains a persistent question to the researcher. Keeping in view, the investigator undertakes an experimental project to know----

- 1) Whether the application of **Functional Communicative Approach** is more effective in language acquisition process in the rural school than the **Traditional Method** in generating those skills among the learners.
- 2) Whether the application of **Functional Communicative Approach** enhances the requisite degree of learning behaviour in terms of second language acquisition among the **low achievers** belonging to the secondary level under West Bengal Board of Secondary Education in the district of Purba Bardhaman in West Bengal.
- 3) Whether the **Functional Communicative Approach** are more effective in concept attainment than the **Traditional Method** in teaching English texts.
- 4) Whether second language leaning with the **Functional Communicative Approach** in classroom situation enhances the performances of the **low achievers** belonging to the rural background in comparison to the **Traditional Method** of teaching the same category of learners.
- 5) Whether second language leaning with the **Functional Communicative Approach** in classroom situation enhances the performances of the **low achievers** belonging to the urban background in comparison to the **Traditional Method** of teaching the same category of learners.

- 6) Whether **Functional Communicative approach** increases the retention level of the rural **low achievers** than the **Traditional Method** with regard to second language skill development.
- 7) Whether **Functional Communicative Approach** increases the retention level of the urban **low achievers** than the **Traditional Method** with regard to second language skill development.

3. REVIEW OF RELATED LITERATURE

According to Richards & Rodgers (1986) Communicative Approach aims to (a) make communicative competence the goal of language teaching (b) develop procedures for the teaching of four language skills that acknowledge the interdependence of language and communication. Littlehood (1981) states, "One of the most characteristic features of communicative language teaching is that it pays systematic attention to functional as well as structural aspects of language". Rather than describe the core of language through traditional concepts of grammar and vocabulary, Wilkins (1972) attempted to demonstrate the system of meaning that lay behind the communicative use of language. He described two types of meaning: notional categories (concepts such as time sequence, quantity, frequency) and functional categories (requests, denials, offers, complaints). Howatt (1984) opines: "The communicative language teaching stresses the importance of providing learners with opportunities to use English for communicative purposes and attempts to integrate such activities into a wide program of language teaching". According to this approach, teaching and learning are for communication. It presupposes that language always occurs in a social context, and it should not be divorced from its context when it is being taught. British linguist, Wilkins (1972), proposed a functional or communicative definition of language that could serve as a basis for developing communicative syllabuses for language teaching. Wilkins's contribution was an analysis of the communicative meanings that a language learner needs to understand and express. Rather than describe the core of language through traditional concepts of grammar and vocabulary, Wilkins attempted to demonstrate the systems of meanings that lay behind the communicative uses of the language. Khalique (1995) compares the use of direct, structural and translation methods of teaching and reports that most of them use translation method for language teaching whereas Bose (1993) also emphasises the need for a functional approach rather than a structural one for English language teaching. The use of pre-unit activities is also advocated to familiarise learners about the concepts to be learnt at the higher primary levels of education.

4. STATEMENT OF THE PROBLEM

The problem under the present study is entitled as:

Effectiveness of Teaching the Low Achievers in English through Functional Communicative Approach and Traditional Method at Secondary Level in the Purba Bardhaman District of West Bengal: An Experimental Study

5. TERMS DEFINITIONS

Communicative Approach is based on the assumption that learning a language comes successfully through having the capability to communicate the real meanings with learners getting involved in contextual communication. According to American and British Applied linguists Communicative Approach categorically aims to i) make communicative competence as the goal of language teaching and ii) develop procedures for the teaching of the four language skills that acknowledge the interdependence of language and communication. 'Functions' are labelled attached to sentences which embody concepts. The concepts convey categories of meaning called 'notions'. In fact the system of meanings lay behind the communicative uses of language. Notional Categories (concepts such as time, sequence, quantity, location, frequency) and categories of communicative functions (requests, denials, offers, and complaints) constitute the matrix of functional dimensions of communication. In fact the phrase 'Functional Communicative' underlies that communicative language teaching looks at language as a system for the expression of meaning using functions and notions. The 'Functional' connotation primarily points out that the primary functions of a language is interaction and communication. The basic proposition is that 'functions' are the fundamental framework through which forms are taught. Thus 'Functional Communicative' embodies the notion that communicative matrix of language can manifest itself through basic functional categories.

Traditional Method: The traditional method of teaching implies the strategy of teaching that employs grammar and translation as prime vehicle for teaching any sort of second language texts. Here, mother tongue is used as a point of reference to translate the meaning of the literary texts or vice versa.

Low Achievers: The specific type of learners who fail to achieve expected level of proficiency in the domain of learning. They lag behind the average level of learners in terms of acquisition of productive and receptive skills of English. This sort of learners is challenging for the teachers.

6. HYPOTHESES

With a view to testing the comparative effectiveness of second language teaching with Traditional Method and Functional Communicative Approach the following null hypotheses are formulated:

- i. *There exists no significant difference between the mean scores of the low achievers of the experimental group and control group on pre-test (urban school)*
- ii. *There exists no significant difference between the mean scores of the low achievers of the experimental and control group on post-test. (urban school)*
- iii. *There exists no significant difference between the mean scores of the low achievers of experimental and control groups on retention-test. (urban school)*
- iv. *There exists no significant difference between the mean scores of the low achievers of the experimental group and the control group on previous achievement tests. (rural school)*
- v. *There exists no significant difference between the mean scores of the low achievers of the experimental group and the control group on post-test, (rural school)*
- vi. *There exists no significant difference between the mean scores of the low achievers of experimental and control groups on retention-test. (rural school)*

7. DESIGN OF THE STUDY

Keeping in mind the objectives of the present research the researcher has devised the necessary design which comprises the following components:

- I. Method of Study
- II. Population of Study
- III. Sample of the Study
- IV. Sources of collection of data
- V. Procedure for investigation and data collection
- VI. Experimentation
- VII. Test Construction
- VIII. Data treatment

7.1 METHOD OF STUDY

The present study has been designed under experimental method. It attempts at evaluating the comparative effectiveness of the second language teaching with Functional Communicative Approach and Traditional Method to the low achievers in English at secondary level classroom situation under West Bengal Board of Secondary Education in India. For the proper implementation of experimental design two schools, one from the rural backdrop and other from the urban backdrop have been selected. The two schools have been taken from two different blocks of the Purba Bardhaman district. Class IX has been chosen for the purpose of experimentation of the teaching methods.

7.2 POPULATION OF THE STUDY

The two schools belonging to two different blocks, namely, Katwa I, and Ketugram I have been selected deliberately selected for the specified purpose of investigation. The school from the urban background is Adarshapally High School belonging to Katwa I block and The rural school belonging to Ketugram I block is Nirole High School. Thus the pupils of the two schools constitute the population of the present study.

7.3 SAMPLE OF THE STUDY

The 9th class of the two schools have been fixed up for experimentation. On the basis of their previous achievement records sixty students were isolated from the class ten of the rural school. Since their performance level was below the average they may be termed as the low achievers. Again on the basis of their performance in the pre-achievement tests sixty students who perform poorly and below the average level were regarded as the low achievers of the urban school. Thus taken together total 120 students constitute the sample of the present study.

7.4 SOURCES OF COLLECTION OF DATA

In order to achieve necessary results of the present study the following **tools** were employed for collection of data:

- i. Pre-test of the students of the urban school
- ii. The previous achievement records of the pupils of the rural school
- iii. The post-tests of the low achievers of both the schools
- iv. The retention tests of the low achievers both the schools

The following scores will constitute the **data** for the present experiment

- i. The scores of the pre-test of the 9th class students under urban schools
- ii. The scores of the previous achievement records of the 9th class students belonging to rural school
- iii. The scores of the post-test of the 9th class low achievers of the rural school
- iv. The scores of the post-test of the 9th class low achievers of the urban school
- v. The scores of the retention-test of the 9th class low achievers of the rural school
- vi. The scores of the retention-test of the 9th class low achievers of the urban school

7.5 PROCEDURE FOR INVESTIGATION AND DATA COLLECTION

As mentioned earlier, sixty students 9th class of an urban school and 60 students of the 9th class of a rural school are the target groups for the present experimental research. A pre-test of the 9th class students of the urban school is taken. On the basis of the scores of the pre-test of the pupils of the said class of the urban school the pupils are segmented as the low achievers and they are divided into Experimental and Control group by using **pair random sampling technique**. 60 Low achievers of the rural school are also divided into Experimental and Control group on the basis of the previous achievement test by using the same pair random sampling technique. It is to be mentioned at the outset that the number of pupils under each group is 30. The **Solomon Four Group Design** is selected as the proper design for the present research. The design is as follows:

- 1) *Pupils are randomly assigned to four Groups (R)*
- 2) *Two groups will receive Experimental treatment (X)*
- 3) *Two groups will receive Control treatment (C)*
- 4) *One Experimental Group will receive a Pre-test (O₁)*
- 5) *One Control Group will receive a Pre-test (O₂)*
- 6) *All the four groups will receive Post-tests (O₃O₄O₅O₆)*

7.6 EXPERIMENTATION

After careful observation of the teaching learning situation of the Purba Bardhaman district two schools from two different blocks are selected. The two schools belonging to two different blocks, namely, Katwa I, and Ketugram I have been selected deliberately selected for the specified purpose of investigation. The school from the urban background is Adarshapally High School belonging to Katwa I block and The rural school belonging to Ketugram I is Nirole High School. Two English teachers, one belonging to rural school and one from urban school, having equal qualification are selected to teach the Experimental group and the Control group. The teachers were provided with necessary orientation regarding the following points on the use of Functional Communicative Approach:

- There is a consistent focus throughout on learning English in order to develop practical and functional skills.
- Students are engaged in practical tasks that relate to real world uses of English.
- Realistic and communicative uses of language are given priority.
- Maximum use is made of pair work and group work activities in which students complete tasks in a collaborate manner.
- There is an appropriate balance between accuracy-focused and fluency-focused activities.
- Teachers serve as facilitators of learning rather than as presenters of information.
- Assessment procedures reflect and support a communicative and skill-based orientation to teaching and learning.

The following prose texts of the Learning English text book for class X are selected to teach the students. 1) **Tales of Bhola Grandpa**, 2) **All About a Dog** 3) **A Day in the Zoo** 4) **All Summer in a Day** The Experimental group is taught with the techniques and strategies based on the tenets of functional communicative approach to help them gather concepts on the above mentioned texts. Mostly and basically the teachers followed a **learner-centred approach** to motivate the students to be engaged in the language learning process. To develop the language skills individually the teachers consistently and rigorously followed the principles of the communicative approach and encouraged the **pair work and group work** techniques so that the learners can gather skills through the process of peer learning. Here the teachers did not take the initiatives to teach but become instrumental to creating the conditions for self learning and group learning. The teachers were tolerant enough not to over criticize the errors committed by the learners but helping them find out their areas of linguistic deviations and at last providing them necessary clarifications so that concepts formations become possible among the learners.

The Control Group, on the other hand, is taught with rigorous application of the traditional method which is basically teacher-centric method. The teacher takes the upper hand to manipulate the second language learning situations in an absolute manner and always taking initiatives to rectify the learners' mistakes in a corrective manner. Basically the teacher followed the traditional strategy of teaching by translating the texts into Bengali and followed **the principle of Grammar Translation Method**. While teaching the target language texts they explained the rules of English grammar in a deductive manner encouraging the learners to memorize the rules with the assumption in mind that they will be able to use the rules for the purpose of constructing English structures.

7.7. TEST CONSTRUCTION

After the experimentation of teaching comprising two weeks duration is over, a teacher-made post-test is taken to compare the effectiveness of the experimental method and that of the traditional method. The investigator constructed both the pre-test and post-test after a thorough of the techniques of the principles of test construction relevant sections of selected prose units. In addition, the consent of the class teachers and teaching experts were also weighed in the construction of the tests. Each test comprises 50 multiple choice types items based on the selected prose units of 9th class. While constructing the texts the dimensions of the language and structures are taken into consideration.

7.8 RELIABILITY OF THE TEST

Spearman-Brown Prophecy formula is used to determine the reliability of the pre-test and post-test. Here the reliability is estimated by comparing the halves of the pre-test and post-tests. In this way the reliability co-efficient is found to be 0.71.

7.9 ANALYSIS OF DATA

Raw scores obtained from pre-tests, school record, and post-tests and retention tests were presented in a tabular form for the purpose of interpretation. For the manipulation of data the means, standard deviations, and differences of means were calculated for each group. Significances of difference between the mean scores of both the experimental and control groups on the variables of pre-test scores, school record scores and post-tests and retention tests scores was tested at 0.05 level by applying *t*-tests.

H₀₁: *There exists no significant difference between the mean scores of the low achievers of the experimental group and the control group on pre-test. (urban school)*

Table-1: Significance of difference between the mean scores of Experimental and Control groups on pre-test.

Group	N	M	SD	SE _D	T-value
Experimental	30	61.32	15.16	3.99	0.28
Control	30	60.19	15.51		

df = 58

Table 1 indicates that the difference of mean scores of the low achievers of the Experimental and Control Group is not significant at 0.05 level. Hence the null hypothesis is accepted so that both the groups could be treated as equal on the variable of pre-test.

H₀₂: *There exists no significant difference between the low achievers of the experimental group and the control group on post-test. (urban school)*

Table-2: Significance of difference between the mean scores of Experimental and Control groups on post-test.

Group	N	M	SD	SE _D	T-value
Experimental	30	76.22	9.43	2.53	9.02
Control	30	53.21	10.31		

df = 58

The table 2 exhibits that the obtained *t-value* is 9.02 which is greater than the statistical table value which is 2.04 at 0.05 level. So we can assert that that there exists significant difference between the mean scores of the experimental and the control group on post-test. So the null hypothesis is rejected and we can say that the low achievers of the experimental group have performed better since they were taught by the communicative approach.

H₀₃: *There exists no significant difference between the mean scores of the experimental and control group on retention-tests. (urban school)*

Table-3: Significance of difference between the mean scores of the Experimental and Control group on retention-test (urban school)

Group	N	M	SD	SE _D	T-value
Experimental	30	73.1	9.21	2.42	8.95
Control	30	50.1	10.08		

df = 58

The table 3 exhibits the obtained *t-value* is 8.95 which is greater than the statistical table value which is 2.04 at 0.05 level. So we can assert that that there exists significant difference between the mean scores of the low achievers of the experimental and the control group on retention-test. So the null hypothesis “There exists no significant difference between the mean scores of the low achievers of the experimental and control group on retention-tests” (**urban school**), is rejected and we can say that the low achievers of the experimental group of the urban backdrop have performed better and have developed the ability to retain the learning experiences more than those of the control group since they were taught by Functional Communicative Approach.

H₀₄: *There exists no significant difference between the mean scores of the experimental group and the control group on previous achievement tests. (rural school)*

Table-4: Significance of difference between the mean scores of Experimental and Control groups on previous achievement test

Group	N	M	SD	SE _D	T-value
Experimental	30	58.1	15.62	4.06	0.18
Control	30	57.55	15.33		

df = 58

Table 4 indicates that the difference of mean scores of the Experimental and Control Group of the rural backdrop is not significant at 0.05 level. Hence the null hypothesis is accepted so that both the groups could be treated as equal on the variable of previous achievement test.

H₀₅: *There exists no significant difference between the mean scores of the low achievers of the experimental group and the control group on post-test. (rural school)*

Table-5: Significance of difference between the mean scores of the Experimental and Control groups on post-test

Group	N	M	SD	SE _D	T-value
Experimental	30	72.35	9.67	2.64	5.58
Control	30	57.21	11.03		

df= 58

The table 5 exhibits that the obtained *t-value* is 5.58 which is greater than the statistical table value which is 2.04 at 0.05 level. So we can assert that that there exists significant difference between the mean scores of the experimental and the control group on post-test. So the null hypothesis is rejected and we can say that the students of the experimental group have performed better since they were taught by the communicative approach.

H₀₆: *There exists no significant difference between the mean scores of the low achievers of the experimental group and the control group on retention-test. (rural school)*

Table-6: Significance of difference between the mean scores of the Experimental and Control groups on retention test

Group	N	M	SD	SE _D	T-value
Experimental	30	71.44	9.23	2.69	5.26
Control	30	56.32	10.97		

df= 58

The table 6 exhibits that the obtained *t-value* is 5.26 which is greater than the statistical table value which is 2.04 at 0.05 level. So we can assert that there exists significant difference between the mean scores of the experimental and the control group on post-test. So the null hypothesis is rejected and we can say that the students of the experimental group have performed better since they were taught by the communicative approach.

8. RESULTS & DISCUSSION

After systematic analysis of data six hypotheses were experimentally verified and necessary results were drawn. The **H₀₁** exhibits that there exists no significant difference between the experimental group of *low achievers* and the control group on pre-test. **H₀₁** indicates that the low achievers of the Experimental and the Control group of the urban school can be treated as equal on the basis of I.Q. level. The hypothesis test of **H₀₂** states that there exists significant difference between the experimental and the control group on post tests. The testing of **H₀₃** states that there is significant difference between the level of the *low achievers* of experimental and control groups on retention test taken in the urban school. The **H₀₄** exhibits that there exists no significant difference between the experimental group of *low achievers* and the control group of low achievers on pre-test in the rural school. **H₀₄** indicates that the *low achievers* of the Experimental and the Control group of the rural school can be treated as equal on the basis of I.Q. level. Again the **H₀₅** upholds that there is significant difference between the experimental and the control group on post-test at the rural school. The testing of **H₀₆** states there is significant difference between the level of the *low achievers* of the experimental and control group on retention test taken in the rural school. The experimental study conducted at both the rural and the urban school exhibits that the second language skills of the *low achievers* at both rural and urban level can be developed considerably if they are taught with Functional Communicative Approach. The traditional Method on the other hand is least effective in terms of second language skill development of the learners.

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TRACING ROOTS OF 'HINDUTVA POLITICS' IN J&K WITH SPECIAL REFERENCE TO JAMMU REGION

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ABSTRACT

The paper analyses the historical background to the Hindutva politics in the Muslim-majority state of Jammu and Kashmir. The change in the 'Centre' of the power from Jammu to Kashmir after independence and a prolonged sense of deprivation which Jammu region has confronted vis-à-vis Kashmir has given the space for the Right-wing to operate and flourish. The feudal-political elite of Jammu region played key role in creating a constituency for Right-wing politics in J&K. The paper also argues that Hindutva forces appropriated the regional discontent by polarizing the heterogeneous society of the Jammu region from time to time.

Keywords: Dogra rule, Bhartiya Janta Party, Jammu, elections

INTRODUCTION

The emergence of Bhartiya Janta Party (BJP) on the political landscape of Jammu and Kashmir (J&K) is not just confined to its victory in 2014 assembly elections by raising its seat tally to 25 and subsequently, becoming partner in the government formation with People's Democratic Party (PDP) in the state. It has a long history of its political journey starting from a party catering the feudal, upper caste and urban interest to agitating against the discrimination faced by the Jammu region by the hands of Kashmiri leadership and to the second largest political party in the state. It is a matter of scholarly inquiry that how a political party with a Rightist ideology has gained a position of governance in the Muslim-majority state of J&K.

OBJECTIVES OF THE PAPER

- To trace the history of politics in Jammu region since 1846.
- To examine the factors responsible for regional discontent in Jammu region.
- To analyse the evolution of Right wing politics in J&K.

RESEARCH METHODOLOGY

The present study is primarily based on the secondary sources, which includes, existing literature in the form of books, journals, newspaper, reports and Internet.

POLITICS BEFORE 1947

With the establishment of state of J&K in 1846, there was a major difference between the 'rulers' and the 'ruled'. The state was a Muslim-majority state but the Dogra rulers belong to the Hindu faith. Though, it was declared by the Dogra rulers that there would not be any discrimination among its subjects on the basis of religion and that the state would adopt a neutral approach in her various administrative works without giving any preference to any particular religious group. But, in actual sense the situation was different there were numerous instances, in which the neutral position of the Dogra state was undermined. The preferential treatment given to Hindu community in political, economic and social sphere reflected the bias of the rulers. Besides, as Mridu Rai argues, including small class of Muslim elite, Dogra Rajputs and Kashmiri Pandits were given a 'preferential treatment' so that the Dogra rulers could legitimize their power over the majority of Muslims. (Rai 2004)

She further argues that right from the time of establishment of the Dogra rule a sort of difference started evolving between 'Kashmiri Pandits' and Kashmiri Muslims. Even when the two communities shared the common cultural space and even had common religious themes, the fact that the Pandits were economically and politically empowered while Muslims were excluded, created the difference.

Among the Hindus given the preferential treatment by the Dogra rulers, the members of the Rajput clan were the most prominent. The fact that the Dogra rulers belonged to the same clan explains the proximity of the members of this clan to the royalty and its patronages. It was during the period of Maharaja Hari Singh that the 'Rajput Oligarchy' was formally established. Though they were not very highly educated they were monopolizing the state jobs. More importantly, they joined the army in large numbers, states Bazaz. (Bazaz 2002)

Other than the Dogra Rajputs, it was the Kashmiri Hindu community, which was closely associated with the state administration. Being the most educated class of the valley, the Pandits from the very beginning associated

themselves with the *darbar*. When the official language of the state was Sanskrit they developed proficiency in this language but when the official language changed to Persian, they were first to master this language. They were also the ones to learn English and take the advantage of modern education.

Other than these two classes, the Dogra rulers had also incorporated small section of Muslim elite of Kashmir. The 'Nakshbands of Kashmir' were such privileged section. As compared to the Muslims of Kashmir, there was larger elite among Muslims of Jammu. Some 'Dogra Muslims' as well as the converted 'Rajput Muslims' were granted larger estates and they were not only economic beneficiaries of the Dogra rule but were also enjoying the social privileges and political positions. Apart from these, the positions of power and privileges were given to Hindus from outside the state.

It was not only in the context of the state administration, land holding and distribution of other privileges that the religious basis of the Dogra rule was indicated, there were other indication as well. The law and the government policies often reflected the religious bias of the rulers. This can be exemplified by the general attitude the Dogra rulers when they denounced Hindu-Muslims marriages and conversion Hinduism to Islam. (Rai, Hindu Rulers and Muslim Subjects: Islam, Rights and History of Kashmir 2004)

Despite this class of landed Muslims and army personnel, there were a large number of Muslims especially in the rural areas of Jammu who along with the 'Dalit Hindus' were oppressed and lived on the margins of the society and economy. Except for the Dogra belt the rural-urban divide of the Jammu region was also a class based divide. The urban areas of the region inhabited the upper caste privileged Hindus and the rural belt comprised of rich landed upper caste and poor deprived section of the society. The marginal including Dalits and poor Muslims were dependent upon the powerful money lending class in the towns and were gradually losing their lands to these money lenders due to the exorbitant rate of interest. Due to the existing exploitative feudal condition there was lot of accumulated resentment among the oppressed sections and this resentment, particularly of the Muslims came out in open during early thirties in the various parts of the Jammu region. Unable to pay their taxes the Muslim peasantry of Mirpur, Rajouri and Kotli were mobilized in an agitation and a decision was taken not to pay the taxes. The forceful collection of revenue led to communal tension in these areas.

The communal polarization in the region of Jammu was growing up during the decade of 1930s and 1940s not only because of the unequal economic policies of the rulers but also because of the political mobilization on religious bases in Jammu's urban areas especially in Jammu city. In the very organization of the 'Muslim Conference' (1932), which had the interest of the Muslim community as its central point, the Jammu Muslim elite actively participated in mobilizing the rural masses. Ghulam Abbas and Allahrakha Sagar both from Jammu were the prominent leaders of this organization. When the Kashmiri leadership took the decision to convert the 'Muslim Conference' into 'National Conference' in 1939, to give it a secular shape, the Jammu leadership was not very much convinced by this decision. In fact, there was gradual evolving a regional difference between the Kashmiri and the Jammu leadership. This was mainly due to the fact that while Kashmiri leadership was coming in the influence of the Communist and Congress politics of India, the Jammu leadership was getting closer to the Muslim League politics. (Zutshi 2003) The regional polarization within the Muslim community resulted in the communalization of Jammu's politics. The Jammu Muslim leadership under the influence of Muslim league became oriented towards the idea of joining Pakistan as the homeland of the Muslims.

The sub-regional 'Poonch revolt' against the Dogra Maharaja primarily against the imposition of harsh and oppressive taxes Though the ruler had to take the decision regarding the accession there were areas like Poonch where Muslims revolted against the Dogra rulers and facilitated the division of the state. The mass discontent against the Dogra rule resulted into 'no-tax campaign' in 1947 throughout the *jagir*. The resentment against the Dogra rule was not just related to the Dogra policy of imposition of heavy taxes but also to the unsympathetic attitude of the Dogra ruler towards the Poonchi soldiers who served the British army in the Second World War and were demobilized after the war and thereafter became jobless.

The famous non-taxation agitation to began with was non communal, but due to mishandling of this agitation by the forces of Maharaja, it took a communal turn and during 1947, there was communal polarization in this area. In reaction to the resistance of the Muslim soldiers, Maharaja's government started looking at the Muslims with suspicion and therefore the Muslims in Poonch were asked to surrender their arms. The Dogra administration created a feeling of uncertainty and mistrust in the Muslim majority areas of the state that Maharaja was prejudiced against the Muslim community as a whole. All these incidents resulted in widespread resentment in Poonch region. It was in this background that the rebellion of Muslims in many areas of Poonch

like Pulandri, Bagh and Sudhnoti was started. All these areas have large number of ex-servicemen and after their demobilization from the British army they were discontented and they revolted against the Maharaja.

The communal impact of this period was felt much more intensely in various other parts of Jammu region. Apart from the 'Poonch rebellion' there was 'tribal invasion' of the state and the partition of the state into the two parts-the area under Pakistani administration and the one under Indian administration. However, the most unfortunate development was the massacre of large number of Muslims as well as Hindus in various areas of the region. The Hindus had to flee the areas, which came under the Pakistani control including Muzaffarabad, Mirpur, Kotli, Rawalkote, Bagh etc. And whole of the Jammu region was under seize of communal backlash for a number of days and was witnessed to one of the worst massacre of Hindus and Muslims in the region. The tradition of secularism and tolerance defined the social relations in Jammu society from the very beginning. Now, this becomes important to enquire that why Jammu has witnessed partition violence of such a high degree when Kashmir valley was at calm. It can be analyzed that the happenings in Kashmir at that time, particularly the Pakistani sponsored tribal invasion had its implication on the society and the politics of the Jammu region. The arrival of large number of Hindu refugees both from Punjab as well as from the Pakistan occupied parts with the stories and rumors of Hindu killings had taken Jammu to level of hate and violence. This certainly helped the fundamentalist forces, which were at the fringe of society. It is a general notion that external factors played an important part in organizing and systematizing the massacres. (Snedden 2001)

POLITICS AFTER 1947

The extreme communal violence that overtook the region of Jammu in 1947 was subsided immediately after the partition. For next few decades there was no incidence of communal tension in the region. On the contrary, Jammu region became an example of plural society and communal harmony. The region on the whole, evolved a 'regional' rather than 'religious' identity. As, both Hindus and the Muslims of the region shared a sense of regional deprivation vis-à-vis Kashmir.

The tradition of communal amity continued throughout the post independent period up to the period of militancy that started in 1989. This was a period when maximum provocation for communal reactions occurred. Specifically, in the Muslim dominated areas of Doda sub-region, there were a lot of selective killings of the Hindu minorities with the purpose to evoke communal tension. The year 1998, for instance witnessed number of such massacres – 28 Hindus in Prankote village in Riasi, 25 members of a wedding procession in Chapnara village in Doda, 17 Hindus in Kishtwar, and 34 construction workers in two outposts out of Doda border, in Chamba. Such killings have been repeated in the later years. (Chowdhary 2010)

Despite the communal provocations Jammu society gave an evidence of mutual understanding and empathy on intercommunity basis. It is only very recently that communal tension erupted in Jammu region. The context to such tension was provided by the 'Amarnath Land row', which started in Kashmir but which led to massive mobilization of Hindus in Jammu region. The issue started with a Government Order which transferred 800 acres of land to Shri Amarnath Shrine Board (SASB) for the construction of temporary fabricated structures for Amarnath pilgrims. Though Government Order clearly mentions that the purpose of the diverted land as raising pre-fabricated structures only for camping purpose of pilgrims without going in the construction of permanent structures at Baltal and Domail by the Shri Amarnath Shrine Board (SASB). The proprietary rights of the forestland shall remain unchanged. (B.K.Chum 2008) It created resentment among Kashmiris who felt this to be a plan for settling the outsiders in the valley and changing its demographic pattern. Under the pressure of mass demonstration the Government withdrew the Order and this led a massive agitation in Jammu. The Vishwa Hindu Parishad (VHP), Rashtriya Saywamsewak Sangh (RSS), Bajrang Dal (BD), Bharatiya Janta Party (BJP) and Shiv Sena projected it as an issue of hurting the faith of Hindu community. In the prolonged agitation, though some Jammu based Muslim organization showed solidarity to Shri Amarnath Sangrash Samiti (SASS), yet it created an environment of mistrust between the two communities. While, there were mob attacks on Muslims, in particularly Gujjars were targeted by Hindu activists in Samba, Poonch, Bhaderwah, Kishtwar and Udhampur. Here, there were actually the situation of riots and the two communities were actually face to face with each other resulting in looting and burning of shops etc. However, the situation ultimately subsided and this was seen as exceptional occasion when there was aberration of the tradition of communal harmony.

Before 1947, the politics of Jammu was manipulated by the feudal class and lacked the popular support. It mainly represented the interests of landlords, ruling class, top businessmen and bureaucrats. There was negligible space for the marginalized groups in the politics of the Jammu. Moreover, compared with the high level of political mobilization in the valley, which started in 1920s, there was no such political consciousness in the Jammu region. Nevertheless, there were few important socio-political organizations that were operating during those days in this region including the Arya Samaj (1892), Sanatan Dharam Sabha (1893), Dogra Sabha

(1903), Hindu Sahayak Sabha (1906) and Fraternity Society (1930). These organizations could not operate in an independent sphere and thus worked in coordination with Dogra Raj and their sphere of influence remained confined to the social vicinity. (Rai, Hindu Rulers and Muslim Subjects: Islam, Rights And History of Kashmir 2004)

It was only after 1947, when some political response started evolving in Jammu in reaction to the emerging scenario of the state politics, particularly related to the power structure. However, this response did not have the 'mass character' and mainly reflected the 'elite interest'. The privileged Dogras of Jammu who deeply identified themselves with the ruler, found it difficult to accept the shift in the nature of power. With the coming of popular government in the state, when the National Conference took over the power under the leadership of Sheikh Abdullah, these elite of Jammu lost its privileges. The balance of power previously towards Jammu's privileged section tilted now in favour of the valley. Visualizing this situation, the elite of Jammu came to believe that they would never enjoy a fair share in power.

In any case, the political scenario of the state remained Kashmir centric and did not give any space to Jammu's political leaders. Significantly, the limited role of Jammu's leadership during this phase can be attributed to many reasons. It has been noted by the political analyst that Jammu lacked popular leadership. Though there were a galaxy of leaders present in the region but none of them were enjoying the popular support. There was a political vacuum created by the end of monarchy in the state.

Thus, the political vacuum got enlarged in the absence of any secular political outfit and provided a space for the Right-Wing to operate in the region. And space was well exploited by the Praja Parishad, founded by Balraj Madhok as one of the political outfit of Rashtriya Swayamsewak Sangh (RSS) in Jammu. Praja Parishad had the strong support base of the elite section of the Jammu society including feudal lords, Rajputs, big businessmen, who were earlier loyal to the Dogra rulers. The political agenda of the party had pro-feudal tinge and hardly bothered about other marginalized sections.

The pro-feudal position of the Praja Parishad in 1948 can be deduced when it strongly opposed the government decision of land reforms. It is to be noted that from 1948-50 there were several important policies made by the newly formed state government in the direction of land reforms to give relief to the impoverished peasantry from the hierarchal system of landlords. In April 1948, legislation was enacted to remove the burden of parasitic hierarchy of Jagirdars, Muafiadars and Mukarraris. In October, same year, the Government amended the State Tenancy Act (1924). In 1949, a Land-to-Tiller Committee was appointed to look into the problems of peasantry and for reorganization of agriculture the state. In 1950 government adopted 'Distressed Debtors' Relief Act. In October 1950, the most important law related to agrarian reforms was enacted known as the Big Landed Estates Abolition Act. (Avinet Prashar 2007) These Agrarian reforms directly challenged the position of elites of the society, which formed the support base of the Praja Parishad. The party strongly projected the government decision as anti-Dogra and anti-Jammu.

Claiming itself the sole representative of Jammu region, party took the decision to actively participate in the first legislative-cum-constituent assembly elections. It planned to contest on 27 seats out of the total 30 seats of Jammu region. However, the dream of Parishad to enter the state assembly was shattered, when the state administration rejected as many as 13 candidatures of Praja Parishad on technical grounds. And later the party decided not to contest for the first legislative assembly.

Afterwards, Praja Parishad adopted more aggressive posture and launched a strong agitation in 1952. Its agenda from the very beginning included the abrogation of Article 370, full intergration of the state into the Indian union, full application of the Indian Constitution, single citizenship, complete Jurisdiction of Supreme Court as important points of its agenda. (Behra 2000)

However, Praja Parishad failed to extend its constituency from the urban-elitist section of the society towards the peripheries of the region and thus proved futile to incorporate the popular sentiment of whole region. The limited role of Praja Parishad in the politics of J&K in general and Jammu in particular can be revealed from an analysis of its electoral performance. The party had boycotted the 1951 elections over the issue rejection of its several candidatures on the trivial grounds by the state administration. In 1957, the party contested 21 seats and could manage only 5 seats with a vote share of 24.6%. In 1962 elections, it contested 25 seats and could attain only 3 assembly seats with a vote share of 17.5%.

In order to consolidate its Rightist politics in the state as well as to integrate it with the National Rightist politics, the Jammu leadership took the decision to merge the Praja Parishad with Bharatiya Jana Sangh in 1964. Its implications for the Jammu's regional politics were quite grave as the presence of the regional force was no

more there. The concern of the Jana Sangh was more in the context of the national politics rather than the regional politics of Jammu. Further, the Jana Sangh had a clear urban support base and it could not entrench itself into the marginal sections of the society. As the Jammu region presented a more complex composite and plural cultural and ethnic basis and its identity needed to be sharpened around a broad based political ideology. Due to its emphasis on cultural nationalism based on the principle of Hindutva as well as negative attitude towards article 370, the party could not assume a role of Jammu's regional party. During this time its integrationist and assimilationist approach scared the distinct identities of the region away from its sphere of influence.

However, like its predecessor, the influence of Jana Sangh remained confined to a very limited section of the society. This can be revealed from its electoral performance. In 1967, it contested 29 seats of the region but could win only 3 seats with 16.45% of the total votes polled in its favour. In 1972, it contested 32 seats and again it returned only 3 seats with a vote share of 9.85%. In 1977, the Bharatiya Jana Sangh had merged in Janata Party and hence its individual strength could not be determined. The Janata Party contested 72 seats and registered victory in 13 constituencies with 23.7% of total vote polled. (Mayilvaganam, A Survey of Elections in Kashmir 2012)

The rightist politics in the region started by the RSS followed by the Praja Parishad and Jana Sangh got a new face, with the BJP coming to the political stage of the state. Operating on the ideology of RSS, the BJP in the state could not find the desired space during early period in the Jammu region. This becomes apparent by analyzing the electoral performance of the party in 1983 assembly elections, when the party was not able to open its account on 28 seats it contested. In the elections of 1987, party could manage only 2 seats out of 28 contested, with a voting share of 5.10%.

It may be pertinent to point out that BJP operated on the vote bank of Praja Parishad and Jana Sangh. Further, the support base of the party was restricted to the Hindu centric, Jammu sub-region and that too was limited to the urban-based upper caste Hindus, particularly in the districts of Jammu, Udhampur, and Kathua. It failed to make its presence felt in the Muslim dominated districts of Rajouri, Poonch, and Doda.

In the decade of 1990s it got better response from Jammu region as a whole. There were significant electoral gains made by BJP both in parliamentary and assembly elections of 1996. In Jammu region also the party performed unexpectedly well by winning Jammu-Poonch and Udhampur-Kathua parliamentary constituencies. In the state assembly elections of 1996, BJP performed extraordinarily well by winning as many as 8 assembly seats with 12.1% vote share. (Mayilvaganam 2002)

There were different interlinked reasons that contributed to the strength of BJP in the state. First, the unprecedented political development in the state in late 1980s marked by the upsurge of militancy that the BJP got the desired relevance in the state's politics. Second, the wave of separatism, which dominated the public discourse in the Valley during the early stage of militancy made the Hindutva, based nationalist ideology significant. It also provided the preferred outlet to the various nationalist voices of the state, particularly among the Hindus against the separatist sentiment of the valley. The political discourse of the state got polarized between the 'separatist politics' of valley versus 'nationalist politics' of Jammu region. Third, the en mass exodus of Kashmiri Pandits, and target killings of minorities in and outside the valley made the political agenda of BJP significant. Fourth, the political vacuum created by the secular parties (both National Conference and Congress) made the rightist politics operational. Fifth, the communalization of the Kashmir's politics with the Muslim United Front (MUF) coming as strong opposition to the NC-Congress alliance in and outside electoral arena had its implications on the Jammu politics.

With the decline in militancy in later half of the 1990s there started a decline in the support-base of the party. The trend was followed in the assembly elections of 2002, when the party registered only 8.57% of the voting share. In the assembly of 2008, which took place aftermath of 'Amarnath Land Row', the party gained from polarized and changing it producing big electoral gains by winning 11 assembly seats with a vote share of 22.94%. (Chowdhary, Electoral Politics in the Context of Separatism and Political Divergence: An Analysis of 2009 Parliamentary elections in Jammu and Kashmir 2009) In 2014 assembly elections, BJP made emphatic electoral performance by winning 25 assembly seats with the highest vote share of 23% and emerged as the second largest party after election results. (www.indiaopines.com>Posts>BJP n.d.)

CONCLUSION

The constituency, which BJP has succeeded in forming in J&K and predominantly in Jammu region, is due to several factors. Firstly, the politics of Jammu has largely been dominated by the notion of deprivation it has faced vis-à-vis Kashmir. There is strong resentment and popular friction that 'Jammu' as a region has always

been discriminated by 'Kashmiri leadership', since 1947. Secondly, both Congress and National Conference could not come up to the aspiration of Jammu people and sense of deprivation increased, which was appropriated by BJP. The phase of militancy in Kashmir valley, selective killings of minorities, Amarnath Agitation are other important phase in the political discourse of the state, which succeeded in polarizing the society and gaining the right-wing. In the last assembly elections both national 'Modi-factor' and regional 'agenda of development' were used as whooping slogans to allure the voters.

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AN ANALYTICAL STUDY OF HUMAN RESOURCE DEVELOPMENT IN FOUR STATES/UTS**Prof. A. A. Ansari¹ and Mohsina Hayat²**HOD¹, Commerce and Business Studies, JMI, DelhiGuest Faculty², CMS, JMI, Delhi**ABSTRACT**

Human Resource Development is essential for overall and inner potentiality development of human being which is real asset of any country. Development of any country is depend on Human being development so healthy , education and people who is living quality life must contribute more in growth and development process rather without it. In all aspect of Development and human being are closely associate or interchangeable i.e. development of human and development for human. This research is analysing few objective, data analysis-interpretation, finding with suggestion and future scope of study with possible application of research.

INTRODUCTION

Human Resource Development is the process of development through the investment in human capital means human can behave as asset to evaluate economic growth of nation. Development of human resource in enrich three essential capabilities of people that lead to healthy and long life expectancy, educational attainment through acquired knowledge and optimum utilization of resource for decent standard of living.

In 2015, UNDP report explore sustainable work can promote Human Development although work should be free from negative consequence through elimination or reduction and expand opportunities in present and sustain similar to future as well. Human Development could enhance worker's skill, potential and safety, human right and well-being that reflects work and Human Development are interlinked with each other.

Human Development report 2015 shows Human Development is a people centre approach means change a prerequisite of development that bring human ahead. Human Development should be accomplish through Human Development Index. Human Development Index is an assessment of human well-being all an above the income. It is geometric mean of three indices with upper limit 1.

Human Resource Development in managerial perspective is provide support to employees overall development in planned and continuous way, sharpens the capabilities to fulfil their present and future function and grows general capabilities of human that enhance potential for their own and organisation development. Human Resource Development will help in advancement of the culture of team work, collaboration, motivation and pride of employee

Human Resource Development depends on socio-economic development so it is a necessity of study which refer a process of society development through the economic development. Socio- economic development initially includes Poverty, it focuses on hunger, lack of shelter, sickness with no doctor, no school and not knowing to read, secondly Health, it is a condition of entire social, mental and physical wellbeing. Infant mortality and maternal mortality rates, fertility rate, under 5 morality rate, birth and death rate, life expectancy, nutrition, disease are the indicators of health. Last of all it focus on education that had played pivotal role in growth and development, education can make possible to enhance the capacity and achieve the largest national goal.

OBJECTIVES OF STUDY

- To probe and understand the socio-economic back ground of Select states/UTs of India i.e. Delhi, Kerala, Rajasthan and Uttar Pradesh.
- To critically assess the interstates comparisons of HDI progress, its impact on human resource development and progress.
- To focus at the limitations of HDI and suggest and recommend measure to be adopted by the Select States/UTs on improving the capabilities of their human resources.
- A study of Progress of HDI affects the manager expectation in states of study.

HYPOTHESES OF THE STUDY

- The Socio-economic conditions of Select states/UTs of India are pleasing.
- The progress achieved Select states/UTs in the field of health, education and GDP is acceptable.
- Does Progress of HDI affect the manager expectation in states?

RESEARCH METHODOLOGY: STANDARD TOOLS of RESEARCH TO MEASURE THE OBJECTIVES

There are various research design and tools that use in research like empirical, analytical and longitudinal research design for data collection and analysis, regression analysis to find the trend and ANOVA test to find the comparison (variance) in four states /UTs i.e. Delhi, Kerala, Rajasthan and Uttar Pradesh in during the 2004-2015 (census 2011)

FINDINGS

Following are major findings of research:

1. In the present study Kerala is at the top of index for achieving highest literacy rate, quality health services and consumption expenditure of people which is followed by Delhi. Rajasthan and Uttar Pradesh still lie low in Human Development scale which is barely change in decade.
2. In the present study it is found that Human resource development in India is on the trajectory phase but still too many hurdles physique Uttar Pradesh and Rajasthan are backward states in all the parameters of Human development. However, Delhi and Kerala are on top.
3. As of 2011-2015, Kerala has an HDI of 0.790 which comes under the "very high" category and it is the highest in the country that is followed by Delhi (0.750). But Rajasthan and Uttar Pradesh locate in low develop States in term of Human Development in 2011. In 2015, Rajasthan and Uttar Pradesh have improved as per analysis due to improvement in Education index (or good academic records).
4. Kerala has lowest deprivation among the select states because of low poverty, less illiteracy and low Infant mortality rate that followed by Delhi at moderate deprivation level due to higher infant mortality rate than Kerala. Rajasthan and Uttar Pradesh are in worst condition of socio-economic development in present study.
5. The present study finds select states/UTs continuously improving in all the parameters but still targets ahead. According to Indian Human Development Report and NHFS 2011-15, life expectancy of Kerala is higher 74 to 74.9 year that follows by Delhi which falls from 72-66.9 year, Rajasthan 62-69.1 year and Uttar Pradesh has 60-66.4 year indicates states are moving towards the targets with more efforts in Uttar Pradesh. Kerala enjoying more due to fine health facilities available there.
6. According to census and Annual Education Report, Educational attainment is moving towards targets in all the states. Again Kerala ranking high (99.8 %) that is chased by Delhi (82%), Rajasthan (65%) and Uttar Pradesh (62%).
7. Present study finds Uttar Pradesh, Rajasthan have low standard of living due to low per capita income that is reflected from low income index which is lower than Indian average. Yet Uttar Pradesh, Rajasthan highlight high Net Domestic Product (NSDP) growth. While Kerala and Delhi have registered improvement in income index more than Indian Average. Despite Uttar Pradesh has been economy wise far better than other states but still the conditions of this state are not good.
8. Per capita income in Delhi has been rank third highest in India. Factors responsibilities are that Delhi is residence of rich people. Secondly, available facilities makes it comfortable city of the country. Kerala is the best place for Human Development that lead to a paradox that Kerala model of development is because of its excellent performance in service sector. Kerala has the thirteen largest economy in India. Kerala is continuously performing badly in term of per capita income of select states. Rajasthan is the Eighth largest economy of India state. Rajasthan is still backward state with low per capita income due to its rapid population growth. Uttar Pradesh has one of the highest per capita income amongst the select states.
9. The present study finds the Uttar Pradesh is getting high GDP growth but achieving targets of high Human Resource Development in India far ahead because of low socio-economic development. Population of Uttar Pradesh is too high that reduces the per capita income to low although Delhi scoring first followed by Rajasthan and Kerala.
10. Kerala has best public health system in the India. Due to this life expectancy at birth in Kerala marks the state to be GOD's land. Rajasthan and Uttar Pradesh too have improved in health index.
11. Delhi and Kerala have lesser birth rate than Rajasthan and Uttar Pradesh. Delhi reflects increasing trend of death rate. Kerala is stagnate in birth rate but Rajasthan and Uttar Pradesh have shown declining birth rate.
12. Total fertility rate has fallen under all the select states. Kerala has lowest fertility rate while Delhi, Rajasthan and Uttar Pradesh have higher fertility.

13. Maternal mortality rate has fallen in all the select states/UTs. Delhi and Kerala reflecting lowest while Rajasthan and Uttar Pradesh still need huge work to reduce the MMR.
14. Infant Mortality rate of the Select states have shown significant improvement from 2004 to 2015. Kerala is the state which reflects constant IMR Delhi's IMR falls by 8 points shadowed by Rajasthan (6 points) and Uttar Pradesh (5 points).
15. Better health facilities lead to progress and development in Human Resource Development. Fertility rate, Infant Mortality rate, maternal mortality rate, Under 5 mortality rate, death rate and birth rate are highly associated with each other as per regression and correlation analysis.
16. The composition of population by age specifically in Uttar Pradesh is 0-14 year has declined consistently but 15-59 and 60 & above year reflects increasing trends that shadowed by Rajasthan, Delhi and Kerala in all the age specific population since 2004-2015. The research finding is that most of the youths are found in Delhi followed by Kerala, Rajasthan and lastly in Uttar Pradesh in 2013. Present scenario 2015 has changed the view and youths 15-49 years are found more in Uttar Pradesh. Kerala is favourite destination for 60& above age people.
17. Demographic structure of select states has shown Delhi 2nd highest populated states with 18.24 million inhabitants, Kerala with 35 million inhabitants, Rajasthan has been placed with 8th position with 73.529 million and Uttar Pradesh has 21.56 million which consists 16% of Indian Population.
18. Density of population in select states/UTs, Delhi is most densely placed, followed by Kerala, Uttar Pradesh, however, Rajasthan is least densely state.
19. Present study reflects Kerala and Delhi perform satisfactorily on the ground of Gender development index. However Uttar Pradesh and Rajasthan are still among the worst performers. In all the select states Gender equality has lost the account and occupies higher value than the Indian average which is highlighted by adverse sex ratio.
20. Present study observes that Uttar Pradesh have highest employed married women followed by Kerala, Delhi and Rajasthan.
21. Present study observes that Delhi women have more decision making capabilities than Kerala, Uttar Pradesh and Rajasthan.
22. Present study observes that Literate women have more power to take decision for controlling the fertility rate than illiterate. Kerala has lowest general fertility and total fertility rate in select states followed by Delhi, Rajasthan and Uttar Pradesh. Delhi, Kerala, Rajasthan and Uttar Pradesh have low fertility rate among the literate women and high fertility among the illiterate.
23. Present study observes that sex ratio of select states is highest in Rajasthan, Uttar Pradesh, Kerala and Delhi.
24. Uttar Pradesh and Rajasthan are educationally backward and poor state although it is improving in Educational index now.
25. Rajasthan has various challenges and lack of social attainment. Education sector of state shows pace of achieving literacy but to sustain children in schools is hard to pin down. Rajasthan is suffering from the lack of physical facilities like school buildings and girls' toilets, and teacher absenteeism.
26. As per the census one in three girls in Uttar Pradesh had never been to school, in decade, however, Kerala shows universal enrolment. Children attendance of Kerala is 81% in all age groups. The Delhi has 84% children attendance, Uttar Pradesh is suffering from the education problem and has 69% attendance and Rajasthan reflects 62% attendance.
27. Kerala ranks first in the country with literacy rate of 93.91 followed by Delhi with 86.3% literacy rate which are above the national average literacy. Rajasthan (67.06%) and Uttar Pradesh (69.72%) are below the national average literacy rate of the country in all three categories i.e. persons, males and females.
28. Present study observes status of higher education in select states /UTs reflects that Uttar Pradesh has the large numbers of affiliating Universities, number of colleges, large number of manpower etc. followed by Rajasthan, Kerala and Delhi.

29. It is observed that selected states have drinking facilities but not sufficient. Kerala is most deprived states followed by Delhi, Rajasthan and Uttar Pradesh. Delhi has the best source of water that is followed by Rajasthan, Kerala and Uttar Pradesh. The present study finds 90 percent of households used improved sources of drinking water even in poorer states like Uttar Pradesh and Rajasthan. While Delhi and Kerala are enjoying 97 percent safe drinking facilities. Uttar Pradesh is state of rivers. 88% safe drinking water is available. Kerala is followed with 69% available safe water, Rajasthan is lagging in having safe drinking water by 68.2%. and Delhi exceed in all the respects with 97% safe water.
30. Kerala is at top of social Development i.e. elimination of poverty, primary education and health care. Cochin and Travancore boost the healthcare and education development. Kerala' literacy, life expectancy and sex ratio are high among the select states/UTs. Kerala is only state with sub- replacement. Kerala is populous as bay friendly state due to baby friendly hospital initiative. Kerala is a state of God with amazing larger literacy rate along faster falling birth rate.
31. The present study of socio-economic development in select states/UTs reflects satisfaction but discriminatory in nature. The present study finds Kerala had highly satisfied state in socio-economic development while Delhi is in trajectory state of socio-economic development. Rajasthan is in bad condition and Uttar Pradesh is in worst form.
32. Delhi was residence of 9.91% poor in 2013. Kerala has only 7% poverty in the state as per Tendulkar committee but there is uneven distribution of poor in different districts. Rajasthan has capacity to reduce the poverty despite that 10 million poor people are living. Uttar Pradesh is reflecting 29.43% relatively high poverty in Select States/UTs.
33. The study infers that Uttar Pradesh is most socially deprived state, shadowed by Rajasthan.
34. Uttar Pradesh and Rajasthan are more or less similar in all the social, cultural, ethnic and political background. Selected states/UTs show the distinction in their development although social backwardness in all the states is common. Uttar Pradesh is lagging behind in all the social wellbeing, Indicators are medical facilities, teacher-pupils in primary schools, birth rate, death rate, infant mortality rate, maternal mortality rate child mortality rate, literacy, electrification, per capita income etc.
35. Present analyses of housing conditions, access to electricity, telephony, and road connectivity highlight the fact that there is a lack of access to such facilities in Uttar Pradesh. Rajasthan underpins poverty and is also reflected in poor health and education outcomes. In contrast, states like Kerala and Delhi have a lower incidence of poverty sand better infrastructure.
36. In Delhi, 95% of population live in pucca house, 99% have electrified houses, 80% households have no toilet facilities. Kerala Uttar Pradesh have only 29% of pucca houses, 28% of rural have electricity, 67% have no toilet facilities. Rajasthan
37. Standard of living has been shown by household size and families owing houses where Kerala have lowest household size followed by Delhi, Rajasthan and Uttar Pradesh.
38. Present study observes that all the states have good connectivity except Uttar Pradesh, although it has improved but not at satisfactory level.

REGRESSION ANALYSIS

- Regression analysis between fertility and life expectancy in select states/UTs. Delhi, Kerala fertility rate do not explain a lot about life expectancy. Kerala is more effective than Delhi but Fertility rate of Rajasthan and Uttar Pradesh explain a maximum part in life expectancy. Present study observes negative relation between the two in all select states/UTs. There is a close relationship between the fertility rate and life expectancy in Delhi and Kerala and Uttar Pradesh, however, fertility rate of Rajasthan is not closely associated with life expectancy.
- Regression analysis between infant mortality rate and life expectancy in select states/UTs. Where infant mortality rate in Delhi, Rajasthan and Uttar Pradesh does not explain a lot in life expectancy but infant mortality rate of Rajasthan and Uttar Pradesh is more effective than Delhi. Kerala is ineffective to explain because of constant infant mortality rate in comparison other select states/UTs but infant mortality rate of Rajasthan and Uttar Pradesh is explained a maximum part in life expectancy. Present study observes negative relation between the two in all select states/UTs. There is a close relationship between the infant mortality rate and life expectancy in Delhi, Kerala, Rajasthan and Uttar Pradesh.

- Regression analysis between maternal mortality rate and life expectancy in select states/UTs. Where maternal mortality rate in Delhi does not explain a lot in life expectancy. Kerala, Rajasthan and Uttar Pradesh explain a lot as maternal mortality rate in life expectancy. Kerala and Rajasthan are more effective than Delhi and Uttar Pradesh. Maternal mortality rate of Rajasthan Kerala and Uttar Pradesh explains a maximum part in life expectancy. Present study observes negative relation between the two in Kerala, Rajasthan and Uttar Pradesh while Delhi has positive relationship between life expectancy and maternal mortality rate. There is a close relationship between the maternal mortality rate and life expectancy in Delhi, Kerala, Rajasthan and Uttar Pradesh.
- Regression analysis between Under 5 mortality rate and life expectancy in select states/UTs. Where Under 5 mortality rate in Delhi does not explain a lot in life expectancy but Kerala, Rajasthan and Uttar Pradesh explains a maximum part in life expectancy. Present study observes negative relation between the two in select states/UTs. There is a close relationship between the Under 5 mortality rate and life expectancy in Delhi and Kerala and Uttar Pradesh.
- Regression analysis between Birth rate and life expectancy in select states/UTs. Where birth rate in Delhi, Kerala and Rajasthan does not explain a lot in life expectancy but Uttar Pradesh explains a maximum part in life expectancy. Present study observes negative relation between the two in Delhi, Rajasthan and Uttar Pradesh. Kerala reflect positive relationship between birth rate and life expectancy. There is a close relationship between the birth rate and life expectancy in Delhi and Kerala and Uttar Pradesh. However, Rajasthan has not shown association between birth rate and life expectancy.
- Regression analysis between Death rate and life expectancy in select states/UTs. Where Death rate in Delhi and Uttar Pradesh does not explain a lot in life expectancy but Kerala and Rajasthan explains a maximum part in life expectancy. Present study observes negative relation between the two in Delhi, Rajasthan and Uttar Pradesh. Kerala reflect positive relationship between birth rate and life expectancy. There is a close relationship between the birth rate and life expectancy in all the select state/UTs.
- Regression analysis between women's education and life expectancy in select states/UTs. Where women's education in Delhi does not explain a lot in life expectancy but Kerala, Rajasthan and Uttar Pradesh explains a maximum part in life expectancy. Present study observes negative relation between the two in Delhi, Rajasthan and Uttar Pradesh. Kerala reflect positive relationship between women's education and life expectancy. There is a close relationship between the women's literacy rate and life expectancy in all the select states/UTs.
- Correlation between life expectancy, education attainment and income level with human Development index. It is observed that all the parameters significantly correlated with human development index.
- Regression analysis between human development index and its parameters in select states/UTs. Where parameters does explain a lot in human development index in all the select states/UTs. Present study observes negative relation between the two in human development index and their parameters. But there is a close relationship between the human development indexes and its parameters in all the select states/UTs.
- Present study observes that Education attainment in Uttar Pradesh is going well it is more than Kerala and other select states/UTs. Delhi has occupied second place in education attainment. Rajasthan is worst in select state/UTs.

POSSIBLE APPLICATIONS OF THE PROPOSED RESEARCH

- After the analysis of socio-economic back ground of Delhi, Kerala, Rajasthan and Uttar Pradesh, level of human deprivation can be discover in these states/UTs
- After the analysis, level of progress achieved by these Select states/UTs in the field of health, education and GDP reveal.
- This study tells relative measure of states progress
- The study applies and focuses at the limitations of HDI and suggests and recommends measure that could be adopted by the Select states/UTs for improving the capabilities of their human resources.
- HDI study involve Educational attainment, life expectancy and per capita income parameters that develop healthy, talent and skill human i.e the manager in future.
- The study applies in making the planning policies that improves Human Development in Select states/UTs

SCOPE OF THE STUDY

The human resource development leads the States development because it enriches productivity of states, eradicates social and economic backwardness, provide human security, build new strategic development, bring Social revolution and build more entrepreneur.

CONCLUSION

From the analysis it is conclude that Human Resource Development is necessity of nation overall development because human being is the capital or asset of nation. If human being is develop with their inner potentially and by enriching all the capabilities they become more powerful and efficient individual to do work and sustain in life.

UNDP introduce the concept of Human Development Index to measure the performance and standard Human Resource development in any nation. Human Development Index is geometric mean of three parameters i.e. Life Expectancy index , Educational index and Income index.

It is observed that Kerala has got highest Human Development index among the select states/UTs . Delhi is found to follower of it but Rajasthan and Uttar Pradesh are lagging behind the target.

But present study reveals if Education index is measure with new method then all the select states/UTs gets approximately equal HDI value due the education index. Uttar Pradesh is leading in Income index and new method rank good in education index too and increasing awareness and Govt. Life expectancy all boost up. So Uttar Pradesh HDI value improves. Similar Rajasthan HDI value improve due to Income index improvement. Despite all this Uttar Pradesh and Rajasthan are in the Trajectory stage of development due lot of lacking in socio-economic factors although Kerala and Delhi enjoying consistently apex position. Kerala shows lower value of education Development index because of its the lower grade in school results. Delhi enjoying the similar position as it finds in old method

Study finds strong correlation between HDI and its Parameters. Regression analysis gets good association between parameters and its allied categories all the sub category effect the HDI parameters at positive and negative rate.

FUTURE SCOPE OF THE STUDY

- Here researcher discuss the Human Development index and its parameter but other index like human poverty index , gender equality index and inequality human development index etc are left for studying in future.
- Here researcher select four States/UTs but Indian have other 25 more state for analysis
- Researcher compared best Human Development index states with least human development index states and Union territories therefore there is large scope remaining for studying in future to compare middle and last human development index states and Union territories.
- Researcher also left the study of Human development in comparison of high develop countries and low develop countries in world and Asia as well.
- This research is based on secondary data but researcher finds huge requirement of primary data as ground reality is always different from book.
- Research finds old and new method to measure the human development index but new method still need lots of research.
- Socio-economic parameter need deep study in order understand the effectiveness of them on Human Resource Development
- Various policies are still left for future study. Govt. introduce various new strategies for future
- Human resource Development is important for organization development so the study of human Development index in various organization is still left.

SUGGESTION

- Researcher endorses to develop a policy to adopt the poor skill unemployed people by the rich class tax holder persons. After adoption both of them should establish firms on the profit sharing basis means 40% poor share and 60% rich shares for specific period, decided on the basis of rate of depreciation. After completing specific period firm should be under poor fellows.

- Researcher favours to create capabilities to promotion and skill upgradation among the Human with the use of modern technology, innovation and mentoring.
- Make provision for Health counsellors on the basis of society requirement or from the society itself (kotni) to deal with, or render counselling to women and children related health issues, give worth full incentive future security through opening free health account, medicine, vaccination, health insurance at minimal premium etc. these counsellor should belong from society or women familiar among the society.
- Human resource development in managerial perspective reflects human being is essential for development and progress of the organization where skilled human being should be preferred. It is better to invest in ICTs for help the students to learn control of their learning and skills acquisition from sources other than the teachers and textbooks.
- Childhood education is extremely important for everyone but our corrupt bureaucrats create inefficiency in system because of that student in Government school are not willing to go there. They opt private tuition for study where due to lack of certification higher study hindrance. As and when student aware about necessity of education they will not have certificate for higher studies. Researcher suggest private tutor have a power to certified the student for higher studies as per the potential.

LIMITATION OF STUDY

- Present analysis is based on secondary so actual facts does not explore clearly.
- Financial constraint is big issue.
- Times duration of the study is limited
- Area of study is limited as they are many states that remains where Human Resource Development is not even satisfactory.

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“ROHINGYAS”: NEW DEBATE IN THE POLITICAL DISCOURSE OF J&K**Rashmi Sharma**

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ABSTRACT

The presence of Rohingyas in India is currently perceived as threat to the National security by the Indian government. Though India has provided asylum to minority refugees from Pakistan, Afghanistan, Srilanka and Tibet, but certainly on the issue of Rohingyas the policy of the Indian state is different. Earlier, Indian government was planning to deport Rohingyas refugees but now it has changed its stand. The issue of Rohingya refugees is a subject matter of latest debate and disagreement between Jammu and Kashmir regions in J&K. Now there is query that why Indian state perceive Rohingyas as national threat. Is this is based on some factual data which proves Rohingyas as terrorist or security threat or just a prejudiced conception of the Indian government.

Keywords: Rohingya, Jammu, India, Refugee

INTRODUCTION

International law tries to ensure the nationality for every person. Universal declaration of Human rights, Article -15 stated that everyone has the right to have nationality, and will have a native country. Nevertheless, there are about 11 million people who are stateless and don't have citizenship of any country because of communal wars and ethnic cleansing. (Zahed, 2013) In international law, a refugee is a person who is forced to leave home for certain specified reasons and who, furthermore, is outside the country of his or her origin and does not have its protection. (Chimini, 2008) The present paper tries to visit 'Rohingyas issue' in India and more specifically in Jammu, J&K.

RESEARCH METHODOLOGY

The present paper is primarily based on the secondary data mostly collected from the existing literature in the books, journals, newspaper articles and Internet.

OBJECTIVES OF THE PAPER

- To examine India's refugee policy with special reference to Rohingyas.
- To study the presence of Rohingya community in Jammu and its implications.

Rohingya' form an ethnic, religious and linguistic minority in Rakhine state of Myanmar. They have been forcefully displaced from Myanmar (Burma) beginning with the Burmese conquest of Arakan and deportation of Arakanese in 1784. (Cheung, 2011) After gaining independence from United Kingdom, Burmese government considered Rohingyas as 'illegal migrants' from Indian-sub continent and therefore were not eligible for acquiring Burmese citizenship. This decision made Rohingyas as 'stateless people' in their own homeland where they were denied the 'basic rights'. Rohingyas are facing the crisis of statelessness, they are living their life without the protection of state.

In 1978, Myanmar military launched 'King Dragon Operation' to take actions against the illegal migrants living in its border areas. However, this forceful action was targeted against the Rohingya community who fled mostly to Bangladesh. It was estimated that around 250,000 sought refuge in Bangladesh. Again in 1991-1992, Myanmar military crackdown leads to the forceful migration of around 250,000 Rohingyas to neighboring Bangladesh to escape persecution in Myanmar. By 1999 around 200,000 Rohingyas were again repatriated to Myanmar through a bilateral agreement between Bangladesh and Myanmar. (www.unhcr.org/3ebf9bab0.pdf) However, owing to the porous borders between Myanmar and Bangladesh there is a constant flow of persons from Myanmar to Bangladesh and whose accurate number is not available. In the recent episode of violence in Myanmar's Rakhine state, on 25 August 2017 around 410,000 Rohingyas were forced to migrate to Bangladesh, this state led violence was in response to the killing of 12 members of Myanmar's security forces by Rohingyas militant group. (www.bbc.com/news/world-asia-41082689)

According to MHA, there are around 40,000 Rohingya migrants are illegally living in India and none has been deported. (<https://www.ndtv.com/india-news/around-40000-rohing...>)

It is interesting to note that India is neither signatory to the UN Refugee Convention 1951 nor to its 1967 Protocol. Moreover, India does not have any national legislation for dealing with refugees. At the same time, India has been providing shelter to various refugees' influxes since independence, there are Tibetan refugees,

Tamil refugees, Hindu and Sikh refugees from Pakistan and Afghanistan and many more. Indian government has adopted a politically inspired adhoc policy for providing asylum to the refugee influx. Indian government has relied on the foreigners Act 1946 that gives the state power to detect and deports illegal migrants. But India has signed other treaties.

According to the UN High Commissioner for Refugees, there are 14,000 Rohingya refugees and asylum-seekers in India and half of them are in Jammu. (<http://scroll.in/article/836556/rohingya-are-th...>) Rohingyas started coming to Jammu by 2009 onwards, and they have been living in temporary structures in the suburbs of the city and doing menial jobs like laborers, rag pickers, helpers at the shops etc. In the recent months, their presence in Jammu has instigated a new debate in the political discourse of J&K.

To begin with, National Panthers Party (NPP), a regional party in J&K called for 'quit Jammu' movement against the Rohingyas. The organisations like Vishav Hindu Parishad and Bajrang Dal are also supporting the expulsion of Rohingyas from Jammu. These outfits perceive Rohingyas as threat to the Dogar culture, history and its identity and also to larger Hindu community in the state. They also feel it as a plan to change the demographic composition of Jammu city and region as whole. In an other development, Rakesh Gupta, president Jammu Chamber of Commerce and Industry (JCCI) declared Rohingyas as 'criminals' and also threatened to launch an 'identify and kill movement', against them if the government did not deport the refugees. (www.deccanchronicle.com/nation/current-affairs/09041...) This statement had an opposite response from the president of Kashmir Chamber of Commerce and Industry (KCCI), Mohd. Yasin Khan who strongly condemned the former's view and called it 'irresponsive and divisive'.

Another argument given by 'pro-Hindu outfits of Jammu region in support of deporting Rohingyas is related with the special status of J&K state. Under Article 370, the state of J&K has a 'special status' within Indian constitution. Moreover, Article 35A empowers the state legislature to define the State's 'permanent residents'. And accordingly, only 'permanent residents' of the state can enjoy rights and privileges in the state, whereas non-residents are debarred from buying properties, getting a state government job and voting rights in local elections. Now, this is strange that all these organizations, for most of the time are protesting against Article 370 and Article 35A whereas; in this case they are 'appropriating' the special status of J&K state, which is contradictory and opportunistic also. As, Rohingyas are living in a 'condition of refuge' there is no question of permanently settling them in state, they are earning their livelihood by doing menial works. Moreover, there are many other people who are not the permanent residents of J&K are living in various parts of the state and are earning for their life.

Now, these incidences needed to be studied that why Jammuities feel threatened by Rohingya community. Does Rohingya community is actually involved in any type of criminal activities? Or Do the Rohingyas are criminalizing an already troubled state. As per the information provide by Dr S.D. Singh Jamwal, Inspector General Police, J&K, there is no concrete evidence of Rohingya community living in Jammu having links with terror outfits and he added that there were no reports of the Rohingyas being funded by any Muslim agencies. (<https://www.newslandry.com/2017/09/28/rohingya-ja...>)

The Chief Minister, Mehbooba Mufti in her statement in Legislative Assembly that none of the members of Rohingya community has been involved in militancy-related incidents. She added that there are 17 FIRs, which has been, registered against 38 Rohingyas for various other offences. Therefore, by these official statements and data it is evident that the record of Rohingyas engaging in illegal activities in Jammu is negligible. Now, there is an inquiry, why some organizations in Jammu are misleading the people about Rohingyas community.

It can be concluded that Rohingyas in actual sense are not a threat to the 'Dogra identity'. Moreover, Jammu region is the most heterogeneous region of the state, there has been a long tradition of plurality and multiculturalism. It has provided refuge to different migrating groups since 1947 like refugees from Pakistan occupied Kashmir, refugees from West Pakistan, Kashmiri migrants (both Hindus and Muslims), border migrants etc. It is also unlawful to expatriate Rohingya just on the basis of fear-psychosis to the place where their life is under persecution and danger.

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FINANCIAL INCLUSION AND SOCIO-ECONOMIC DEVELOPMENT: A STUDY OF MADHYA PRADESH

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ABSTRACT

Financial inclusion or inclusive financing is the delivery of financial services, at affordable costs, to sections of disadvantaged and low-income segments of society. There are many formidable challenges in financial inclusion area such as bringing the gap between the sections of society that are financially excluded within the ambit of the formal financial system, providing financial literacy and strengthening credit delivery mechanisms so as to improvise the financial economic growth. A nation can grow economically and socially if its weaker section can turn out to be financial independent.

This research highlights the basic features of financial inclusion, and its need for social and economic development of the society. This research presents an empirical analysis of the relationship between financial inclusion and development. Research is partly descriptive, empirical in nature. Non probability and convenience sampling method is adopted and sample size is 300. A respondent from various district of Madhya Pradesh is selected to identify the changes in economic and general condition of respondents after financial inclusion.

Primary data is collected through Sample Survey method, for which structured questionnaire and interview method was adopted. To find out the changes in Economic condition, the variables like owning of land, livestock, electronic goods, vehicles, tools and equipments were considered to test whether any positive change has occurred. Data is analyzed through excel and SPSS 20 version by computer. Reliability test is applied to measure the reliability of data through Cronbach alpha method. The result shows that the socio-economic variable, infrastructure and banking variables play important role in enhancing financial inclusion.

Keyword: Financial Inclusion, Banking, Socio-economic, Infrastructure.

INTRODUCTION

According to World Bank report "Financial inclusion, or broad access to financial services, is defined as an absence of price or non price barriers in the use of financial services." The term financial inclusion needs to be interpreted in a relative dimension. Depending on the stage of development, the degree of Financial Inclusion differs among countries. Financial inclusion is the core objective of many developing nations since from last decade as many research findings correlate the direct link between the financial exclusion and the poverty prevailing in developing nations. It has been a surprising fact that India ranks second in the world in terms of financially excluded households after China. For the inclusive growth process of economy the central bank has also provided high importance to the financial inclusion. Normally the weaker sections of the society are completely ignored by the formal financial institutions in the race of making chunks of profits or the complexities involved in providing finance to the weaker section

INITIATION OF FINANCIAL INCLUSION CONCEPT IN INDIA

In India, financial inclusion first featured in 2005, when K C Chakraborty introduced it, the chairperson of Indian Bank. Mangalam Village became the first village in India where all households were provided banking facilities. Norms were relaxed for people intending to open accounts with annual deposits of less than Rs. 50,000. General credit cards (GCCs) were issued to the poor and the disadvantaged with a view to help them access easy credit. In January 2006, the Reserve Bank permitted commercial banks to make use of the services of non-governmental organizations (NGOs/SHGs), micro-finance institutions, and other civil society organizations as intermediaries for providing financial and banking services. These intermediaries could be used as business facilitators or business correspondents by commercial banks. The bank asked the commercial banks in different regions to start a 100% financial inclusion campaign on a pilot basis. Because of the campaign states or U.T.s like Pondicherry, Himachal Pradesh and Kerala announced 100% financial inclusion in all their districts. Reserve Bank of India's vision for 2020 is to open nearly 600 million new customers' accounts and service them through a variety of channels by leveraging on IT.

LITERATURE REVIEW

According to Dr. K.C. Chakrabarty, Deputy Governor, Reserve Bank of India, financial Inclusion is the process of ensuring access to appropriate financial products and services needed by all sections of the society in general

and vulnerable groups such as weaker sections and low income groups in particular at an affordable cost in a fair and transparent manner by mainstream institutional players.

According to V. Leeladhar, Reserve bank of India bulletin, Jan 2006, financial inclusion is delivery of banking services at an affordable cost to the vast sections of advantaged and low-income groups. Unrestrained access to public goods and services is the sine qua non of an open and efficient society. As banking services are in the nature of public good, it is essential that availability of banking and payment services to the entire population without discrimination is the prime objective of the public policy.

Michael Chibba (2009) noted that Financial Inclusion is an inclusive development and Poverty Reduction strategy that manifests itself as part of the emerging FI-PR-MDG nexus. However, given the current global crises, the need to scale-up Financial Inclusion is now perhaps more important as a complementary and incremental approach to work towards meeting the MDGs than at any other time in recent history.

Joseph Massey (2010) said that, role of financial institutions in a developing country is vital in promoting financial inclusion. The efforts of the government to promote financial inclusion and deepening can be further enhanced by the pro-activeness on the part of capital market players including financial institutions. Financial institutions have a very crucial and a wider role to play in fostering financial inclusion. National and international forum have recognized this and efforts are seen on domestic and global levels to encourage the financial institutions to take up larger responsibilities in including the financially excluded lot.

Amidžić, Massara, and Mialou (2014) constructed a financial inclusion indicator as a composite indicator of variables pertaining to its dimensions, outreach (geographic and demographic penetration), usage (deposit and lending), and quality (disclosure requirement, dispute resolution, and cost of usage). Each measure is normalized, statistically identified for each dimension, and then aggregated using statistical weights. The aggregation technique follows weighted geometric mean. A drawback from this approach is that it uses factor analysis method to determine which variables are to be included for each dimension. Therefore, it does not fully utilize all available data for each country. Furthermore, it assigns various weights for each dimension, which implies the importance of one measure versus another.

Rojas-Suarez (2010) used the same indicator constructed by Honohan (2008) to test the significance of various macroeconomic and country characteristics for a group of emerging economies, including some from developing Asia. The results show that economic volatility, weak rule of law, higher income inequality, and social underdevelopment and regulatory constraints significantly lower financial access. In addition, various country grouping dummy variables were also found to be significant especially for large emerging economies.

Beck et al. (2007) have studied financial sector outreach and its determinants by using cross-country data. They have used several indicators of banking sector outreach and examined the determinants of each of these indicators separately. In this paper, we use an index of financial inclusion (IFI) developed in Sarma (2008) to investigate macro level factors that can be associated with financial inclusion. The research first attempts to understand the relationship between IFI and the Human Development Index (HDI), the most widely used development index. Then it presents the results of an empirical analysis to determine country specific factors associated with the level of financial inclusion. The present study also intends to evaluate the improvement that occurs because of access to formal financial system.

RESEARCH METHODOLOGY

RESEARCH OBJECTIVES

1. To explore the need and significance of financial inclusion for economic and social development of society.
2. To identify the impact of factors on financial inclusion.

SAMPLING DESIGN

Research is partly descriptive, empirical in nature.

SAMPLING METHOD

Non probability and convenience sampling method is adopted

SAMPLE SIZE

300

SAMPLING UNIT

A respondent of various district of Madhya Pradesh is selected to identify the changes in economic and general condition of respondents after financial inclusion. The target population in this research was the bank branches, which have implemented the financial inclusion program within the areas of Madhya Pradesh.

COLLECTION OF DATA**PRIMARY DATA**

Primary data is collected through Sample Survey method, for which structured questionnaire and interview method was adopted. To find out the changes in Economic condition, the variables like owning of land, livestock, electronic goods, vehicles, tools and equipments were considered to test whether any positive change has occurred. To find out general condition comparative figures were taken about safe drinking water, electricity consumption, toilet facility, telephone and mobile phone usage were taken before and after financial inclusion. The results show a positive change in general and economic condition of respondents after financial inclusion.

SECONDARY DATA

Secondary Data is collected with the help of Books, Magazines, Newspapers, Research Articles, Research Journals, E-Journals, RBI Report, and Report of NABARD etc. Data for trend analysis is taken from time period 2011-2014.

HYPOTHESES

In this research, study following hypothesis is formulated to show the role of financial inclusion in economic development of Madhya Pradesh.

H1: There is a significant impact of socio-economic variable on FI.

H2: There is a significant impact of infrastructure variable on FI.

H3: There is a significant impact of banking variables on FI.

DATA ANALYSIS

Data is analyzed through excel and SPSS 20 version by computer.

NEED OF FINANCIAL INCLUSION

1. Access at a reasonable cost of all households and enterprises to the range of financial services for which they are "bankable," including savings, short and long-term credit, leasing and factoring, mortgages, insurance, pensions, payments, local money transfers and international remittances.
2. Sound institutions, guided by appropriate internal management systems, industry performance standards, and performance monitoring by the market, as well as by sound prudential regulation where required
3. Financial and institutional sustainability as a means of providing access to financial services over time
4. Multiple providers of financial services, wherever feasible, to bring cost-effective and a wide variety of alternatives to customers (which could include any number of combinations of sound private, non-profit and public providers).

There has been many objectives related to the need for financial Inclusion such as

- **Economic Objectives**

For the equitable growth in all the sections of the society leading to a reduction of disparities in terms of income and savings, the financial inclusion can serve as a boom for the underdeveloped and developing nations.

- **Mobilisation of Savings**

If the weaker sections are provided with the facility of banking services the savings can be mobilised which is normally piled up at their households can be effectively utilized for the capital formation and growth of the economy.

- **Larger Market for the financial system**

To serve the requirements and need of the large section of society there is an urgent need for the larger market for the financial system, which opens up the new avenue for the new players in the financial sector and can lead to growth of the banking sector also.

- **Social objectives**

Poverty Eradication is the main sole objective of the financial inclusion scheme since they bridge up the gap between the weaker section of society and the sources of livelihood and the means of income, which can be generated for them if they get loans and advances.

- **Sustainable Livelihood**

Once the weaker section of society got some money in loan form, they can start up their own business or they can support their education through which they can sustain their livelihood. Thus financial inclusion is turn out to be boom for the low-income households.

FORTHCOMING PLAN OF BANKS FOR FINANCIAL INCLUSION

The Reserve Bank had advised all public and private sector banks to prepare and submit their board approved financial inclusion plans (FIPs) to be rolled out in 3 years from April 2010 to March 2013. This FIPs contained self-set targets in respect of opening of rural brick and mortar branches, deployment of business correspondents (BCs), coverage of unbanked villages through various modes, opening of no-frills accounts, Kisan Credit Cards (KCCs) and General Credit Cards (GCCs) to be issued etc. In India, RBI has initiated several measures to achieve greater financial inclusion, such as facilitating no-frills accounts and GCCs for small deposits and credit. Some of these steps are:

1. Opening of no-frills accounts: Basic banking no-frills account is with nil or very low minimum balance as well as charges that make such accounts accessible to vast sections of the population. Banks have been advised to provide small overdrafts in such accounts.

2. Relaxation on know-your-customer (KYC) norms: KYC requirements for opening bank accounts were relaxed for small accounts in August 2005; thereby simplifying procedures by stipulating that introduction by an account holder who has been subjected to the full KYC drill would suffice for opening such accounts. The banks were also permitted to take any evidence as to the identity and address of the customer to their satisfaction. It has now been further relaxed to include the letters issued by the Unique Identification Authority of India containing details of name, address and Aadhaar number.

3. Use of technology: Recognizing that technology has the potential to address the issues of outreach and credit delivery in rural and remote areas in a viable manner, banks have been advised to make effective use of information and communications technology (ICT), to provide doorstep banking services through the BC model where the accounts can be operated by even illiterate customers by using biometrics, thus ensuring the security of transactions and enhancing confidence in the banking system.

4. Adoption of EBT: Banks have been advised to implement EBT by leveraging ICT-based banking through BCs to transfer social benefits electronically to the bank account of the beneficiary and deliver government benefits to the doorstep of the beneficiary, thus reducing dependence on cash and lowering transaction costs.

5. GCC: With a view to helping the poor and the disadvantaged with access to easy credit, banks have been asked to consider the introduction of a general-purpose credit card facility up to ₹25,000 at their rural and semi-urban branches. The objective of the scheme is to provide hassle-free credit to banks' customers based on the assessment of cash flow without insistence on security, purpose or end use of the credit. This is in the nature of revolving credit entitling the holder to withdraw up to the limit sanctioned.

6. Simplified branch authorization: To address the issue of uneven spread of bank branches, in December 2009, domestic scheduled commercial banks were permitted to freely open branches in tier III to tier VI centres with a population of less than 50,000 under general permission, subject to reporting. In the northeastern states and Sikkim, domestic scheduled commercial banks can now open branches in rural, semi-urban and urban centres without the need to take permission from RBI in each case, subject to reporting.

7. Opening of branches in unbanked rural centres: To further step up the opening of branches in rural areas to improve banking penetration and financial inclusion rapidly, the need for the opening of more bricks and mortar branches, besides the use of BCs, was felt. Accordingly, banks have been mandated in the April monetary policy statement to allocate at least 25% of the total number of branches to be opened during a year to unbanked rural centres.

8. Engaging business correspondents (BCs): In January 2006, RBI permitted banks to engage business facilitators (BFs) and BCs as intermediaries for providing financial and banking services. The BC model allows banks to provide doorstep delivery of services, especially cash in-cash out transactions, thus addressing the last-mile problem. The list of eligible individuals and entities that can be engaged as BCs is being widened from time to time. With effect from September 2010, for-profit companies have also been allowed to be engaged as BCs.

INDEX OF FINANCIAL INCLUSION (IFI)

The index of financial inclusion is a measure of inclusiveness of the financial sector of a country. It is constructed as a multidimensional index that captures information on various aspects of financial inclusion such

as banking penetration, availability of banking services and usage of the banking system. The IFI incorporates information on these dimensions in one single number lying between 0 and 1, where 0 denotes complete financial exclusion and 1 indicates complete financial inclusion in an economy. Sarma (2008) has developed a method of computing the IFI for several dimensions of financial inclusion. He used the three basic dimensions of financial inclusion— accessibility, availability and usage of banking services. Accessibility has been measured by the penetration of the banking system proxied by the number of bank A/C per 1000 population. The number of bank branches and number of ATMs per 100,000 people have measured availability. The proxy used for the usage dimension is the volume of credit plus deposit relative to the GDP.

VARIABLES ASSOCIATED WITH ECONOMIC CONDITION

To find out the changes in Economic condition, the variables like owning of land, livestock, electronic goods, vehicles, tools and equipments were considered to test whether any positive change has occurred. To find out general condition comparative figures were taken about safe drinking water, electricity consumption, toilet facility, telephone and mobile phone usage were taken before and after financial inclusion.

DATA ANALYSIS

RELIABILITY

Reliability of over all data (Scale): the reliability of the scale is found .828 by applying reliability test through SPSS 20.0.

Table No.1: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.828	.837	24

Table No.2: Reliability Statistics of all the variables

S. No.	Variable Name	No of Items	Cronbach's Alpha
1	Socio-economic variable	9	.882
2	Infrastructure variable	8	.856
3	Banking variable	7	.754

1. Regression analysis between Socio-economic and financial inclusion

Table No.3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.683 ^a	.467	.465	7.929	1.851

a. Predictors: (Constant), Socio-economic b. Dependent Variable: Financial inclusion

Table No.4: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	16383.747	1	16383.747	260.631	.000 ^a
Residual	18732.849	298	62.862		
Total	35116.597	299			

a. Predictors: (Constant), Socio-economic b. Dependent Variable: Financial inclusion

Table No.5 : Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	15.349	2.011		7.633	.000
	Socio-economic	1.789	.111	.683	16.144	.000

a. Dependent Variable: Financial inclusion

Financial inclusion = 15.349 + .683 (Socio-economic)

Value of F is 260.631, which are significant at 0% level, and value of t is 7.633, which are also significant at 0% level. R square value is .467, which indicates 46.7 % of variance in financial inclusion is explained by socio-economic factors. Thus hypotheses **H1** is accepted

2. REGRESSION ANALYSIS BETWEEN INFRASTRUCTURE VARIABLE AND FINANCIAL INCLUSION

Table No.6 : Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
dimension0 1	.589 ^a	.346	.344	8.777	1.788

a. Predictors: (Constant), infrastructure variable b. Dependent Variable: financial inclusion

Table No.7: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	12162.467	1	12162.467	157.898	.000 ^a
Residual	22954.130	298	77.027		
Total	35116.597	299			

a. Predictors: (Constant), infrastructure variable b. Dependent Variable: financial inclusion

Table No.8 : Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	20.896	2.135		9.785	.000
	infrastructure	1.915	.152	.589	12.566	.000

a. Dependent Variable: financial inclusion

Financial inclusion = 15.349 + .683 (Infrastructure)

Value of F is 157.898, which are significant at 0% level, and value of t is 9.785, which are also significant at 0% level. R square value is .346, which indicates 34.6 % of variance in financial inclusion is explained by infrastructure factors. Thus **H2** is accepted

3. REGRESSION ANALYSIS BETWEEN BANKING VARIABLE AND FINANCIAL INCLUSION

Table No.9 : Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
dimension0 1	.583 ^a	.340	.338	8.818	1.643

a. Predictors: (Constant), banking variable b. Dependent Variable: financial inclusion

Table No.10 : ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	11945.575	1	11945.575	153.631	.000 ^a
Residual	23171.022	298	77.755		
Total	35116.597	299			

a. Predictors: (Constant), banking variable. Dependent Variable: financial inclusion

Table No.11 : Coefficients

Coefficients					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	19.524	2.272		8.595	.000
banking	1.292	.104	.583	12.395	.000

a. Dependent Variable: financial inclusion

Financial inclusion = 15.349 + .683 (banking)

Value of F is 153.631, which are significant at 0% level, and value of t is 8.595, which are also significant at 0% level. R square value is .340, which indicates 34 % of variance in financial inclusion is explained by banking factors. Thus **H3** is accepted.

CONCLUSION

Financial inclusion is a process to include the people who lack formal financial services to enjoy the formal financial services. The empirical analysis for indentifying the determinants of financial inclusion reveals that socio-economic factors like Income, Literacy and Population were found to have significant association with the level of financial inclusion. Further, physical infrastructure for connectivity and information are also significant association with financial inclusion. Among the banking variables deposit and credit penetration were found significant association with financial inclusion.

The study concluded with the fact that the penetration of financial services in the rural areas of Madhya Pradesh is still very low. The reasons for low demand for financial services could be low income level, lack of financial literacy, other bank accounts in the family, etc. On the other hand, factors include no bank branch in the vicinity, lack of suitable products meeting the needs of the poor people, complex processes and language barriers. The government and Reserve bank of India should effort in this way and should design their policies to increase the financial inclusion services in rural areas.

The study concluded with the fact physical and electronic connectivity and information availability, indicated by road network, telephone and internet usage, also play positive role in enhancing financial inclusion. These findings strengthen the assertion that financial exclusion is indeed a reflection of social exclusion, as countries having low GDP per capita, relatively higher levels of income inequality, low rates of literacy, low urbanization and poor connectivity seem to be less financially inclusive.

IMPLICATIONS OF THE STUDY

This study is to be useful contribution to the government, Reserve bank of India and banking industry to design their policies and strategies and should focus on the variables which enhance financial inclusion.

This research is to be useful contribution to the banks so they should educate their staff and BCs about latest developments in mobile banking, and mandate them to promote these facilities during financial literacy campaigns in rural areas. Banks should revise their commission schemes, incentivizing BCs in increasing mobile banking registrations in their respective territories.

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CONTROL AND PREVENTION OF POLLUTION BY NEW EMERGING TRENDS

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ABSTRACT

Pollution has become a matter of serious concern in many parts of the world. India is no exception and facing critical air pollution problems, particularly in its urban centers. The problems as well as solutions are complex due to presence of variety of sources and pollutants. Realizing the gravity of the problems, the Government of India has formulated strategies for prevention and control of air pollution. The present study deals with the strategies along with statutory regulations, administrative structure and various steps, initiated/taken by various Government Agencies for protection of environment in India.

Keywords: Pollution, Pollutants, environment, control, prevention etc.

INTRODUCTION

Pollution is a severe worldwide problem that urgently requires concepts for monitoring and implementation plans deriving solutions [1]. With the rapid rise of economic development and population, the process of urbanization is accelerating in India. The process of urbanism is accompanied with series of environment problems [2]. Over the course of the twentieth century, growing recognition of the environmental and public health impacts associated with anthropogenic activities has prompted the development and application of methods and technologies to reduce the effects of pollution. The environmental consequences of rapid industrialization have resulted in countless incidents of land, air and water resources sites being contaminated with toxic materials and other pollutants, threatening humans and ecosystems with serious health risks. More extensive and intensive use of materials and energy has created cumulative pressures on the quality of local, regional and global ecosystems [3].

Many options exist for dealing with pollution in the environment. A waste management hierarchy includes prevention, recycling, treatment, and safe disposal [4], with pollution prevention being the optimal choice. Pollution prevention does not include recycling after the pollution or waste has been produced, although it does include measures to avoid its generation and completely eliminating hazardous materials or potential contaminants [5].

METHODS OF POLLUTION PREVENTION

Different ways exist for dealing with pollution in the environment. Some interpretations go further, defining pollution prevention as a means for completely eliminating hazardous materials or potential contaminants [5].

ELIMINATION OR REDUCTION AT SOURCE

Elimination or reduction refers to stop or reduce the quantity and toxicity of the materials and products used prior to their generation. Reducing hazardous waste at the source prevents it from entering the waste stream. Hazardous waste can be minimized by eliminating or substituting toxic materials, implementing process modifications such as in-process recycling and segregating waste at the source to avoid the contamination of non-hazardous waste stream [6].

Pollution prevention approaches can be applied to all potential and actual pollution-generating activities, including those found in the energy, agriculture, federal, consumer and industrial sectors. Prevention practices are essential for preserving wetlands, groundwater sources and other critical ecosystems - areas in which we especially want to stop pollution before it begins.

In the energy sector, pollution prevention can reduce environmental damages from extraction, processing, transport and combustion of fuels. Pollution prevention approaches include:

- Increasing efficiency in energy use;
- Use of environmentally benign fuel sources.

In the agricultural sector, pollution prevention approaches include:

- Reducing the use of water and chemical inputs;
- Adoption of less environmentally harmful pesticides or cultivation of crop strains with natural resistance to pests; and
- Protection of sensitive areas.

In the industrial sector, examples of pollution prevention include:

- Modifying a production process to produce less waste
- Using non-toxic or less toxic chemicals as cleaners, degreasers and other maintenance chemicals
- Implementing water and energy conservation practices
- Reusing materials such as drums and pallets rather than disposing of them as waste

In homes and schools examples of pollution control practices include:

- Using reusable water bottles instead of throw-away.
- Automatically turning off lights when not in use.

SUBSTITUTION

This method includes substitutes to toxic materials, without change in product quality, price or customer satisfaction. This method is common in manufacturing processes using solvents or heavy metals. Processes that use toxic metals, such as coating materials, additives in polymers, and processing aids can also benefit from materials substitution. Many chemical industries release substantial amounts of chemicals in the form of waste to the environment during production. People may be exposed to these toxic substances that may cause health or environmental problems. Hence it is important to reduce the risk of damage arising from the hazardous products. This toxic waste can be minimized by substituting hazardous organic solvents by greener solvents.

MODIFICATION

Pollution prevention can also be achieved by modifying production processes. This method includes adopting more advanced technologies or by altering cleaning processes, chemical catalysts, and segregation and separation of hazardous materials. Various technical changes and modifications provide more precise and reliable separation of materials that mixed into a waste stream. The materials are modified or separated by means of different characteristics properties.

RECYCLING

Recycling is the process of converting waste product into new product to prevent energy usage and consumption of raw materials. Recycling involves any process by which reclaimed refuse or other materials that would otherwise become waste are collected, segregated, or processed, and then reused or returned to use in the form of raw materials or products [7]. Inorganic materials like metals, glass and plastic while organic materials like paper can also be recycled. This takes into the account that proven solution to the problem of proper waste management.

WASTE TREATMENT

Waste treatment refers to the activities required to ensure that waste has the least practicable impact on the environment. Various technologies for hazardous waste treatment are available, such as biological, chemical, or physical treatment to reduce the volume or hazard of the waste. Throwing daily waste or garbage in the landfills is the most popularly used method of waste disposal. Incineration or combustion type of disposal includes the burning of solid waste into the residue and solid products. This method is also known as thermal treatment where solid waste materials are converted incinerators into heat, gas, steam and ash. With the right condition i.e. air and moisture organic waste such as food and plant materials can be decomposed by bacteria, fungi, worms and organisms.

WASTE MINIMIZATION

Waste minimization is a process of elimination that involves reducing the amount of waste produced in society and helps to eliminate the generation of harmful and persistent wastes, supporting the efforts to promote more sustainable society. Waste minimization involves efforts to minimize resource and energy use during manufacture. For the same commercial output, usually the less materials are used; the less waste is produced. The best easier method of waste management is to reduce the creation of waste materials there by reducing the amount of waste going to landfills. Waste reduction can be done through recycling old materials, repairing broken materials instead of buying new ones, avoiding use of disposal products and buying items that uses less designing.

IMPLEMENTING ENVIRONMENTAL LEGISLATION

Despite progress in several areas, including waste recycling and emissions from industrial facilities, we still faces challenges in implementing a number of regulations and directives that are designed to protect our environment and our health. There is poor adherence, at individual and household levels, to regulations dealing with matters such as litter, waste prevention, water use, smoky coal use, and septic tank management, that impact on our health and environmental quality.

CONCLUSION

It should be apparent from this discussion that there are many options to consider in assessing pollution prevention and management for specific processes, products or substances. Due to globalization, technological advancement the problem of pollution has been increased in all developed and developing countries. It has become a serious threat to all living and non living things, therefore it is necessary to control and prevent the pollution.

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AN OVERVIEW OF EDUCATIONAL DATA MINING

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ABSTRACT

Educational data mining is an area of research which is considered as an extended field of Data mining as it is focused to one specific stream i.e. educational databases. The growth of data is massive and this explosive growth of available data volume is due to rapid penetration of computers and smart phones in today's society. The fast development of powerful data collection and storage tools also adds to this effect. Not only Businesses but education sector is globally generating gigantic data sets, including discussion forums, social media, assignment and project descriptions, study materials, lecture videos and students feedback.

Since the availability of educational data is not a problem and it is being created in abundance at various institutional levels, the problem mainly faced in this domain is that there is a huge opportunity of discovering some very relevant information from this leap of data. How student will perform in academics, will he/she deliver the desired results in exams, whether they will be able to survive in the program, how they will be able to deliver consistently good performance etc. are some of the important questions that is always in front of stake holders.

Educational Data Mining(EDM) is defined as "an emerging discipline concerned with developing methods for exploring the unique types of data that come from educational settings, and using those methods to better understand students and the settings they learn in" (Baker, 2009) by international consortium on educational data mining .

The paper presents an overview of Educational Data mining. It discusses the role of educational Data Mining, its need in education, and its applications. It also gives a general classification of data mining tasks, based on the kinds of knowledge to be mined, the kinds of tools used, and the kinds of applications that are targeted. Major tools and techniques used in EDM is a highlight of this paper using simple tabular representations. Finally, challenges in the field are discussed which includes choosing appropriate methodology, problems of scaling huge datasets, handling of wide diversity in databases and privacy issues in educational data mining. Hence this paper focuses on achieving three major objectives

- 1. Exploring various techniques used in EDM. This includes characterization and discrimination; frequent patterns mining, associations & correlations; classification & regression and clustering analysis.*
- 2. Exploring various tools useful in EDM like manipulating, analyzing and visualizing data.*
- 3. Discussing various issues and challenges in EDM.*

Keywords: Educational Data Mining, Data Mining, Prediction, Clustering, Tools and techniques used in Educational data mining (EDM), Challenges in EDM

INTRODUCTION

Educational data mining is an area of research which is considered as an extended field of Data mining as it is focused to one specific stream i.e. educational databases. The growth of data is massive and this explosive growth of available data volume is due to rapid penetration of computers and smart phones in today's society. The fast development of powerful data collection and storage tools also adds to this effect. Not only Businesses but education sector is globally generating gigantic data sets, including discussion forums, social media, assignment and project descriptions, study materials, lecture videos and students feedback.

Since the availability of educational data is not a problem and it is being created in abundance at various institutional levels, the problem mainly faced in this domain is that there is a huge opportunity of discovering some very relevant information from this leap of data. How student will perform in academics, will he/she deliver the desired results in exams, whether they will be able to survive in the program, how they will be able to deliver consistently good performance etc. are some of the important questions that is always in front of stake holders.

Educational institutes have started using various techniques to analyze this data in the form of educational report stored with it such as enrollment data, students' performance, teachers' evaluations, gender differences, and many others. "Data mining techniques" provide an institute the needed information to better plan a number

of students' enrollment, students drop out, early identification of weak students, and to efficiently allocate resources with a precise approximation. EDM is little different from Data mining (M Anil Kumar, 2012). Where Data Mining deals with huge datasets, it may not be true with EDM where researchers often have to deal with small data sets. General unsupervised or semi-supervised learning has a more direct influence on EDM. However EDM share some useful features with data mining in general.

EDM utilizes the techniques of data mining and research approaches for better understanding of student's learning. Different educational data mining approaches has been carried out on student data which includes the student's basic achievements and educational background, academic scores and grades. Extracting hidden information from the educational data is its simple goal (Heikki & Mannila, 1996). For achieving it, Data Cleaning and Data transformation are commonly

EDM is defined as "an emerging discipline concerned with developing methods for exploring the unique types of data that come from educational settings, and using those methods to better understand students and the settings they learn in" (Baker, 2009) defined by international consortium on educational data mining. EDM focuses on analyzing data generated in an educational setup by the various stakeholders in the system to develop model for improving teaching-learning experience and institutional effectiveness.

RELATED WORKS

Maximum Contributions in the field of EDM are from C. Romero, S. Ventura (2010). They present a very comprehensive summary of all educational data mining studies that have taken place during 1995-2005. Romero and Ventura have referred as many as 60 papers that contributed in the development of EDM.

A number of current EDM methods were reviewed by Baker and Yacef (2009) in the first issue of Journal of Educational Data Mining (JEDM) 2009. They identified the two most predominant categories of EDM methods as follows: a category of methods based on viewpoint of Romero and Ventura which consist of: a. Statistics and visualization b. Web mining.

In another prominent EDM survey by Peña-Ayala (A. Peña-Ayala, 2014) about 240 works in EDM published between 2010 and 2013 were analyzed. One of the key findings of this survey was that most of the EDM research works focused on three kinds of educational systems, namely, educational tasks, methods, and algorithms.

Brusilovsky & Peylo (2003) provided tools that can be used to support EDM. It must be noted that student modeling is an emerging research discipline in the field of EDM (Baker, 2009)

V. Sarala and Dr. V. V. Jaya Rama Krishnaiah (2015) discussed the applications of data mining in educational institution to extract useful information from the huge data sets and how to use this information in decision making processes by taking real life examples.

Merceron (Merceron, A., Yacef, K., 2008) established how data mining algorithms could be used to discover pedagogically relevant knowledge contained in databases obtained from Web-based educational systems.

O. S. Akinola, B.O. Akinkunmi and T.S. Alo (2012) used data mining methods to achieve highest level of quality in higher education system is by discovering knowledge for prediction regarding enrolment of students in a particular course, alienation of traditional classroom teaching model, detection of unfair means used in online examination, detection of abnormal values in the result sheets of the students, prediction about students' performance and so on. This knowledge was hidden among the educational data set.

Bharadwaj (B.K. Bharadwaj and S. Pal, 2011) suggested, the relegation task to evaluate student's performance and since there are many approaches that are utilized for classification of data and the decision tree method is utilized. They extracted knowledge that describe performance of students' in end semester examination. The study brings out earlier in recognizing the dropouts and students who require most specific attention and sanction the edifier to provide congruous advising/counselling.

Shovon & Haque (Md. Hedayetul Islam Shovon & Mahfuza Haque, 2012) recommended a hybrid procedure based on Decision Tree method and Data Clustering of Data Mining which enables academicians to predict GPA of student. Based on that instructor can take adequate and appropriate moves to improve student curriculum performance. Especially the K-Means and Decision Tree algorithms. An important research in the context of EDM has been done in reference to e-Learning. One of the reasons is the easy availability of data to analyse and infer from. Pardos, *et al.* (2012) used a two-step analysis approach based on agglomerative hierarchical clustering to identify different participation profiles of learners in an online environment.

Chi, *et al.* (2008) have conducted a study to determine student profiles based on their online browsing habits. The objectives of the research were two-fold. In the first step, they used content based filtering to extract keywords to obtain an article's characteristic descriptions. In the second step, Hierarchical K-means clustering was applied to this bag of keywords obtained in the first step.

Zajac (2009) tried to find out major factors that are responsible in learners' performance by conducting a survey on more than 2000 students of Warsaw school of Economics. He found that teaching pedagogy as a fundamental factor responsible in effective learning.

Nageshu & Reddy (2014) compared the efficiency of different clustering and classification data mining algorithms by applying them to data sets. Experiment results showed that the K-Means and J48 algorithms generated best classification accuracy and high robustness & generalization capacity compared to the other algorithms

Tie, et al. (Z. Tie, R. Jin, H. Zhuang, and Z. Wang, 2010) proved that students' performance can be predicted using a data set consisting of students' gender, parental education and their financial background as well. Chi, *et al.* (2008) used Bayesian networks to predict student learning outcome based on attributes such as attendance, performance in class tests, assignments in this study. The researchers Knauf, *et al.* (2012) have used the educational history of students for student modeling.

Wu He (2013) analyzed the online questions and chat messages automatically recorded by a live video streaming (LVS) system using data mining and text mining techniques. He suggested that a combination of using data mining and text mining techniques for a large amount of online learning data could yield considerable insights and reveal valuable patterns in students' learning behaviors.

Kovacic, J. Zlatko (2010). Discussed some important factors separating successful from unsuccessful students. The study showed that Classification and Regression Tree (CART) was the most successful in growing the tree with an overall percentage of correct classification and both the risk estimated by the cross-validation and the gain diagram suggests that all trees, based only on enrolment data were not quite good in separating successful from unsuccessful students.

OBJECTIVES OF THE STUDY

It has been dedicated to understand Educational Data Mining. Educational data mining (EDM) uses sophisticated data mining techniques for solving problems in education. EDM is a powerful tool to optimize student learning process. There are three broad objectives of this paper:

1. To explore various techniques used in EDM. These techniques include characterization and discrimination; frequent patterns mining, associations and correlations; classification and regression; clustering analysis and outlier analysis.
2. To explore various tools useful in EDM like manipulating, analyzing and visualizing data.
3. To discuss various issues and challenges in EDM.

RESEARCH METHODOLOGY

The research focuses on extensive literature review from research paper, books, and articles taken from renowned publishers, journals and conferences proceedings in the area of not only Data Mining and Educational Data Mining but also from other related domains. The use of primary data or experimental research is excluded due to the nature of scope of study. Thus mainly exploratory research based on information available is used to comprehend the entire paper. Since data mining is used as an integrative approach in Educational Data Mining so the paper begins with a brief introduction of Data Mining.

DATA MINING DEFINITION

Data mining is an interdisciplinary subject which is a combination of Machine Learning, Statistics and Business Intelligence, can be defined in many different ways. Data mining can also be termed as "knowledge mining from data," however, the shorter term; *knowledge mining* may not reflect the emphasis on mining from large amounts of data. Data mining is often treated as a synonym for another popularly used term, knowledge discovery from data, or KDD, (Fayyad 1996). Data mining is also viewed as an essential step in the process of knowledge discovery.

EDUCATIONAL DATA MINING

Educational Data Mining (EDM) is upcoming field in Knowledge discovery. Due to widespread growth of higher education, predictions related to student's performance can be accurately done through EDM. Not only predictions, classification, associations and grouping can also be done with perfection using statistical and

software tools. The Education system can be equipped with more information relating to future drop out of students and their success in enrolled courses. Both students and stake holders could be benefitted by EDM. Nowadays interactive e-learning methods and tools like Moodle, have opened an opportunity to collect and scrutinize student data through online quizzes and online board discussions.

In the educational field, data mining techniques can generate useful patterns that can be used both by educators and learners. EDM provide recommendations to learners to improve their learning and to create individual learning environments and assist educators to improve their learning environment. Not only this, educational data mining can be used to enhance employability index of students.

Educational data mining is emerging as a research area for understanding how students learn. New computer-supported interactive learning methods and tools—intelligent tutoring systems, simulations and games have opened up opportunities to collect and analyze student data, to discover patterns and trends in those data, and to make new discoveries and test hypotheses about how students learn (Baker, 2007). Data collected from online learning systems can be aggregated over large numbers of students and can contain many variables that data mining algorithms can explore for model building.

Initially in Education data mining, researchers used to capture website log data to understand behavior of learners specially students (Amershi, 2009). But now more integrated, instrumented, and sophisticated online learning systems provide different kinds of data. Educational data mining generally emphasizes reducing learning into small components that can be analyzed and then influenced by software that adapts to the student (Baker, 2010). Student learning data collected by online learning systems are being explored to develop predictive models by applying educational data mining methods that classify data or find relationships. These models play a key role in building adaptive learning systems in which adaptations or interventions based on the model's predictions can be used to change what students experience in future (Amershi et al, 2006).

Educational data is hierarchical in nature. Data collected at various levels like session level, student level, teacher level and institute level are nested into one another. Time is important to capture data, such as length of practice sessions or time to learn is also key feature in EDM (Renza et al 2015). Similarly sequence and context also plays an important role in Educational data. Sequence represents how concepts build on one another and how practice and tutoring should be ordered. Context is important for explaining results and knowing where a model may or may not work. Thus hierarchical data mining methods and longitudinal data modeling are important developments in mining educational data (Merceron et al, 2008).

One key area of application in EDM is improving student models that represents various information about a student, such as the student's current knowledge, motivation, metacognition, and attitudes. Educational data mining view the following as the most important goals for its research:

1. Discovering natural groups in students: Different clustering algorithms like Hierarchical Clustering, K-Means Clustering Algorithms are used for grouping the students according their respective academic performance, attitudes and different skill sets. .
2. Predicting students' future learning behavior by creating student models that incorporate such detailed information as students' knowledge, motivation, meta-cognition, and attitudes (Bharadwaj & Pal, 2011). Prediction can also be based on the class label of objects like student's background, their gender, region etc. Hence the term *prediction* refers to both numeric predictions as well as class label predictions.

NATURE OF DATA USED IN EDUCATIONAL DATA MINING

The most basic forms of data for educational mining applications are data from student databases and academic records, data warehouses, and student transactions. The best results are obtained when data is non-trivial in nature.

Educational Data mining can also be applied to other forms of data like multimedia data, text data, pictorial/graphical data, moodle data, spatial data and network data. EDM will certainly continue to embrace new data types as it emerges. It is important that in many applications, multiple types of data are present. Mining multiple data sources of complex data often leads to fruitful findings due to the mutual enhancement and consolidation of such multiple sources. But it is also possess some challenges because of the difficulties in data cleaning and data integration, as well as the complex interactions among the multiple sources of such data.

TECHNIQUES USED IN EDUCATIONAL DATA MINING

As in Data Mining, EDM also deals with a number of techniques. These techniques include characterization and discrimination; frequent patterns mining, associations and correlations; classification and regression; clustering

analysis and outlier analysis. It is also used to specify different kinds of patterns found in educational data mining tasks. In general, such tasks can be classified into two categories: descriptive and predictive. Descriptive mining tasks characterize properties of the data in a target data set. Predictive mining process the current data in order to make predictions of student's progress.

Major techniques for EDM	Purpose	Explanation
Data Summarization and characterization	It is used data/model visualization. The purpose is to display data using certain characteristics to capture trends and extreme.	Visualization uses pictorial techniques such as charts and tables to help people to understand and analyze performance of students on various attributes such as exam score, CGPAs etc.
Sequential Pattern Mining	Useful in Market Basket Analysis and Association rule mining to discover relations between items.	It is useful to identifying co-occurrence of student success/failure patterns and important attributes with other frequently occurring variables like attendance, educational background etc. In this sense it is much like cluster analysis, but cluster analysis involves different algorithms that can be more computationally intensive and impractical in large datasets. The most common application of association rule mining is market basket analysis, but it has been applied to a growing number of other applications. (David, Delen & Dursun, 2008).
Classification	Used for Categorizing and profiling students to determine their learning styles and preferences when class labels are pre-defined. [60, 61]	Classification is the process of deriving a suitable categories that describes and distinguishes data on the basis of class labels which are predefined.
Clustering	It aims at finding homogeneous groups in data without any pre-defined class label. A clustering help to find groups of students with similar characteristics. Grouping can be based on behavior, attitudes, skill sets etc.	In EDM, it uses clustering to group students according to their cognition (M. Anoop Kumar, 2012) Different clustering algorithms that are used to group students are hierarchical agglomerative clustering, K-means and model-based clustering.
Prediction	It is a technique which forecasts future on the basis of present. Predictive models have been used to predict relationship between a dependent and independent variables (Draper & Smith, 1998) It is used for forecasting and understanding student educational outcomes.	It creates mathematical model to predict whether (and when) a student will be successful and the strength of relationship of his success with other variables. Prediction of a student's performance is the most popular applications of Data Mining in education.

Outlier Analysis: A data set may contain objects that do not comply with the general behavior or model of the data. These data objects are outliers (Barnes, 2005). Hawkins formally defined (D. Hawkins 1980) the concept of an outlier as follows: "An outlier is an observation which deviates so much from the other observations as to arouse suspicions that it was generated by a different mechanism." Many data mining & EDM methods discard outliers as noise, abnormalities, deviants or exceptions. However, in some applications (e.g., extra ordinary performer in the batch) the rare events can be more interesting than the more regularly occurring ones. The analysis of outlier data is referred to as outlier analysis or anomaly mining. Detection of outliers can be done using statistical tests like creating Histogram or other distribution models. Outliers can also be detected using distance measures where objects that are remote from any other cluster are considered outliers.

OVERLAPPING FROM DIFFERENT DOMAINS IN EDUCATIONAL DATA MINING

As a highly application-driven domain, data mining has incorporated many techniques from other domains such as statistics, machine learning, pattern recognition, database and data warehouse systems, information retrieval, visualization, algorithms, high performance computing, and many application domains. In this section, we give examples of several disciplines that strongly influence the development of educational data mining methods.

Statistics: Statistics is a process of collection, summarization, analysis, interpretation and presentation of data. Educational Data mining has an inherent linkage with statistics. Both Statistics and EDM aims to discover some useful patterns in data. There is so much overlap between the two streams that EDM is also regarded as a subset of statistics. But there are certain important differences as educational data mining also makes use of ideas, tools, and methods from other areas and is not heavily concerned with some areas in which statisticians are more interested (Hand, 1999). Since the focus of EDM is on nonmetric data which is less relied in traditional statistics so there is a lot of scope left to work on these non-parametric tests stated in statistics which can be used in EDM (Srivastava, 2015).

Machine Learning: Machine learning (Mitchell T. M., 1997) is mainly concerned with the discovery of models and patterns in data. Machine learning approaches can be roughly categorized into two different groups: 1. Inductive learning of symbolic descriptions. 2. Statistical or pattern-recognition methods It investigates how computers can learn (or improve their performance) based on data. A major research area is for computer programs to *automatically* learn to recognize complex patterns and make intelligent decisions based on educational data.

Database Systems and Data Warehouses: Database systems research focuses on the creation, maintenance, and use of databases for organizations and end-users. Particularly, database systems researchers have established highly recognized principles in data models, query languages, query processing and optimization methods, data storage, and indexing and accessing methods. Database systems are often well known for their high scalability in processing very large, relatively structured data sets. Quite often educational data mining tasks need to handle large data sets or even real-time, fast streaming data. Therefore, there is a need to make good use of scalable database technologies to achieve high efficiency and scalability on large data sets.

TOOLS USED IN EDUCATIONAL DATA MINING

Tools available in EDM are discussed below in Tabular format along with their individual advantages and disadvantages. These are some of the most widely used, most accessible, and most powerful tools available in EDM.

Data transforming and cleaning is the first step required for the analysis. In educational data mining, transforming raw data streams into meaningful variables is the first major challenge in the process. Quite often data that available is not ready for analysis due to different forms and formats; the data not only need to be transformed into a more meaningful format but in addition meaningful variables need to be engineered. In addition, data often need to be cleaned to remove cases and values that are not simply outliers but actively incorrect (i.e. cases where time-stamps have impossible values, instructor test accounts in learning system data, etc.).

After data cleaning, transformation into a more workable format the next important decision is the type of model to be constructed or the type of relations to be explored and how to validate it?

A tabular discussion on the set of tools that are appropriate for this task like Rapid Miner, Weka, KEEL, KNIME, Orange, and SPSS are discussed showing strengths and drawbacks. Several packages in Python are also well-suited for testing, analysis, and modeling.

The tools mentioned so far are relevant to a range of types of data and analysis. However, some types of data can be more effectively analyzed with more specialized tools tailored to those domains. A crucial component of the distribution of research is legible and informative visualizations, and in the last portion of our discussion we will cover a selection of tools that afford data scientists the ability to create polished and informative graphs, charts, models, networks, diagrams, and other manners of visualized information. We identify three visualization tools: Tableau and d3js as well as discuss the potential for visualization through a handful of popular Python packages.

Tools Name	Purpose	Advantages	Disadvantages
Excel, Google Sheets, and the EDM	Data manipulations, data cleaning	An excellent tool for presenting small data set and finding missing and duplications. These tools can also be	These tools are inefficient to handle extremely large data sets, around one million rows

Workbench	and data transformations	used for prototyping new variables in subsets of a relatively larger data set. These tools also provide very simple approach to add new features, rapidly apply these features to the entire sheet, and visually check the features across a range of data for appropriate functioning. Summarization as well as other aggregations can be easily calculated through filters.	and above. Excel and Google Sheets are not ideal for creating all types of feature since creating features require different aggregations of the data that involve multiple sorting, making it challenging to keep records of what was done, and making it easy to accidentally change feature semantics. For data scientists with programming knowledge and dealing with engineering context, Python is considered to be more useful language for these purposes as compared to Excel.
Rapid Miner, Weka, KEEL, KNIME, Orange, and SPSS	Data testing, analysis, and modeling.	These tools provides a huge range of algorithms and modeling frameworks that can be used to model and predict processes and relationships in educational data. Rapid Miner has an extensive set of tutorials which are very useful in learning how to use the graphical programming language. Rapid Miner is available for free for academic use. Weka is well suited for providing machine learning algorithms. KNIME is very powerful in social network analysis. KNIME has the ability to integrate data from multiple sources and allow to interface with R, Python, Java, and SQL Orange provides data analysis for novice and experts particularly suitable for text mining SPSS provides an integrated data mining development environment for developers and end users.	SPSS is less flexible than other tools, more difficult to customize, and is not available as open source. Weka does not support the creation of new features, though it does have support for automatic feature selection. Orange is somewhat limited in the scale of data that it can process
Tableau and d3js,	Data Visualization	These tools enable building interactive visual interfaces for gaining knowledge and insight from data. D3.js gives considerable flexibility in building different kinds of data visualization and is free and open source. D3.js allows manipulation of data-driven documents, enabling researchers and practitioners to build complex, interactive data visualizations that require data handling and are targeted for modern web browsers.	Tableau does not support predictive analytics or relational data mining. It does not support integration with other software platforms. D3.js technology requires extensive programming knowledge, faces compatibility issues as well as some performance limitations for larger data sets.

MAJOR ISSUES AND CHALLENGES IN EDUCATIONAL DATA MINING

The major issues and challenges in educational data mining research are divided into four groups as discussed below:

1. Methodologies in Mining

There is a rapid development of new EDM methodologies as it creates a new area of research among researching fraternity. This involves the investigation of new kinds of knowledge, mining in multidimensional space, integrating methods from other disciplines, and the consideration of semantic ties among data objects. In addition, mining methodologies should consider issues such as data uncertainty, noise, and incompleteness. Some mining methods explore how user specified measures can be used to assess the interestingness of discovered patterns as well as guide the discovery process.

Diverse Analysis and Applications: EDM covers a wide spectrum of data analysis and knowledge discovery tasks, from data characterization and discrimination to association and correlation analysis, classification, regression, clustering, outlier analysis, sequence analysis, and trend analysis. These tasks may use the same database in different ways and require the development of numerous data mining techniques. Due to the diversity of applications, new mining tasks continue to emerge, making EDM a dynamic and fast-growing field.

Multidimensional Data: When searching for knowledge in large data sets, one can explore the data in multidimensional space. That is, interesting patterns can be searched among combinations of dimensions (attributes) at varying levels of abstraction. Such mining is known as (*exploratory*) *multidimensional data mining*.

Handling uncertainty, noise, or incompleteness of data: Data often contain noise, errors, exceptions, or uncertainty, or are incomplete. Due to the presence of possible uncertainties, no model can predict hundred percent accurate results in terms of student modelling or overall academic planning. Data cleaning, data preprocessing, outlier detection and removal, and uncertainty reasoning are examples of techniques that need to be integrated with the data mining process

2. Scalability issues to problem of Data Compatibility

Data management has become critical considering wide range of storage locations, data platform heterogeneity and a plethora of social networking sites (Deka, G. C, 2013), E.g.: Metadata Schema Registry is a tool to enhance to enhance Meta data interoperability. So there is a need to design a model to classify/ cluster the data or find relationships. Examples of clustering applications are grouped students based on their learning and interaction patterns used in (Amershi, 2006) and grouping users for purposes of recommending actions and resources to similar users.

Algorithms are more efficient and faster in sample exploration rather on the entire database (D. J. Hand, H. Mannila, and P. Smyth, 2001). Even the fastest hardware and software combinations have difficulty performing complex analyses such as fitting a stepwise logistic regression with millions of records and hundreds of input variables.

Within a database, there can be huge variations across individual records. A few data values far from the main cluster can overly influence the analysis, and result in larger forecast errors and higher misclassification rates. These data values may have been miscoded values, they may be old data, or they may be outlying records. Had the sample been taken from the main cluster, these outlying records would not have been overly influential.

Alternatively, little variation might exist in the data for many of the variables; the records are very similar in many ways. Performing computationally intensive processing on the entire database might provide no additional information beyond what can be obtained from processing a small, well-chosen sample. Moreover, when the entire database is processed, the benefits that might have been obtained from a pilot study are lost.

3. Different types of Databases: The wide diversity of database types brings about challenges to educational data mining. These include:

Handling complex types of data: Diverse applications generate a wide spectrum of new data types, from structured data such as relational and data warehouse data to semi-structured and unstructured data; from stable data repositories to dynamic data streams; from simple data objects to temporal data, hypertext data, multimedia data, software program code, Web data, and social network data. The construction of effective and efficient educational data mining tools for diverse applications remains a challenging and active area of research.

Mining dynamic, networked, and global data repositories: Educational data is incremental in nature. Due to the exponential growth of data, the maintaining the data warehouse is difficult (Ashish Dutt, 2015). To monitor the operational data sources, infer the student interest, intentions and its impact in a particular institution is the main

issue. Another issue is the alignment and translation of the incremental educational data. It should focus on appropriating time, context and its sequence. Optimal utilization of computing and human resources (Deka, 2012) is another issue of incremental educational data.

4. Influence of Educational Data Mining in Education Society

The major issues of social influences are privacy issues. More and more data may lead to more effective techniques but it may also lead to an increased violation of privacy. It is important to study the impact of educational data mining on student fraternity. Applications utilizing EDM technologies are becoming more and more prevalent in school systems (Simon, 2014 & Singer, 2014). However, the increase in EDM usage has raised concern in parents and students of how much data is being collected about students. The applications and companies that collect and use student data are coming under scrutiny, as parents, college authorities, and public officials grow concerned over student privacy. Large institutions have been targeted for using student data in undesirable ways (B. Herold, 2014). This has resulted in the demand for stricter policy from privacy advocates have led to more than 100 bills being introduced in U.S. state legislatures to address issues of student privacy in 2014 (Trainor, 2015). The philosophy should be to observe data sensitivity and preserve people's privacy while performing successful data mining in education sector.

CONCLUSION

This paper provides a complete overview in the field of Educational Data Mining. It discusses the evolutionary path of information technology, which has led to the need for data mining in education, and the importance of its applications. It examines the data types to be mined, including relational, transactional, and data warehouse data, as well as complex data types such as time-series, sequences, data streams, spatiotemporal data, multimedia data, text data, graphs, social networks, and Web data. It presents a general classification of educational data mining tasks, based on the kinds of knowledge to be mined, the kinds of technologies used, and the kinds of applications that are targeted. Major techniques and tools useful in EDM is also highlighted in this paper using simple tabular representations. Finally, four major challenges in the field are discussed which includes choosing appropriate methodology, problems of scaling huge datasets, handling of wide diversity in databases and privacy issues in educational data mining.

Finally Educational Data Mining could bring a significant improvement in the entire learning process of learners in a very effective manner. There are many innovative applications of EDM that can be explored in future studies.

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A SURVEY ON SOFTWARE AND HARDWARE IMPLEMENTATION OF IMAGE EDGE DETECTION USING FPGA

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ABSTRACT

Digital Image Processing is employed in variety of applications, including video surveillance, target recognition, biomedical application etc. Some of the algorithms mainly used in image processing are usually implemented in software but may also be implemented in special purpose hardware to increase the speed of operation. With the introduction of reconfigurable platform such as Field Programmable Gate Arrays, image processing on FPGA has emerged as practical solutions for most of computer vision and image processing problems. FPGA plays a vital role in hardware implementation of image processing application because of its rapid prototyping and easy design verification. The main objective of this paper is to provide a detail survey on the various types of image edge detection algorithm. Even though several edge detection algorithms and their hardware implementation are available, there is no clear differentiation between these techniques about the suitability for various applications. Many reports claim its work to be superior but a complete comparative analysis is lacking in these works. In this survey paper, an extensive comparative analysis is performed to illustrate the merits and demerits of various available edge detection algorithms. And also this survey discussed on the FPGA based hardware implementation of Image Edge Detection algorithm.

Keywords: Edge detection, Field Programmable Gate Array, Gaussian, Image processing, Wavelet Transform.

I. INTRODUCTION

Interpretation of image contents is a significant objective in computer vision and image Processing. Discrimination of the objects from their background is the first essential task that should be performed before any interpretation. In order to extract the contour of an object, the edges must be detected and forming that object, and this fact reveals the constitutional importance of edge detection in computer vision and image processing. Basically, edges can be identified as the locations of abrupt discontinuity in the grey level of an image. Edge detection is the process which detects the presence and locations of these intensity transitions. This description of an image is easy to integrate into a large number of object recognition algorithms used in computer vision applications. Although edge detection is mostly employed in the pre-processing step of image processing, the resulting quality of edges may seriously affect the performance of the remaining steps. The edge detection is used in wide range of applications in image processing such as object detection, recognition, automated inspection of machine assemblies, and diagnosis in medical imaging, computer vision, pattern analysis and topographical recognition.

Many image processing applications are subject to a real time constraint. The requirement of real time image processing is not only achieved by software implementation on a computer, but also a dedicated hardware is preferable. Real time video and image processing is used in a wide variety of applications from video surveillance and traffic management to medical imaging applications. Even though the general purpose processors are getting faster every day, image and video processing applications still need more computational powers (Zahraa Elhassan, 2010). As an alternative to general purpose processors, such systems can be implemented on Digital Signal Processors, on the very expensive ASICs or on FPGA. FPGAs offer a better choice among all because of their infinite reprogrammability, high parallelism, flexibility, computational power and short development time (Bruce Draper, 2003).

The remaining part of this survey describes as follows: section II describes the survey on various types of edge detection algorithms. Section III describes the survey on FPGA based implementation on image edge detection. Section IV gives the conclusion of this detailed survey.

II. LITERATURE SURVEY ON IMAGE EDGE DETECTION

An important property of the edge detection method is its ability to extract the accurate edge line with good orientation, and much literature on edge detection has been published in the past three decades.

Most of the edge detection methods can be classified into two categories based on the behavioural study of edges of the images

- Gradient Based Image Edge Detection
- Transform Based Image Edge Detection

A. Gradient Based Image Edge Detection

Gradient edge detectors contain classical operators and uses first directional derivative of grey level gradient of an image in the spatial domain. These edge detectors have no smoothing filter, and they are only based on a discrete differential operator. The earliest popular works in this category include the algorithms developed by Sobel, Prewitt, Kirsch, Robinson and Frei-Chen. They compute an estimation of gradient for the pixels, and look for local maxima to localize step edges. Typically, they are simple in computation and capable to detect the edges and their orientation, but due to lack of smoothing stage, they are very sensitive to noise and inaccurate.

The Sobel operator is the most known among the classical methods. The Sobel edge detector uses the convolution masks to compute the gradient in two directions. Sobel edge detector is a simple and effective approach, but sensitive to noise (Tanvir, 2007). Moreover, the detected edges are thick, which may not be suitable for applications that the detection of the outmost contour of an object is required. New image edge detection based on Genetic Algorithms and Improved Sobel operator is proposed in (Zhang, 2009). In this paper, genetic algorithm is used to determine the threshold automatically. The experiment results proved that the chosen threshold is suitable and effective. Conventional sobel is ineffective for complicated texture images. To get more accurate edge points, to reduce the impact of noise on edge detection, four directions of the size of 5×5 templates with separate weights are used in this work.

Performances of the Prewitt edge detector in digital image corrupted with different kinds of noise are evaluated in (Raman, 2006). Experimental results of this evaluation are demonstrated that the Prewitt operator works quite well for digital images corrupted with Poisson Noise whereas its performance decreases sharply for other kinds of noise. A statistical noise estimation kernel based on Rayleigh distribution function is discussed in (Alwaleed, 2011). This kernel is used to implement the breast lesion boundary detection for ultrasound images. The detection sequence for this proposed method includes such as histogram equalization, nonlinear diffusion, convolution of the breast image with the developed kernel, median filtration, segmentation, labelling and morphological operations. The performance of traditional edge detection methods for the image containing Gaussian white noise is not satisfied. In order to overcome this shortcoming, an edge detection method based on soft threshold wavelet denoising combining with the Prewitt operator is presented in this paper (Wenshuo, 2010).

B. Transform Based Edge Detection Methods

Analyzing an image at different scales increases the accuracy and reliability of edge detection. Progressing between scales also simplifies the discrimination of edges versus textures. Because of having this ability, wavelet transform is an advantageous option for image edge detection in different applications. Wavelet based multi resolution expansions provide compact representations of images with regions of low contrast separated by high contrast edges.

An important property of wavelet transform is its ability to focus on localized structures, e.g. edges, with a zooming procedure that progressively reduces the scale parameter. In this way, coarse and fine signal structures are simultaneously analyzed at different scales. The slow changing aspects of a signal are preserved in the channel with low pass filter and the quickly changing parts are kept in the high pass filter's channel. The fact that the DWT is a multi scale analysis can be used to edge detection algorithm's benefit. Shih (2008) combined a gradient based edge detection and a wavelet based multi scale edge tracking to extract edges. The proposed contextual filter detects edges from the finest scale gradient images and the edge tracker refines the detected edges on the multi scale gradient images.

Image reconstruction using local competition Gabor wavelets transformation is described in (Sylvain, 2006). This algorithm is based on linear Gabor wavelets followed by a nonlinear iterative algorithm consisting of local competitions between coefficients which aim is reducing the amount of information to be encoded. The resulting transform is aliasing free and provided the exact reconstruction by the linear inverse transform.

An edge detection algorithm using Haar wavelet transform and signal registration is presented in (Heric, 2007). By applying Haar wavelet, the intensity magnitude variation between adjacent intervals are calculated on a time scale plane. Positive or negative peaks in time scale indicated the edge slope and width. Then an adaptive threshold is applied for each scale to detect the edge maxima lines. The position of modulus maximum at the lowest scale determines the edge position. Then edge linkage into a contour line with signal registration is applied to get continues edge.

Two novel corner detection methods for gray level images based on log Gabor wavelet transform is presented in (Xinting, 2007). In the first algorithm, the corners are detected by the magnitude along the direction that is

orthogonal to the gradient orientation. The second method is based on log Gabor wavelets and second moment matrix. The input image is decomposed by the log Gabor wavelets at multiscale along multi orientations. Then the components at different scales and orientations are projected onto the axis and formulated into the second moment matrix. Finally, the smaller eigen value of the second moment matrix is used to detect corner points. A multiscale wavelet based edge detection algorithm for lip segmentation is proposed in (Guan, Y.P., 2008). In noiseless images with high contrast, Canny's edge detection is providing very successful result. But that algorithm is not efficient for noisy image. For noisy image, this wavelet based edge detection provides accurate result.

An efficient algorithm using Simplified version of Gabor wavelets for extracting the features in an integral image is proposed by Choi (2008). Simplified version of GWs can achieve a performance level similar to the original GWs for face recognition. This paper also described fast algorithms for feature extraction based on SGWs at different orientations. A Simplified version of Gabor wavelet for image edge detection is proposed in (Wei, 2009). These SGW features can be computed for each pixel position without requiring the use of FFT. This detection algorithm can achieve a performance level in terms of detection accuracy similar to that based on GWs, but requires a significantly smaller amount of computation. The performance of this method is proved with the help of ROC curve.

A framework of improved edge analysis and detection using Shearlet transform is presented by Sheng (2009). An accurate method for extracting the information about edges and their orientations even in the presence of noise is presented in this work. Shearlet based multiscale decomposition of image is used to improve the robustness of an edge detector in the presence of noise. A novel method based on the discrete curvelet transform, to extract a directional field from an image that indicates the location and direction of the edges is presented in (Tobias, 2009). This directional field is then processed by using the non-maximal suppression and thresholding steps to trace along the direction of the edges and mark the edges. This discrete curvelet based edge results are compared with Canny and Gabor wavelet based edge detection results.

Retinal blood vessels detection is an important object in ophthalmologic images. Many of the existing methodologies are based on edge detection or modelling of vessel cross sectional profiles in intensity. A new scheme of vessel detection based on symmetry and asymmetry in the Fourier domain is presented by Tao Zhu (2010). Representation for upward and downward vessel cross sectional profiles with varying boundary sharpness is defined in this approach and this system is invariant to vessels brightness variations.

An overview of various edge and line oriented approaches to contour detection in the last two decades is discussed in (Giuseppe, 2011). Proposed taxonomy of the main contour detectors presented in this literature. In this survey paper the main features and most representative articles for each class of contour is tabulated. Bhawna (2011) presented a robust iris recognition system using log Gabor wavelet and Laplacian of Gaussian filter. This paper presented a straightforward approach for segmenting the iris patterns. This method determined an automated global threshold and the pupil centre. The contour detection and extraction of knee joint in CT images is implemented in (Xushu, 2011). The contour is detected using the first order differential operators, such as Roberts Cross operator and Sobel operator and second order differential operator, such as Laplacian and Canny operators. The chain code method is used for the contour extraction.

III. LITERATURE SURVEY ON HARDWARE IMPLEMENTATION OF IMAGE EDGE DETECTION

A real time algorithm and its VLSI implementation for edge linking are presented by Amjad (1999). This linking process is based on the break points directions and the weak level points. This proposed VLSI architecture is capable of outputting one pixel of the linked edge map per clock cycle. Stephan (2003) proposed FPGA implementation of high speed sub pixel edge detector. This algorithm is based on the approximation on the edge profile with a first order linear function and then extrapolating the line to intercept a horizontal function. This proposed detector operates with high speed and its computational cost and complexity are very low in comparison to other approaches. The drawback of this architecture is the weak edges can't be detected in noisy image.

Hardware implementation of real time edge detection algorithm based on FPGA is presented by Mohamed (2007). In this algorithm, the edge detection operation is made by comparing pixel value to measure the intensity difference with the help of selecting proper threshold value. This algorithm is implemented on Cyclone II FPGA device. FPGA architecture for Sobel Edge Detector is presented in (Tanvir, 2007). Sobel operator is chosen due to its property of less deterioration in high levels of noise. This architecture which is implemented on Spartan3 is capable of operating at high speed.

FPGA based architecture for Prewitt edge detection algorithm is presented by Tanvir (2009). Prewitt edge detection operator is based on first derivative based operation and it is simple to implement in hardware. This architecture is implemented using Verilog HDL, synthesized using Spartan 3 processor. FPGA architecture for gradient based Sobel edge detection algorithm is implemented by Yasri (2009). In this architecture, image is captured by a CMOS camera and converted into greyscale image and the Sobel edge detection operator is controlled by Finite State Machine to determine the level of variance through different of pixels and display the result on a monitor. This implementation is performed on an Altera FPGA platform. The result proved that good performance of edge detection with high speed.

Zahraa (2010) proposed the hardware implementation of Sobel image edge detection algorithm on FPGA. Optimization for this processor is done by diminishes the number of calculations, utilization of logical resources and data storage resources. The implementation of several edge detection algorithms like Sobel, Prewitt, Robert and compass edge detectors on FPGA and the comparative study of their performances is presented (Sudeep, 2011). This design consists of powerful design tool system Generator and Embedded Development Kit for hardware-software co design.

Rajesh Mehra (2011) presented FPGA based efficient adaptive edge detection filter. A fully parallel pipelined MAC algorithm is used in this work. This architecture is implemented on Vertex-II FPGA device. Design and implementation of Video Edge detection method based on coordinated DSP and FPGA techniques is presented in (Mandeep, 2011). DSP is dedicated for data input and output functions. FPGA is used to take input video from DSP to implement logic and after processing it gives back to DSP.

IV. CONCLUSION

Edge detection is an important subfield of computer vision. In this survey, various techniques for Image Edge Detection are analyzed in detail. This survey mainly focused on transform based edge detection algorithms which give a better result than other conventional methods and this transform based edge detection plays a vital role in real time implementation. The software implementation of image edge detection provides good result. But in order to increase the speed of operation and real time implementation, the image processing application must be implemented on hardware.

FPGA based hardware implementation provides high speed and good accuracy when this is compared with other hardware implementation. In this work, Image Edge detection implementation on FPGA is surveyed and studied in detail. Several novel hybrid approaches may be developed through the ideas conveyed in this report. This report also used in highlighting the hardware implementation of image edge detection.

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A STUDY OF RECENT TRENDS IN CORPORATE TRAINING IN INDIA

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ABSTRACT

Training and Development, On the Job Training, Training Design and Delivery style are four of the most important aspects in organizational studies. The focus of current study is to understand the effect of Training and Development, On the Job Training, Training Design and Delivery style on Organizational performance. The back bone of this study is the secondary data comprised of comprehensive literature review. Four Hypotheses are developed to see the Impact of all the independent variables on the overall Organizational Performance. The Hypotheses show that all these have significant effect on Organizational Performance. These Hypotheses came from the literature review and we have also proved them with the help of literature review. Results show that Training and Development, On the Job Training, Training Design and Delivery style have significant affect on Organizational Performance and all these have positively affect the Organizational Performance. It means it increases the overall organizational performance. Increasingly organizations appear to be using corporate education and training as an incentive to retain managers and key employees within their organization. This win-win arrangement creates better educated managers for the organization and provides the employees with a more marketable portfolio of skills and, in many cases, recognized qualifications

Keywords: Training and Development, On the Job Training, Training Design, Delivery style, Organizational Performance

CORPORATE EDUCATION

Corporate Education refers to a system of professional development activities provided to educate employees. It may consist of formal university or college training or informal training provided by non-collegiate institutions. The simplest form of corporate education may be training programs designed "in-house" for an organization that may wish to train their employees on specific aspects of their job processes or responsibilities. More formal relationships may further exist where corporate training is provided to employees through contracts or relationships with educational institutions who may award credit, either at the institution or through a system of CEUs (Continuing Education Units). Many institutions or trainers offering corporate education will provide certificates or diplomas verifying the attendance of the employee. Some employers use corporate and continuing education as part of a holistic human resources effort to determine the performance of the employee and as part of their review systems.

DIFFERENCE BETWEEN CORPORATE EDUCATION AND CORPORATE TRAINING

Most organizations tend to think of corporate education as corporate training. Corporate training programs are often competency based and related to the essential training employees need to operate certain equipment or perform certain tasks in a competent, safe and effective manner. The outcome of a corporate training program is a participant who is either able to operate a piece of equipment or perform a specific task in an effective manner according to pre-determined training criteria.

The primary role of corporate training is to ensure an employee has the knowledge and skills to undertake a specific operation to enable an organization can continue to operate. Fundamentally, corporate training is centered on knowledge transfer, with an instructor teaching or demonstrating a particular function and the student learning and demonstrating they can apply what they have learnt to a particular operation.

Corporate education, however, adds another dimension and depth to training by involving learners as participants in generating new knowledge that assists an organization to develop and evolve, rather than maintain the status quo. Corporate education focuses on developing the capability of an organization to be able to do things and, in particular, the right things in order to be a sustainable and successful organization.

Corporate education involves a facilitator, rather than an instructor or trainer, to engage participants and encourage them to think about the what, how and why of what they are doing and to challenge their current paradigms. Corporate education is centered on introducing learning techniques to stimulate employees to think about what their organization does, where it is heading, potential new opportunities for the organization and new and better ways of doing things. While the role of corporate training is to develop the operational competency of individuals, the purpose of corporate education is to promote the development of capability of both an individual and their organization.

Increasingly organizations appear to be using corporate education as an incentive to retain managers and key employees within their organization. This win-win arrangement creates better educated managers and employees for the organization and gives individual employees a more marketable portfolio of skills and, in many cases, recognized qualifications.

Corporate learning has now become one of the main business elements in organizations that want to focus on employee training. Over the years, corporate training has come far from classroom training. However, there still are a few aspects that need to be focused on to make it a universally adoptable and financially viable across geographies. In recent times, the eLearning industry has undergone rapid improvements owing to the changes in the organizations to match to the needs and expectations of the learners. Today's learners have moved beyond just a passive learning experience. Learning needs to happen in a way that engages them and provides them easy access to information on the fly. Learners don't just want to learn. They want to experience learning.

While we speak of how there has been a paradigm shift in learning, let's look at the changes 2017 has brought in the world of corporate eLearning. Here are a few ongoing trends in corporate learning that have caught the attention of eLearning industry experts this year:

1. MICRO LEARNING

Micro Learning, it is a short, focused learning chunk of information on topics that is designed to fulfill a specific learning objective. These modules are typically 3-5 minutes long. They could be shorter too, depending on your training objective.

So, if we say that modules of about 10-15 minutes in length have a completion rate of 97% approximately, what would you extract from this fact? It is important to offer learning to millennials who have arguably shorter attention spans, especially as their counts go up in organizations. Well, with research facts like these, it is quite clear why microlearning is now becoming a buzzword in the industry.

2. APP-BASED LEARNING

Mobile-based learning is now being widely used to deliver training to learners. Recent statistics on usage of mobile apps also reveal that app-based learning has gained popularity in most organizations as it enables employers to easily connect with their employees/learners to provide on-demand online training.

Some of the proven benefits of app-based learning include effective implementation of micro learning, simulation and game-based learning, extensive control on tracking and learning management and, off-line performance support applications anywhere and anytime. Hence, with a shrinking attention span of millennials, and a growing workforce (particularly millennials) in organizations, app-based learning is a trend to look forward to for on-the-go training in corporate organizations.

3. MOBILE LEARNING

It goes without saying that we want everything "on the go". With an increasing number of mobile users across the globe, delivering their training to them on their devices, in addition to tablets and computers, is a continuous rising need.

Making your training available on mobile phones makes it accessible to about 70% of learners! That's a huge number, and we only see that going up. That's one of the reasons why mobile learning will continue to grab the attention of learners in 2017. With more content going online, learners can access information across different devices based on their location or needs.

4. VIDEO LEARNING

2017 is also the time to incorporate video learning in your training courses! If it still does not convince you, think about the popularity YouTube has gained in recent years. The fact that our human brain processes videos about 60,000 times faster than text, there's no doubt why we frequently reach out to training channels on YouTube to fill a knowledge gap! A recent study revealed that courses with videos have a 51% completion rate while those without videos have as low as 36%! So, want to make your courses more engaging and interactive for your learners? Integrate video learning!

5. SOCIAL LEARNING

Social learning is not a newly introduced concept in learning, but it is certainly on the rise. This is because in most organizations, social learning or informal learning takes place through eLearning. This occurs based on the fact that not all individuals are solitary learners, and this is where informal learning or social learning comes into play. Collaborating and connecting with others who are taking the course benefits them while they interact.

Training companies have taken to integrating blogs, LinkedIn courses, and social media pages into their current training programs to ensure learners benefit more from these courses. Social learning may also include social polling where learners are encouraged to give their opinions and rate something such as a video, and later reveal what everybody else thinks about the video. This way, learners also explore the grey spaces that remained untouched by eLearning in the past instead of just focusing on the black and white spaces.

The 70:20:10 model talks about 70 being on-the job training, 20 being learning from peers and 10 being formal learning. This 20peer learning is actually in part largely from social learning whether they are within the organization or outside. Now this may be done via social learning on corporate social and collaboration tools or externally on social media networks like LinkedIn, even Facebook. Hence, social learning is a trend to watch and adopt in today's corporate learning courses.

6. GAMIFICATION

Gamification here to stay in the list of trends for 2017 Well, that's because its primary benefit is motivation. Offering incentives, certificates or badges upon completion of courses, encourages learners to complete their courses in a competitive manner. In addition to this, point systems, leader boards, and timed challenges/quizzes are a few ways gamification can play an important role in your training strategy. Although Gartner had predicted that by 2015, 40% of the world's 1000 biggest companies would implement gamification in their training modules, gamification has still not gained that level of popularity or preference. Thus, 2017 could be the year to fetch some real traction towards gamification!

7. ADAPTIVE LEARNING

Since the advent of the eLearning industry, there has been a constant growth in terms of its efficiency and effectiveness over the years. However, what was developed back in the late 20th century as static eLearning is now a concept that is outdated, and hardly has any impact on its audience. As the term suggests, adaptive learning is about customizing learning to the needs of the learners. Adaptive learning programs are so much more than static learning. These programs focus on learner requirements and their current understanding of the matter. This helps them progress at a faster pace in the subjects that they are familiar with. Thus, adaptive learning has been of great importance for mobilizing eLearning to its full potential as it pays attention to the points of interest of learners through a more personalized training.

While developing a course, it is understood that no two learners are the same and hence, with adaptive learning, learners can learn at their own pace. It accelerates the learning along with reducing the cost of content delivery. This has made vendors optimize their resources to deliver maximum value to their clients. Adaptive learning works both ways in corporate training. Low and average performers can utilize it to improve their performance with time, while high performers can quickly sharpen their skills with it.

8. AUGMENTED REALITY

Augmented reality is yet to be implemented on a large scale. Hence, it remains to be seen how widespread augmented reality will be used in the eLearning industry. However, industries with high-risk occupations will be seen utilizing augmented reality to its best potential in the coming time. These could be surgeons who can use technologies like Google Glass and Oculus Rift to polish their skills, without risking the lives of their patients.

Virtual reality has the potential to change the overall landscape of the eLearning industry via the immersive experience it provides to the learners. Complex subjects can be recreated in a life-like environment to explain it in an elaborate manner. Consider an example where a real-life case study based on leadership is created in VR and you can play a role from one of the various characters available. This will help you learn leadership lessons. Such VR case studies do not require physical presence of the learners and hence, can be accessed from any part of the globe. With minimal requirements of a fast internet connection, a computer or mobile device, and a compatible 3D headset for VR, these can help learners with advance eLearning solutions. Undoubtedly, this technique can prove to be the most powerful of them all if it is implemented effectively in the time to come. A strong component of your learning and development strategies in the very near future!

TECHNOLOGY TRENDS IN CORPORATE TRAINING IN 2016

Technology is changing corporate training rapidly and is improving both cost of delivery as well as effectiveness of training methodologies. Making training available to a wider audience in organizations and increasing engagement level of participants have been two key challenges for corporate trainers as well as HR Managers. Various new technological tools now aid in this process and make corporate training more widely available in organizations while increasingly reducing the cost of delivery significantly.

GLOBAL CORPORATE M-LEARNING MARKET: KEY DRIVERS AND FIGURES

KEY MARKET FIGURES



GLOBAL MARKET GROWTH



Some of the trends that are likely to significantly impact corporate training:

1. Algorithms to drive learning effectiveness – Analytics will increasingly play an important role in how elearning is delivered. This will help in personalising content as well as in ensuring effectiveness of the learning process. Algorithms will be able to pace the learning process, create customized content and quizzes to ensure the course adapts to individual learners.
2. Mobile learning to gather momentum – As more digital content and online access moves to mobiles and apps, corporate training will also increasingly adapt to this medium. Bit size modules delivered on the go will increase training effectiveness by reinforcing concepts and highlighting key points. A lot can be delivered through mobiles but the content needs to be engaging and delivered creatively. Expect significant improvement in training impact for those who adapt to this rapidly evolving medium.
3. Accelerated growth of elearning – As cost of creating elearning content comes down rapidly and effectiveness of delivery goes up, expect a lot more corporate training to go digital. Cost can be as low as 90% compared to the conventional courses in some cases and corporates will not be able to resist the significant cost benefit once they are convinced of the effectiveness.
4. Blended learning and smart classrooms – A lot of Instructor led training (ILT) will actually become blended courses. Technology interventions within and outside the classrooms will make learning a lot more fun and engaging.

CURRENT GLOBAL TRENDS IN TRAINING AND DEVELOPMENT

- Strategic focus: Organizations are aligning their practices towards the organization's overall business strategy.
- Employee Training & Development governance: Organizations are focusing on the proper governance of the Employee Training & Development function, in line with corporate governance principles.
- Proactive needs analysis: Organizations are running training needs analyses proactively, with a direct link to business goals and future priorities.
- Combined learning: Organizations are using a blend of different methodologies to facilitate learning, with a particular emphasis on electronic learning.
- Performance improvement : Organizations are no longer doing training purely for the sake of training; but there is a shift towards delivering only training that improves the business.
- Create Learning culture: Organisations keep the perspective that training is a waste of time if there is no environment conducive to learning and growth

- Outcomes-based learning: There is a global shift towards outcomes-based learning, in which the focus is on clear outcomes and applied competencies rather than a great deal of interesting but inappropriate information.
- Learner support: Training departments are developing focused learner-support strategies to support learning and remove obstacles to learning and growth.
- Mentoring and coaching: Training alone is not enough; supportive mentors and coaches are needed in the workplace to accelerate learning and growth.
- Training measurement: Companies are measuring the impact of training based on clear tangibles in terms of the financial value of training.
- Talent management: Employee Training & Development is being integrated into talent management strategies, in which talented employees are given opportunities to develop their talents further so that their potential can be optimized in the workplace

CONCLUSION

Innovations and experiments in the industry are responsible for the trends that emerge over time. With new methods coming up through advancement in technologies and consistent efforts towards making learning easy, engaging, and accessible to learners, these trends will gain popularity based on their efficacy. As an industry professional, you must pay attention to newer techniques being implemented and development in training on a regular basis. Thoughtfully drafted strategies can then be laid out based on these for business growth. You can follow the above mentioned trends in 2017 to keep up with the industry and plan your strategy to suit your business requirements.

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ANALYSIS OF IONOSPHERIC TEC USING INDIAN SBAS DATA FOR VARIOUS STORM CONDITIONS

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ABSTRACT

The Global Positioning System (GPS) is US based global satellite navigation system. This system is used for positioning and navigation anywhere around the globe, on land, in the air or at sea. However, the standalone GPS cannot provide the necessary accuracy for precision approaches of aircraft. Therefore, augmentation of satellite constellation is necessary. The performance of these augmentation systems such as Satellite Based Augmentation System (SBAS) is affected by various error sources. Among these, ionospheric error is most predominant error. This is due mainly due to the intense variations in the ionosphere. These intense variations are also known as the Storm conditions which affects the smooth operation of the GPS. Hence, it is necessary to understand these variations to improve the GPS positional accuracy. The Indian satellite based augmentation system (SBAS) is known as GPS Aided Geo Augmented Navigation system (GAGAN). In this paper, the comparative analysis TEC, Elevation angle and Azimuth angle using GAGAN data for pre storm, storm and post storm days of March 2006 is carried out for Hyderabad station using the real-time Indian GAGAN data. The obtained results shows that when elevation and azimuth angles of all the three considered days are synchronized with respect to time and space, the TEC values on post-storm day are more than the pre storm and post storm days.

Indexing terms: GPS, GAGAN and TEC.

1. INTRODUCTION

The GPS is a satellite based navigation system developed by U.S. Department of Defense. It provides the user location and time information in all weather conditions, anywhere on or near the earth [1]. The positional accuracy of GPS signal is affected by a number of error sources such as ionospheric, tropospheric, satellite and receiver clock biases, multipath, measurement noise etc, as shown in Fig. 1.

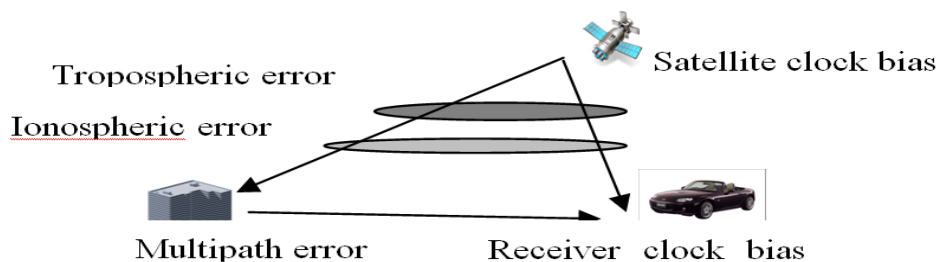


Fig - 1: GPS Errors

Amongst these, ionospheric error is the most predominant error. As ionosphere is frequency dependent media, it can be suitably modeled using dual frequency receivers. But for single frequency user it is still a problematic. The ionospheric time delay is a function of TEC and can be calculated as follows.

$$\Delta I = \{ (40.3 \times 10^{16}) / f_1^2 \} \times F \times \text{VTEC}.$$

Where, ΔI is the ionospheric delay for single frequency f_1 , f_1 is the frequency of 1.5Ghz, F is the elevation – dependent mapping function. The value of 1 TECU = 1×10^{16} electrons/m². The accurate ionospheric time delay estimation is required for improving the user position [1]. The ionospheric delay is affected by the variations of ionospheric parameters such as electron density with time, height and position for different levels of solar and magnetic geomagnetic activity [2]. The standalone GPS cannot provide the necessary accuracy for precision approaches of aircraft. Therefore, augmentation of satellite constellation is necessary. The Indian SBAS is known as GPS Aided Geo Augmented Navigation system (GAGAN). GAGAN is a joint project between Indian Space Research Organization (ISRO) and Airport Authority of India (AAI) to cater the need of Indian civil aviation [3]. There is need to investigate the effects of TEC due to GPS and SBAS signals during adverse conditions due to space weather especially to meet the Category-I precision approach (CAT-I PA) requirements of aircraft landing. The outcome of such work facilitates navigation users in achieving reduced potential range errors. In this paper, an attempt has been made for analyzing the TEC due to GPS signals during geomagnetic conditions for Indian GAGAN applications.

2. THEORITICAL BACKGROUND

The term space weather describes a variety of methods of matter and energy exchange between the Sun and surrounding space [4] [5]. Solar activity produces a large amount of matter and energy that is dispersed non-uniformly in to the solar system, while their frequency corresponds well with the level of solar activity. The matter and radiations ejected from the Sun can hit the Earth and its surrounding based on the relative positions of the Sun and the Earth. This causes the disturbances in the ionospheric and geomagnetic conditions, which are otherwise stable. The matter and radiation coming out from the Sun can interact with the Earth's magnetic (geomagnetic) field, causing disturbances in one or several of its components. Intense solar radiation cause extreme geomagnetic and ionospheric disturbances called geomagnetic and ionospheric storms, respectively [4]. The geomagnetic storms on the pre storm, storm and post storm days will drastically affect the TEC in the ionosphere and in turn effects the operation of the GPS. The variations of various parameters such as Slant TEC (STEC), Vertical TEC (VTEC), elevation angle (EA) and azimuth angle (AA) for a particular GPS Satellite Vehicle (SV) is analyzed using the real-time GAGAN data for Hyderabad station (Lat: 17.45°, Lon: 78.47°). A day is characterized as storm day based on the values of Dst, K_p and A_p indices. In this work, K_p index values are considered for identifying the storm day [6]. A day is categorized as quite, moderate, storm and severe storm days, if the K_p index value

lies in the range of $0 < K_p < 1$; $2 < K_p < 4$; $5 < K_p < 6$ and $7 < K_p < 9$ respectively.

3. EXPERIMENTAL DATA

The Indian GAGAN system includes Indian Reference Stations, Indian Navigation Land Uplink Stations, Indian Mission Control Centers, TEC stations, equipment for communication etc. There are about 17 TEC stations which are located at various locations of India for collecting TEC data (Fig.2) [10]. The INRES receives and monitor signals from GPS satellites. The INMCC receives GPS data from TEC stations and validation of these signals from each satellite is assessed. The parameters like ephemeris and clock information of the geo-stationary satellites (GEO) are developed in INMCC. All these data are sent to the Indian Navigation Land Uplink Station (INLUS) for up linking to the GEO satellites. This system is in its final operational phase and is expected to be in operation by the year 2014.

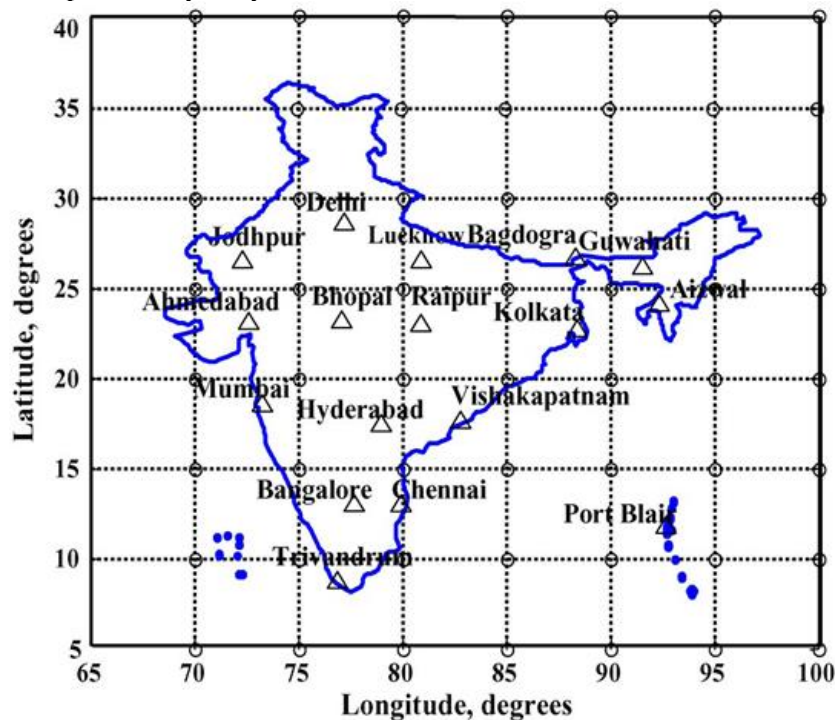


Fig - 2: 17 Indian SBAS - GAGAN TEC Station Network

4. DATA ANALYSIS

The days considered in this work are 18th March 2006 (Pre Storm), 19th March 2006 (Storm) and 20th March 2006 (Post Storm) days. The real-time data used in this work is obtained from Space Applications Center (SAC), ISRO, Ahmedabad, India. The data sampling rate is 60 seconds and the data is preprocessed and analyzed for the estimation of STEC. The SV number 4 is considered for analysis during its visibility period i.e., from 4:00 hours to 10:00 hours. The orbital period of the GPS satellite is 11 hours 56 minutes and 2 seconds. The elevation and azimuth angles of all the three days are adjusted such that they all are synchronized

with respect to time and space. The first following day (19th) is shifted forward by 4 minutes 2seconds and the next day (20th) is shifted forward by 8 minutes and 2 seconds. This is done so that a good comparative analysis can be done with respect to the VTEC and STEC values for same values of elevation and azimuth angles. Similar kind of work with performance evaluation of different ionospheric models is reported elsewhere [8].

V. RESULTS AND DISCUSSION

Fig.3 shows the sub-plots of VTEC in TEC Units, STEC in TEC Units, Elevation angle in degrees and Azimuth angle in degrees with respect to the local time 4:00 hours to 10:00 hours. From figure 2, it can be observed that the maximum values of STEC (37.99 TECU) and VTEC (16.19 TECU) at 9:30 hours, during the storm day are lower than that of pre and post storm day (Table 1).

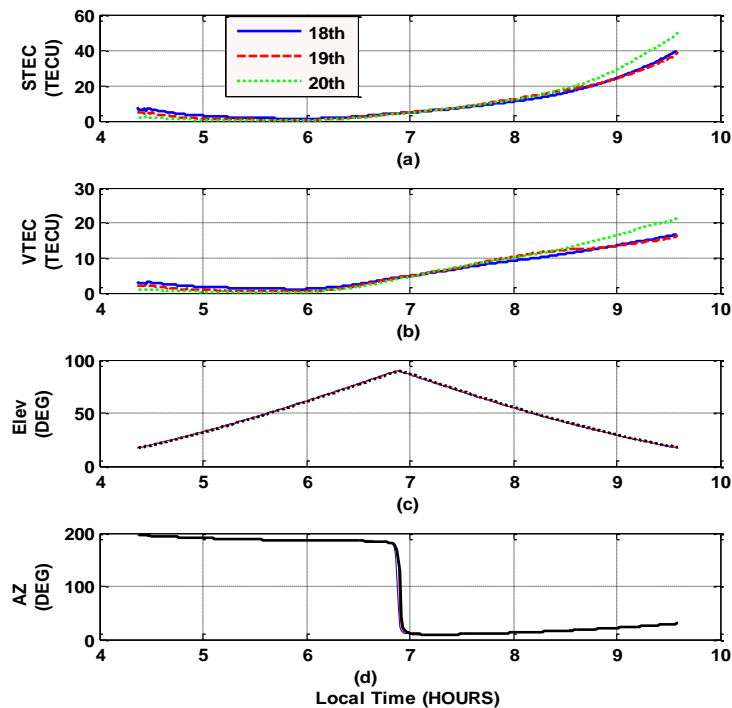


Fig 3: Variation of various parameters due to SV4 on 18th (pre storm day), 19th (storm day) and 20th (post storm day) March 2006 for Hyderabad station. (a) Local Time versus STEC, (b) Local Time versus VTEC (c) Local Time versus Elevation angle (d) Local Time versus Azimuth angle

The disturbance dynamo electric field as against the prompt penetration field is westward. But the daytime ionospheric dynamo electric field is in eastward direction. Because of this there is a suppression of Equatorial Ionization Anomaly (EIA) and consequent depletion of TEC [9]. Also, the values of STEC (49.94 TECU) and VTEC (21 TECU) at 9:30 hours are found to be maximum on the post storm day, when compared to the STEC and VTEC values on the pre and storm days. The reason for this is that the $E \times B$ drifts at equatorial region or equator ward meridional winds [10].

Table 1: Maximum and Minimum STEC and VTEC values on Pre storm, Storm and Post storm days.

Storm Period	Max STEC (TECU) at 9.30 Hrs	Min STEC (TECU) at 4.20 Hrs	Max VTEC (TECU) At 9.30 Hrs	Min VTEC (TECU) at 4.20 Hrs
Pre Storm	40	9	18	4
Storm	37.99	7	16.19	3
Post Storm	49.94	5	21	2

VI. CONCLUSIONS

Investigation of TEC due to geomagnetic storms is essential for estimating time delay for the GPS signals due to the ionospheric effects on it. In this work, it is found that the maximum values of STEC and VTEC, during the storm day are lower than that of pre and post storm day. The values of STEC and VTEC are found to be maximum on the post storm day, when compared to the STEC and VTEC values on the pre and storm days. This work can be extended to more number of visible GPS satellites and for the entire number of days in the year for better analysis.

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BOOK REVIEW

Title of the Book	: Research Methodology
Author	: D'Cottage
Name of Publisher	: Pearl Books
Year of Publication	: First Edition 2017
ISBN No.	: 978-93-83086-06-7
No. of Pages	: 267 pages
Reviewed by:	: Mir Insha Farooq

Pertinent to mention that books on Research methodology are an important source of information and guidance to students in general and Scholars in particular at Higher level education. The book written by D'Cottage is a good attempt to explore different theoretical perspectives of research methodology and guiding the readers in understanding how to conduct a research.

The first chapter of the book deals with the very basics of research, its types, and the overall process of research methodology. The process is well arranged and focuses briefly on formulating the research problem, extensive literature survey and overall development of working hypothesis. This chapter also dwells on various research designs, highlighting their important characteristics. The second through sixth chapter highlights the issues in first chapter and talk about them individually in detail. Problem identification, its importance, and various techniques involved in defining the problem are focussed in chapter second. Similarly the third chapter discusses various techniques of reviewing the literature whereas the fourth chapter focuses on the need of research designs and various issues pertaining to preparation of research designs. This chapter thoroughly discusses the different research designs. The fifth chapter explores the concept of problem based research beyond the 'know it when I see it' approach. This chapter builds a scaffold for defining 'research worthy problem' by deconstructing the expression. This chapter also places the theoretical foundation laid in to practice by examining some effective problem statements. The sixth chapter lays stress on the usual expectations from any research project. This portion covers mostly the do's and don'ts part when it comes to stating the objective for any research. The seventh chapter aims at defining the different types of sample design and steps in choosing the sample design. The eighth chapter deals with significance of the research and ninth chapter focuses on detailed explanation on Hypothesis, procedure for hypothesis. The chapter discusses the parametric and non parametric hypothesis testing. Chapter ten focuses on data collection techniques focussing questionnaires, schedules and also selection of appropriate methods for data collection. Eleventh chapter stresses upon the financial and statistical tools for measurement. The twelfth chapter states the importance of time as element of any research design. Tool of analysis is the underlying focus in chapter thirteen. In addition this chapter stresses upon various types of rating scales and their characteristics. The last chapter states the limitation of the study that impacts or influences the interpretation of the findings from your research.

The author defines research in practical, jargon-free style. And ties the model to its real-life applications, making it easy to understand. Unlike other books it doesn't combines practical explanation to explore the key issues and concepts relevant to scholars. This book provides a concise and subjective introduction to the area of research. After studying the book thoroughly, I found the book presents a good conceptual clarity for scholars. But if the same is meant for a specific class of scholars at an advanced level, then it needs to slightly enhance its content. A few issues become evident with regard to the book's emphasis on theoretical concepts but the same can be used by scholars in the very beginning of the research.

In short, much of the content has already been established in the literature and the reader may begin to worry that there's nothing new. The advanced data analysis techniques used in research is completely missing in this book.

EFFECT OF MICRONUTRIENTS ON AVAILABILITY OF MAJOR ELEMENTS IN SOIL AT GROWING STAGES IN MAIZE (ZEA MAYS) CROP**Sanjay A. Kamble**

Department of Botany, Vinayakrao Patil Mahavidyalaya, Vaijapur, Aurangabad

ABSTRACT

The present experiment was conducted to observe the availability of major elements after application of micronutrient in the soil. The experiment was conducted in Kharif season at Waghgaon, Taluka Vaijapur, Dist. Aurangabad (M.S) at growing stages of maize crop in 2016-17, to study the "Influence of Zn, Fe, B. At the growing critical stages, it was planned in randomized block design with nine treatments with three replications in growth stages and randomized block design.

The treatment consists of T_1 RDF (150:75:75 NPK kg ha⁻¹),

T_2 (RDF + ZnSO₄), T_3 (RDF + FeSO₄), T_4 (RDF + Borax), T_5 (RDF + ZnSO₄ + FeSO₄), T_6 (RDF + ZnSO₄ + Borax), T_7 (RDF + FeSO₄ + Borax), T_8 (RDF + ZnSO₄ + FeSO₄ + Borax), T_9 (RDF + Foliar application of grade II micronutrient application at 45 DAS). Results emerged out clearly indicated that nutrient availability in soil was increased due to @ 20 kg ha⁻¹ application of micronutrients. The N P and K application i.e. RDF (150:75:75 N, PZnSO₄ + FeSO₄ @ 20 kg ha⁻¹ was inferred from the results that application of RDF + Borax @ 10 kg ha⁻¹ and K₂O kg ha⁻¹ found superior.

Keywords: Micronutrients, Major Elements, Critical Growth Stages.

INTRODUCTION

Micronutrients are also called as trace elements they are essential for crop production in the present situation of soil. Maize is an important cereal crop of the world fertility and their deficiency drastically affects as well as of India. Maize crop is grown next the growth, metabolism and reproductive to wheat and rice in the world. In India, it is phase of crop plants, animal and human cultivated over an area of 92.32 lakh hectares beings. Micronutrient deficiencies in crop with an annual production of 236.73 lakh plants are widespread because of increased tonshaving an average productivity of more micronutrient demand from intensive cropping than 2564 kg ha⁻¹.

In Maharashtra it occupies practices and adaptation of high-yielding crop an area of 10.59 lakh hectares with total cultivars, enhanced crop production on production of 22.03 lakh tons having marginal soils that contain low levels of average productivity of more than essential micronutrients, increased use of high 2080 kg ha⁻¹ analysis fertilizers with low amounts of micronutrients, decreased use of animal manures, composts and crop residues, use of soils low in micronutrient reserves, use of liming in acid soils, involvement of natural and anthropogenic factors that limit adequate supplies and create elemental imbalance in soil Fragaria et al., (2002). Shukla and Behera (2011) reported that as much as 48, 12, 5, 4, 33, 13 and 41 per cent soils in India are affected with deficiency of Zn, Fe, Mn, Cu, B, Mo and S respectively.

In India, the trends of micronutrient deficiencies are now changing. Instead of single nutrient deficiency, cluster of micronutrient deficiencies are emerging fast in vast areas. This suggests that increasing multi-micronutrients deficiencies in soil and crops not only affect the crop productivity, but also create malnutrition and health problems. In experiments with rice-wheat, sesame-wheat, pigeon pea-wheat, maize-wheat, groundnut wheat and sorghum (Fodder)wheat cropping systems, the addition of S + Zn + B in balanced fertilization schedule increased N,P and K utilization efficiency which highlights the role of micronutrients in enhancing macronutrient use efficiency. Based on the results of large number of field trials (4144), Katyal (1985) concluded that at least in two out of three experiments, treatment with Zn fertilizer was necessary to derive optimum benefit from NPK fertilizers.

Micronutrients are trace elements which are needed by the maize crop in small amounts and play an active role in the plant metabolic functions in shortage of which show deficiency symptoms and crop yields are reduced, they are therefore to be added into the soil before crop planting or applied directly to the crop to increase maize productivity. Adhikari et al., (2010) revealed in order to evaluate the effects of micronutrients (B, Zn, Mo, S and Mn) on the grain production of maize (var. Rampur Composite)., Maize Research Program (NMRP), Rampur. The highest grain yield (5.99 t ha⁻¹) was recorded with the crop which was supplied with all micronutrients (B, Zn, S, Mn and Mo applied in combination with NPK fertilizers at 120:60:40 kg ha⁻¹ which produced almost 171 % higher grain yield than those with control plot (2.21 t ha⁻¹) and 3.78 t ha⁻¹ of additional grains over NPK treated crop

MATERIALS AND METHODS

The experiment was conducted during Kharif 2017-18 at Waghlgaoon, Taluka Vaijapur, Dist. Aurangabad (M.S). The experiment was conducted to study the effect of Zn, Fe and B on nutrients availability at critical growth stage of maize crop planned in randomized block design with nine treatments with three replications. The chemical composition of experimental plots indicated that the soil was low in available nitrogen (126 kg ha^{-1}), high in available phosphorus (26.40 kg ha^{-1}), very high in available potassium ($540.26 \text{ kg ha}^{-1}$) and alkaline having pH 8.4. The concentration of zinc, iron and B in experimental plots was 0.3 ppm, 2.3 ppm and 0.7 ppm respectively. The dose of the NPK along with Zn, Fe and B for maize was worked out according to the present recommendation of maize hybrids in Marathwada region. The 100% NPK dose in kg ha^{-1} worked out was 100:75:75 NPK kg/ha for maize crop. The doses for zinc, iron and boron were framed by applying ZnSO_4 @ 25 kg ha^{-1} , FeSO_4 @ 25 kg ha^{-1} and borax @ 10 kg ha^{-1} , respectively. Fertilizer application was made as per the treatments. Full dose of phosphorus, potash and half dose of nitrogen were applied at sowing as basal application. The remaining dose of nitrogen was top dressed at 30 DAS depending upon the occurrence of rains. Full dose of zinc, iron and boron were applied at sowing.

Maize variety Markiv-6202 (Hybrid) was sown at the seed rate of 15 kg ha^{-1} at spacing of $60 \text{ cm} \times 20 \text{ cm}$. Shallow furrows were opened and seeds were sown manually by using dibbling method at the depth of 5 cm. The sample from each plot was collected from a depth of 0-30 cm at the time of sowing and at harvest. The sample was air dried in shade. The remaining soil sample was ground using wooden pestle and mortar and passed through 2 mm sieve, and then cleaned sample was preserved in polythene bags for further analysis. Available nitrogen in soil was estimated by alkaline permanganate oxidation methods, available phosphorus was estimated by using 0.5 M NaHCO_3 . The potassium content in the extract was determined by flame photometer, Available zinc and iron content in soil was extracted with DTPA (Diethylene Triamine Penta acetic Acid) reagent and Available boron in the soil was extracted by the procedure of Berger and Truog.

RESULTS AND DISCUSSION

1. Available N

The data in Table 1 revealed that significantly highest availability of N at tasseling stage $192.17 \text{ kg ha}^{-1}$, cob initiation $168.12 \text{ kg ha}^{-1}$ and harvesting stage $157.12 \text{ kg ha}^{-1}$ was found in T8 which was at par with treatment T5, T6, T7 and T9. The decline in the available N status of the soil might be attributed to the utilization of N for growth of maize (Brar et al., 2006). Elayaraja et al., (2014) reported that application of Zinc sulphate at 30 kg/ha + RDF to groundnut increased nitrogen availability in soil

Available P2O5

The data in Table 1 revealed that significantly highest Availability of P at tasseling stage 49.11 kg ha^{-1} , cob initiation stage 43.42 kg ha^{-1} and at harvesting stage 38.14 kg ha^{-1} was found in T8 which was at par with T9. Rao and Shukla (1996) reported that application of micronutrients increased the P availability in sandy clay loam soil. The increased rates of it decreased the P availability (Nayak and Gupta, 2002).

Available K2O

The data in Table 1 revealed that significantly highest availability of K at tasseling stage $601.18 \text{ kg ha}^{-1}$, cob initiation stage $585.29 \text{ kg ha}^{-1}$ and harvesting stage $566.30 \text{ kg ha}^{-1}$ was found in treatment T8 which was at par with treatment T5, T6, T7 and T9. Latha (2001) observed that the availability of K in the soil was significantly increased by zinc nutrition, highlighting the positive interactive effect between Zn and K. Application of $25 \text{ kg ZnSO}_4 \text{ ha}^{-1}$ registered the highest values for available K in the soil at maize harvest. Dhakshinamoorthy (1977) reported that available K increased with increased levels of Zn up to 10 mg kg^{-1} , beyond that level, there was a decrease of available K content in soil.

Available Zn

The data in Table 2 revealed that significantly highest availability of Zn at tasseling stage 1.53 mg kg^{-1} , 1.29 mg kg^{-1} and harvesting stage 1.37 mg kg^{-1} found in T8 which was at par with treatment T9. Khurana et al., (2002) observed a spectacular response of maize to Zn and Fe application. Dangarwala et al., (1983) reported that the combined application of 1 kg B along 5 kg Zn ha^{-1} exhibited higher available Zn (0.87 to 2.93 mg kg^{-1}). According to Gayatri and Mathur (2007) the application of 100 % NPK + Zn increased the Zn content of soil by 4.94 per cent over 100 % NPK alone at the harvest of maize.

Available B

The data in Table 2 revealed that the significantly highest availability of B at tasseling stage 1.24 mg kg^{-1} , cob initiation stage 1.21 mg kg^{-1} and at harvesting stage 0.91 mg kg^{-1} whereas lowest availability of B was found in treatment T1. Similar result found by Chaudhary and Shukla (2004) in arid soils of western Rajasthan. Das

(2000) reported that the amount of DTPA extractable Fe and Mn was found to decrease with B application while that of Cu and Zn increased with B application. Renukadevi (2000) reported that the application of 1 kg B along 5 kg Zn ha⁻¹ increased the B availability from 0.31 to 0.54 mg kg⁻¹. Nirmale (1991) reported that the available boron ranged from 0.18 to 0.37 mg kg⁻¹ in soil. There was steady decrease with depth showing relatively more accumulation of available boron at surface layers.

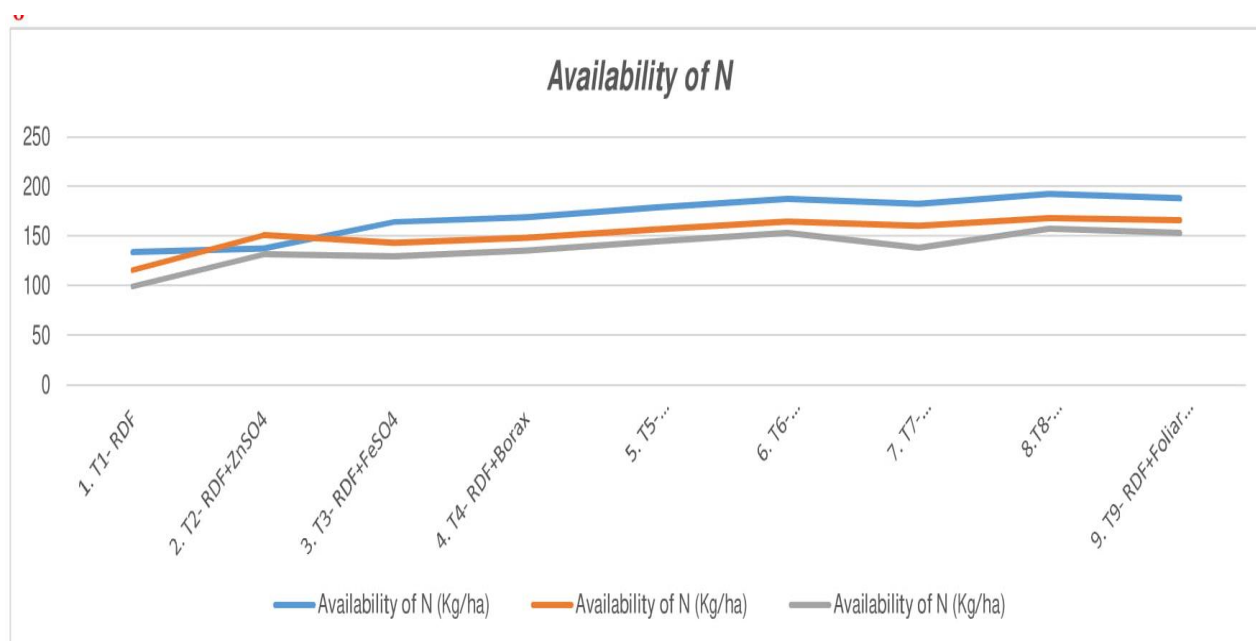
Available Fe

The data in Table 2 revealed that significantly highest availability of Fe at tasseling stage 3.85 mg kg⁻¹, cob initiation stage 3.49 and at harvesting stage 3.22 mg kg⁻¹ was found in treatment T8 which was at par with treatment T5, T6, T7 and T9 whereas lowest availability of Fe was found in treatment T1. The lowest availability of Fe (2.70 mg kg⁻¹) was found in treatment T1. Similar results were found by Reddy et al., (2007) on pigeon pea. Gupta (1994) reported that addition of NPK along Zn increased the available Zn, Fe, Mn and Cu as compared to control.

In conclusion influence of Zn, Fe and B application on nutrient availability in soil at critical growth stages of maize concluded that nutrient availability of nitrogen, phosphorous, potassium and micronutrients in soil increased with the application of RDF + ZnSO₄ + FeSO₄ + Borax.

Table-1: Effect of Zn, B and Fe on Availability of N P₂O₅ and K₂O in soil at different critical growth stages of maize

Treatments	Availability of N (Kg/ha)			Availability of P ₂ O ₅ (Kg/ha)			Availability of K ₂ O (Kg/ha)		
	At Tasseling	At Cob initiation	At harvesting	At Tasseling	At Cob initiation	At harvesting	At Tasseling	At Cob initiation	At harvesting
1. T ₁ - RDF	133.92	115.83	99.41	25.90	19.81	18.23	530.10	501.23	488.90
2. T ₂ - RDF+ZnSO ₄	137.77	150.86	131.90	35.93	27.82	25.11	548.46	521.79	512.90
3. T ₃ - RDF+FeSO ₄	164.91	143.21	129.92	36.80	24.42	22.19	542.50	522.39	519.82
4. T ₄ - RDF+Borax	169.21	148.29	135.56	38.28	28.81	25.80	570.02	548.52	540.18
5. T ₅ - RDF+ZnSO ₄ +FeSO ₄	178.95	156.96	144.52	41.77	35.25	28.72	559.89	538.59	526.90
6. T ₆ - RDF+ZnSO ₄ +Borax	187.81	164.30	152.99	45.51	37.14	31.70	577.94	553.49	544.78
7. T ₇ - RDF+FeSO ₄ +Borax	182.19	160.36	138.01	42.37	35.41	28.80	572.90	550.23	540.34
8. T ₈ - RDF+ZnSO ₄ +FeSO ₄ +Borax	192.17	168.12	157.12	47.44	43.42	38.14	601.18	585.29	566.30
9. T ₉ - RDF+Foliar application of Micronutrients	187.98	165.98	152.98	49.11	42.29	33.52	593.90	576.60	562.81
Mean	170.55	152.66	138.04	40.34	32.71	28.72	566.32	544.23	533.66
SD	21.58	16.20	17.52	7.11	8.02	6.03	23.47	26.78	24.49



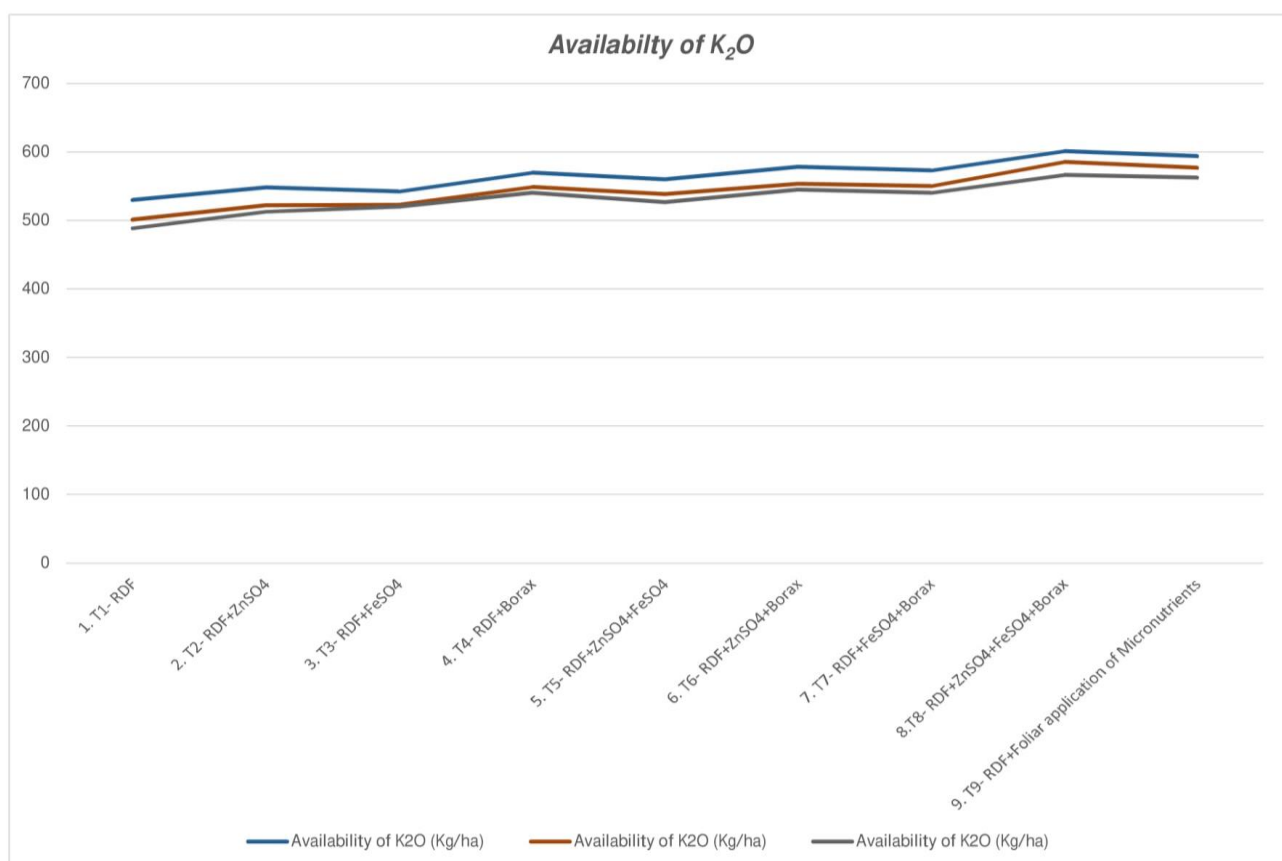
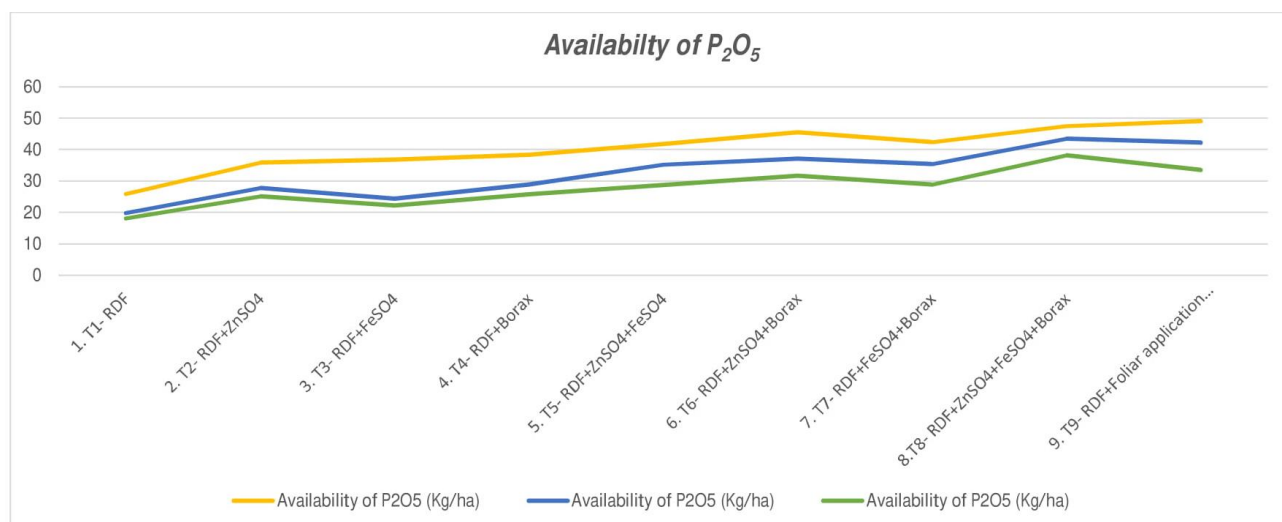
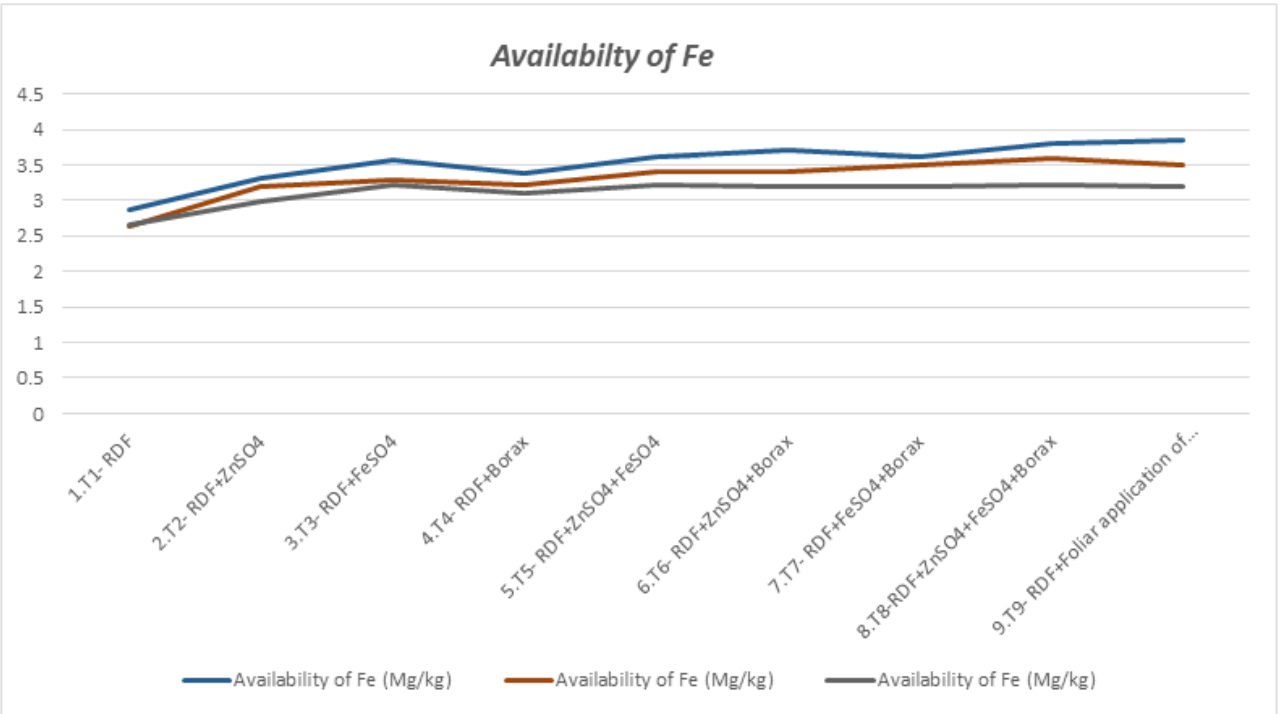
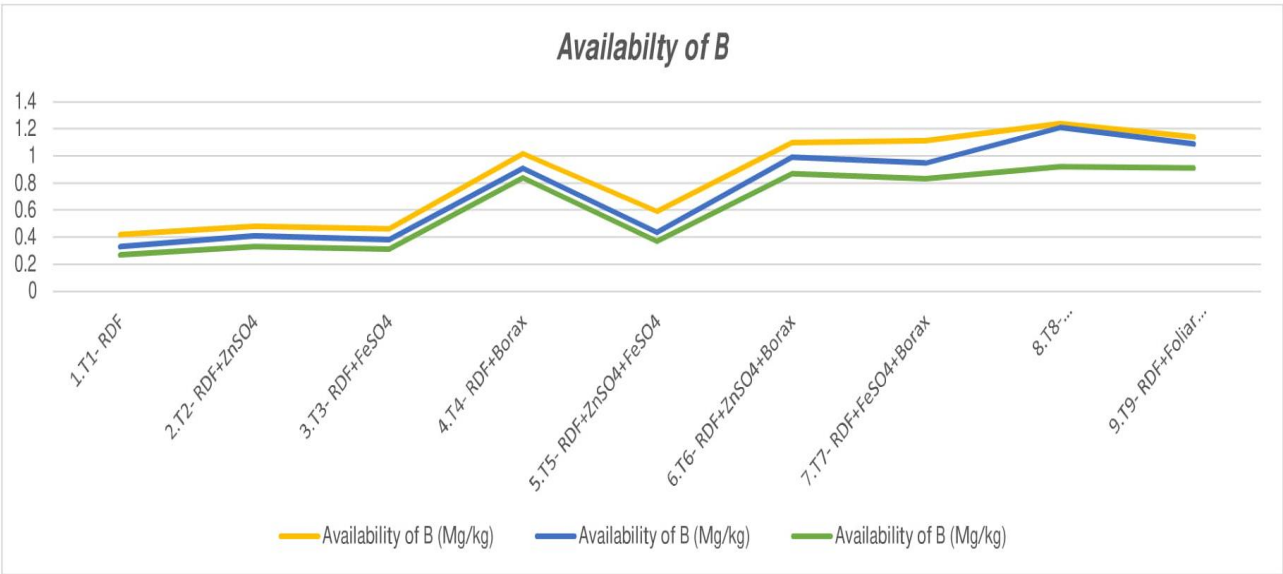
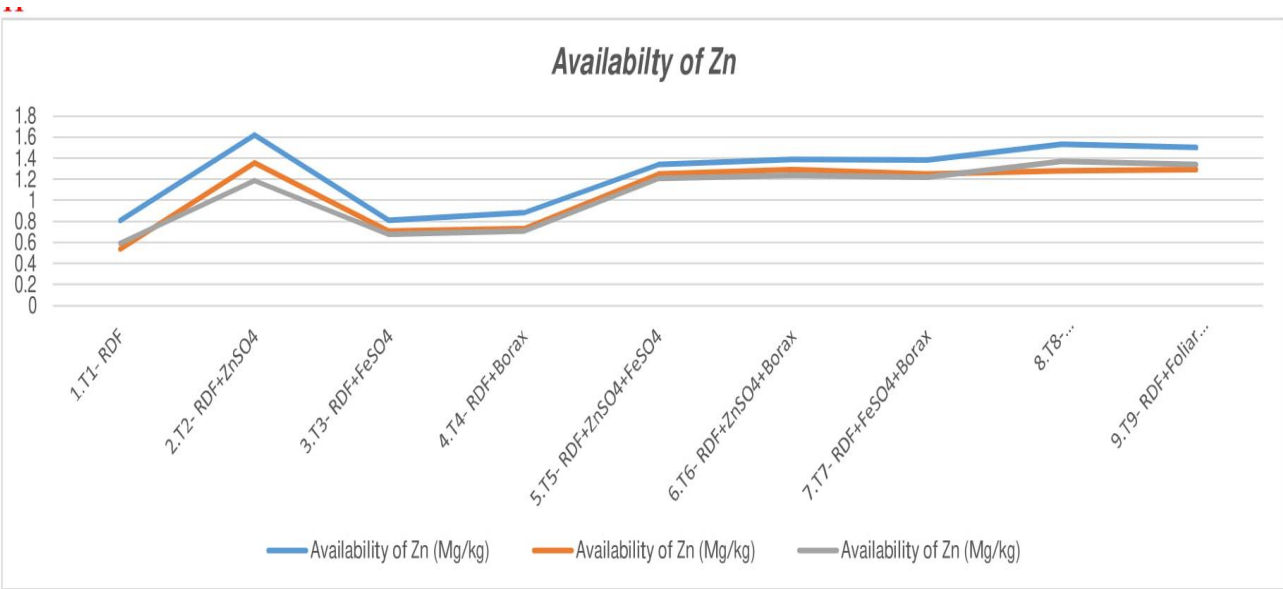


Table-2: Effect of Zn, B and Fe on Availability of Zn, B and Fe in soil at different critical growth stages of maize

Treatments	Availability of Zn (Mg/kg)			Availability of B (Mg/kg)			Availability of Fe (Mg/kg)		
	At Tasseling	At Cob initiation	At harvesting	At Tasseling	At Cob initiation	At harvesting	At Tasseling	At Cob initiation	At harvesting
1. T ₁ - RDF	0.81	0.54	0.59	0.42	0.33	0.27	2.87	2.63	2.65
2. T ₂ - RDF+ZnSO ₄	1.62	1.36	1.19	0.48	0.41	0.33	3.31	3.19	2.98
3. T ₃ - RDF+FeSO ₄	0.81	0.71	0.68	0.46	0.38	0.31	3.57	3.28	3.21
4. T ₄ - RDF+Borax	0.88	0.73	0.71	1.02	0.91	0.84	3.38	3.21	3.11
5. T ₅ - RDF+ZnSO ₄ +FeSO ₄	1.34	1.25	1.21	0.59	0.44	0.37	3.61	3.40	3.22
6. T ₆ - RDF+ZnSO ₄ +Borax	1.39	1.29	1.24	1.10	0.99	0.87	3.70	3.41	3.19
7. T ₇ - RDF+FeSO ₄ +Borax	1.38	1.25	1.22	1.11	0.95	0.83	3.62	3.49	3.20
8. T ₈ -RDF+ZnSO ₄ +FeSO ₄ +Borax	1.53	1.28	1.37	1.24	1.21	0.92	3.80	3.59	3.21
9. T ₉ - RDF+Foliar application of Micronutrients	1.50	1.29	1.34	1.14	1.09	0.91	3.85	3.49	3.19
Mean	1.25	1.08	1.06	0.84	0.75	0.63	3.52	3.30	3.12
SD	0.33	0.32	0.31	0.34	0.35	0.29	0.30	0.28	0.19



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SMALL AND MEDIUM SCALE ENTERPRISES IN INDIA IN THE ICT ERA: STRATEGIES FOR THEIR ENHANCED PRODUCTIVITY AND COMPETITIVENESS**Anu Varghese¹ and Dr. Manoj P K²**¹Alathara House, Chaithanya Nagar, Thaikattyukara P O, Aluva, Ernakulam, Kerala²Lecturer, Department of Applied Economics, CUSAT, Kochi, Kerala**ABSTRACT**

Small and Medium Scale Enterprises (SMEs) are supposed to be the backbone of Indian economy – one of the fastest growing emerging economies of the world. In the ongoing era of economic deregulation and globalization, SMEs have to play a more important role, particularly when the industrial sector in general and the manufacturing segment within it in particular are showing a general stagnancy in growth over the two decades. It is largely recognized that manufacturing sector particularly the SME component within it, if properly revamped, can act as the growth engine for Indian economy. This is because, though majority of the population in India has to depend on agriculture for livelihood, the share of agriculture to the national GDP is fast declining and so does the employment offered by this sector. Because of the continued stagnancy in the industrial sector, particularly the manufacturing sub-sector, and also the constantly declining performance of the agricultural sector, there exists a very disappointing trend in the relative growth rates of the three major sectors viz. services, industries, and agriculture. In fact, the contribution of the industry sector to GDP has been stagnant at about 27 percent between 1991 and 2006. Of this 27 percent, the share of the manufacturing has been static at about 17 percent which is quite low as per the international standards. For Indian economy to exhibit a balanced, stable and sustainable growth it is highly imperative that Indian manufacturing, most importantly the SME segment, has to grow phenomenally primarily through improving its competitiveness in terms of costs and quality. Accordingly, in a TRIPS-compliant and globalized regime the need for enhancement of productivity and competitiveness of SMEs assumes tremendous significance. In this era of Information and Communication Technology (ICT), this in turn requires the adoption of advanced manufacturing technologies (AMTs), modern manufacturing philosophies like lean manufacturing, cluster approach for mutual benefits units in the same industry etc. So also, innovation of products and processes on an ongoing basis, use of appropriate technologies, exploring the export markets and the like need added attention in the days to come. In this context, this paper looks into the macro level strategies that can help fast revival of the Indian SME sector by improving its competitiveness, thus facilitating balanced economic development given the surge in the services sector. The paper discusses the current scenario in respect of SMEs, the trend over the years, major international practices and developments in the field and finally suggests a few strategies for their enhanced productivity and competitiveness.

Keyterms: SMEs, Competitiveness, ICT, Innovation, Advanced Manufacturing Technologies.

1. INTRODUCTION

In the ongoing era of economic deregulation initiated in India in the early nineties, there has been quite a large number of favourable developments. The economic growth rate of India economy has been one of the highest among all emerging economies and also such factors as external debt, foreign exchange reserves, resilience of the financial and banking sector etc. Given the current pace of economic growth and also the generally favourable macro economic environment, it is widely believed that India will join the league of developed nations in the near future. In spite of all of these, there are certain adverse aspects also. These include, most importantly, a general stagnancy in the industrial sector (which in turn primarily comprises of the manufacturing sector) leading to growing imbalance in the economy, with the services sector growing fast while the agricultural sector is fast declining. Because, the share of industrial sector to the overall GDP of the nation has been hovering at 27 percent for the last two decades or so. So also, manufacturing sub-sector – the most prominent constituent of the industrial sector has been stagnant at about 17 percent over these years. Despite clear indications of revival of Indian industry (particularly manufacturing) since 2006, it is noted that urgent and focused attention is required in the case of manufacturing sector to maintain and improve the current pace of growth by reducing the growing imbalance among the different sectors. In this context, the role of Small and Medium Scale Enterprises (SMEs), a major constituent of the manufacturing sector and the backbone of the economy, in deciding the fortunes of this emerging economy need not be overemphasized. So, the development of Indian economy depends largely on the performance of SME sector. It is largely recognized that manufacturing sector particularly the SME component within it, if properly revamped, can act as the growth engine for Indian economy.

2. OBJECTIVES OF THE PAPER

- (i) To study the sectoral contribution of the sectors of the economy to the total GDP, growth imbalances between them, and the need for thrust on the manufacturing segment;
- (ii) To study in detail Indian manufacturing sector with a focus on SMEs, the performance of SMEs and the need for greater productivity and competitiveness for the SMEs; and
- (iii) To suggest strategies for greater productivity, innovativeness and competitiveness of the SMEs in India in the ongoing reforms era characterized by fast ICT adoption.

3. METHODOLOGY OF THE STUDY

The study is descriptive-analytical in nature. It is based primarily on secondary data that are available from authentic sources, like, the publications of the Govt. of India and various governmental bodies like NMCC, and also those of RBI, World Bank etc.

4. RELEVANCE AND SIGNIFICANCE OF THE STUDY

The imbalance between the different sectors of Indian economy in respect of their relative share to the national GDP has been an issue of utmost significance for the last so many years. The situation is worsening year after year; with the share of industries remaining rather stagnant over the years, while that of agriculture declining significantly every year and that of services growing fast. Though, of late, there are indications of a revival in the industrial sector there is no scope for complacency since its share is still very poor in the overall GDP. This in turn has resulted in growing imbalance between the major sectors calling for urgent policies to correct it. (Table I)

Table-I: Pattern of Sectoral Composition of GDP (at Factor Cost) in India. (Percentage)

Financial Year	Agriculture	Industry	Services	Total GDP
FY 1950-51	59.60	14.50	25.90	100
FY 1960-61	55.10	17.30	27.60	100
FY 1970-71	48.50	20.70	30.80	100
FY 1980-81	41.50	21.60	36.90	100
FY 1989-90	33.90	27.00	39.10	100
FY 1991-92	26.70	31.30	42.00	100
FY 2002-03	21.90	25.90	52.20	100
FY 2003-04	22.20	25.80	52.00	100
FY 2004-05	20.80	26.00	53.20	100
FY 2005-06 ^{QE}	19.90	26.10	54.00	100
FY 2006-07 ^{RE}	18.50	26.40	55.10	100

Source: (1) Govt. of India, Ministry of Finance, *Economic Survey* (Issue till 2006-'07), New Delhi

- (2) CSO, Govt. of India [Note: QE: Quick Estimates, RE: Revised Estimates]

It may be noted that the share of industries sector to the national GDP has been hovering at about 27 percent over the last two decades or more. Of this, the share of manufacturing sub-sector has been roughly about 17 percent throughout. However, going by international standards, this share of manufacturing sector may be observed to be quite low, as is evident from the comparative figures relating to some of the East Asian economies. (Table II).

Table-II: Share of Manufacturing in GDP of select East Asian Economies.

Malaysia (2002)	Thailand (2002)	China (2002)	Mexico (2002)	India (2003)
31	34	35	19	17

Source: World Development Indicators 2004

For a sustained and balanced growth of the economy at the targeted level of 8 to 10 percent, a careful balance has to be maintained between the three major segments of the economy viz. agriculture, industry and services; or, in other words, there has to be a balancing between "farm, factory and services". The manufacturing sector in India grew only at an average of 6.3 percent during 1991 to 2003 as against 12 percent in China. In India, manufacturing sector (which currently provides employment to just about 12 percent of the population) has to carry the major burden of increasing employment opportunities in the coming decades directly or indirectly; particularly to meet the huge unemployment that is likely to arise in rural and agricultural sectors. For instance, by 2025 the total proportion of workforce involved in agriculture is likely to decline from 56 percent (as of 2005) to 40 percent; and this in turn would call for substantial non-farm employment opportunities. Further,

from the 1990s the employment intensity of the growth process in India is on the decline and accordingly the employment elasticity has been falling constantly from 0.59 (between 1983 to 1987) to 0.38 (between 1983 to 1993) and further to 0.33 (between 1993 to 1999); showing a rising pattern of capital intensity and labour productivity. Government of India has set up the National Manufacturing Competitiveness Council (NMCC) in 2004 as one of the instruments to help achieve this balanced and accelerated growth of the economy. To attain the targeted GDP growth rate of 8 to 10 percent as mentioned above, NMCC estimates that the share of manufacturing should be raised to the level of 30 to 35 percent by 2020. NMCC suggests that the decade 2006-2015 be treated as the Decade of Manufacturing for India and India should target a growth rate of 12 to 14 percent during the period, so as to improve its contribution to GDP to the level as mentioned above. Thus, manufacturing sector has got a very vital role to play in the Indian economy in the days to come. Fast revival of manufacturing is essential for correcting the above imbalance in the allocation of manpower and hence achieving enhanced productivity and rapid economic development. In short, robust growth in manufacturing is an imperative for creation of better employment possibilities as well as overall economic growth and development. Because of the favourable macro economic environment and conducive policy decisions of the Government, there has been clear indications of a revival of the Indian industrial sector, particularly the manufacturing sub-sector. (Table III)

Table-III: Industrial and Manufacturing Outputs–Gradual Rise (Percent) (Year on Year)

Particulars	FY 2003-'04	FY 2004-'05	FY 2005-'06	FY 2006-'07
Overall Industrial Output	7.0	8.4	8.2	11.3
Manufacturing Output	7.4	9.2	9.1	12.3

Source: Estimates of Central Statistical Organization (CSO)(2007) and NMCC (2007).

In the Indian context, it is clear that superior performance of manufacturing can considerably enhance industrial growth and hence the economic growth. For instance, as is evident from Table III, during the fiscal 2006-'07, the surge in manufacturing could push the growth rate of industrial production to double digits from 8.2 percent (2005-'06) to 11.3 percent (2006-'07); the growth rates in respect of the manufacturing component during the said periods being 9.1 percent and 12.3 percent respectively. For Indian economy to exhibit a balanced, stable and sustainable growth it is highly imperative that Indian manufacturing, most importantly the SME segment, has to grow phenomenally primarily through improving its competitiveness in terms of costs and quality. Accordingly, in a TRIPS-compliant and globalized regime the need for enhancement of productivity and competitiveness of SMEs assumes tremendous significance.

5. SIGNIFICANCE OF SMALL AND MEDIUM SCALE ENTERPRISES IN INDIA

Small and Medium Scale Enterprises (SMEs) have got a strategic role to play in the economic and social development of the developing countries like India. They have been considered as a powerful instrument for realizing the twin objectives of (i) “industrialization of a country”, and (ii) “creating employment opportunities” in rural and backward areas. In fact, they contribute significantly to the national economies the world over and are often considered to be the “engine of growth” in most of the developed and industrialized countries. That is why E.F. Schumacher has commented, “small is beautiful”. The ongoing process of economic deregulation in India since 1991 has created many opportunities for the growth of SME sector. At the same time, there have been a number of challenges as well. Further, in the recent phase of globalization particularly since introduction of Special Economic Zones in India (through SEZs Act 2005) each and every sector of the Indian economy is in the process of being integrated in with the world market. The SME sector has also been exposed to the challenges of globalization increasingly day by day. This sector could achieve enhanced and sustained growth by increasing technological capabilities as well as creating and maintaining sustained competitive advantages in the environment of increased competition and rapid technological changes. In many Asian countries industrialization has not succeeded in achieving the intended objectives of absorbing surplus labour, alleviating poverty and bringing about a regional balanced growth, primarily because of the inadequate attention paid to sectors like SMEs, rural and agriculture.

The definition of small industries differs from country to country depending upon their historical conditions and economic growth. Generally, all these definitions are based upon certain determining factors such as size of enterprise, number of persons employed, investment pattern, energy, input, location, production, technology, and market orientation. Earlier, the government of India had grouped small scale industries (SSIs) (from the year 2006, however, “MSMEs” is the term used ie. micro, small and medium enterprises) into two categories viz. (i) those using power but employing less than 50 persons, and (ii) those not using power and employing less than 100 persons. However, in most of the cases, investment pattern is taken as the basis of distinction between large and small-scale industries. The definition of small scale units in India has undergone so many

changes over the years, investment being the primary consideration behind such definitions. Way back in 1966, small scale enterprises were defined as undertakings with a fixed capital investment of less than Rs.7.5 lakhs and ancillaries with a fixed capital investment of Rs.10 lakhs. Subsequently, in the years 1975, 1980, 1985, 1990, 1997, 2000 and finally in 2006 the definition has been changed based on the investment ceilings. (Definitions till 1990 have been omitted here). In 1997, based on the recommendations of Abid Hussain Committee, the Government has raised the investment limit on plant and machinery respect of small and ancillary units to Rs. 3 crore (from Rs.60 lakhs and Rs.75 lakhs respectively as was applicable till then), and to Rs.25 lakhs (from Rs.5 lakhs) in respect of tiny units. In 2000, the Government has reduced the investment limit to Rs. 1 crore (from Rs. 3 crore as above) while the limit of Rs. 25 lakhs for tiny units were retained as such. The latest definition is as per the Micro, Small and Medium Enterprises Development Act, 2006. (MSMED 2006). (Box I).

Box I: Definition of SMEs as per the MSME Development Act, 2006 (MSMED 2006)

I. Manufacturing / Production of Goods: (based on investment in plant and machinery)

- (1) Micro Enterprises: Investment up to 25 lakh,
- (2) Small Enterprises: Investment above 25 lakhs and up to Rs 5 crore.
- (3) Medium Enterprises: Investment above Rs. 5 crore and up to Rs. 10 crore.

II. Services: (based on investment in plant and machinery)

- (1) Micro Enterprises- Investment up to 10 lakh
- (2) Small Enterprises – Investment above 10 lakh and up to Rs. 2 crore
- (3) Medium Enterprises – Investment above Rs. 2 crore and up to Rs. 5 crore.

Source: MSMED, 2006

6. FALLING GOVERNMENTAL PROTECTION AND PERFORMANCE OF SMES: SOME APPREHENSIONS

The Government continued to provide protection to the small-scale sector, inter-alia through the policy of reserving items for exclusive manufacture in the small-scale sector during the pre-reforms era. Government of India had been encouraging and supporting these units through deliberate policies such as protection from large-scale industries, capital subsidies, different tax treatment, reservation etc. For instance, the policy for reservation was introduced in 1967, which received a proper statutory backing in 1984. While only 47 items were reserved for the SSI units in the year 1967, the same increased to as high as 873 in 1984. But, during the post reforms regime, the policy of the Government has been one of de-reservation. As per the Abid Hussain Committee's report submitted in 1997 the Government has reduced the number of reserved items. As of January 2007, there are only 239 items in the list of reserved items. Of late, the logic of reserving items for domestic production exclusively in the small-scale sector in the deregulated regime has been questioned based on the plea that such products can be freely imported from abroad or produced in SEZs. Further, it is also argued that such a policy would prevent the small units from growing big and hence benefiting from the economies of scale. All these developments underline the utmost significance of enhancing the competitiveness of SMEs in order to survive and grow.

Small industry sector has performed exceedingly well and enabled our country to achieve a wide measure of industrial growth and diversification. This sector has contributed immensely towards the industrial development of India. This sector produces about 8000 products. It contributes about 40 percent to the industrial production and 35 percent to the direct exports of the country. It provides employment to around 29.5 million people in the rural and urban areas of the country ie. about 80 per cent of total work force in India. It shares 14.2 per cent of the net bank credit. The sector produces a variety of products ranging from traditional to hi-tech. Even though the volume of production of this sector is very large, the qualities of products, productivity, energy consumption and environmental effects have always been a concern. These concerns have accentuated with the opening of the economy where productivity and quality play a major role for the survival of small-scale industries. This sector accounts for 55 per cent of the total private sector production. But, the Budget allocation to this sector of the country is just 10 per cent. Table IV shows the performance of SMEs over the four years ended FY 2005-'06.

Table-IV: Performance of Small and Medium Scale Enterprises in India. (Rs in Crores)

Particulars	FY 2002-'03	FY 2003-'04	FY 2004-'05	FY 2005-'06
No of units (Million) of which Registered	10.95 (04.1) 09.36	11.40 (04.1) 09.70	11.90 (04.4) 10.10	12.30 (03.4) 10.47
Value of Output (1999-2000 prices)	2,10,636 (07.7)	2,28,730 (08.6)	2,51,511 (10.0)	2,77,668 (10.4)
Employment (million persons)	26.02 (04.40)	27.14 (04.30)	28.26 (04.10)	29.49 (04.40)
Exports from SMEs	86,013 (20.7)	97,644 (13.5)	1,24,417 (27.4)	NA

Source: Development Commissioner (SMEs) cited in *Annual Report 2006-'07* (of NABARD)

The outstanding features of Indian SMEs are basically, low capitalization, high mortality, high employment potential, balanced development of all the regions of the country, poor access to capital markets, high risk perception leading to high borrowing cost, source of new products and innovations, the final products of SMEs cater to mostly the basic needs of the majority of population, and good export potential exists for SME products.

7. NEED FOR ENHANCED COMPETITIVENESS AND PRODUCTIVITY OF SMES IN INDIA: A STUDY

In this era of globalization, as the world economies are fast getting integrated each other through forces of globalization, the key to robust growth of manufacturing for an emerging economy like India lies in its competitiveness. India has got comparative advantage in many respects, like, experienced and English-speaking technical manpower, large pool of scientists, engineers and managers, reasonable endowment of natural resources and after all a very large domestic market. Though the potentialities of India are large enough to emerge as a manufacturing hub for the globalized world, the same can be materialized only with improvement in the competitiveness of the industry, particularly that of manufacturing. For enhanced competitiveness of manufacturing, the productivity needs to be improved which in turn largely depends on innovation – the driver of productivity. The position of India in respect of competitiveness has been improving over the last few years. Among the BRIC (Brazil, Russia, India and China), India has got the highest position in respect of competitiveness. It was the only country in this group to improve its position in 2006 from that of 2005. The Global Competitiveness Index (World Economic Forum) of the BRIC countries for 2005 and 2006 points to the above fact. (Table V). The latest (2007) Global Innovation Index (GII) developed by INSEAD and World Business shows a similar picture regarding the status of BRIC countries in innovation (Table VI)

Table-V: Global Competitiveness Index (World Economic Forum) of “BRIC” Countries (Ranks)

Name of the Country	2005	2006 (& Relative Change)
India	45	43 (+2)
China	48	54 (-6)
Russia	53	62 (-9)
Brazil	57	66 (-9)

Source: Official Website of National Manufacturing Competitiveness Council (NMCC), GOI.

Table-VI: Global Innovation Index (GII) (INSEAD) of “BRIC” Countries (2007)

Rank (GII of INSEAD)	Name of the Country (BRIC)	Score
23	India	3.57
29	China	3.21
40	Brazil	2.84
54	Russia	2.60

Source: Dutta, Sumitra., INSEAD, and Caulkin, Simon., “The world’s top innovators”, *Indian Management*, Vol. 46, Issue 3, March 2007, p. 76.

Further, of the eight pillars of innovations underlying the INSEAD GII [viz. (i) institutions and policies, (ii) human capacity, (iii) infrastructure, (iv) technological sophistication, (v) business markets and capital, (vi) knowledge, (vii) competitiveness, and (viii) wealth], in respect of one pillar viz. competitiveness, India ranks fifth and is close to some of the most advanced nations of the world. (Table VII). In respect of none of the other seven pillars, however, India is occupying any of the first five ranks.)

Table-VII: Pillar of Competitiveness of GII (INSEAD) of “BRIC” Countries (2007).

Rank (GII of INSEAD)	Name of the Country	Score
01	US	6.48
02	Germany	5.47

03	Japan	4.92
04	UK	4.81
05	India	4.71

Source: Dutta, Sumitra., INSEAD, and Caulkin, Simon., "The world's top innovators", *Indian Management*, Vol. 46, Issue 3, March 2007, p. 74.

From the foregoing discussions, it is evident that in India the performance of the industrial output in general and manufacturing output in particular have been gradually improving over the years. So also, the competitiveness of India vis-à-vis other countries of the world, particularly the BRIC countries has been on the rise. However, there is no scope for complacency because it is essential that the above pattern needs to be sustained and further strengthened many fold in the days to come, in view of the utmost rapidity of the developments especially the ever increasing competition in globalized markets. Further, as noted earlier, except for one parameter viz. competitiveness, India's position as of now is not comparable internationally in respect of innovation.

8. STRATEGIES FOR THE ENHANCED COMPETITIVENESS AND PRODUCTIVITY OF SMES IN INDIA

Innovation holds the key to increasing productivity, and productivity gains hold the key to improved economic growth and standard of living. Further, by improving productivity alone we can think of maintaining competitiveness of manufacturing. While, new inventions provide a leap forward in technology, the other ones (incremental) arise from steady improvements in products and processes. Both these forms of innovations improve the competitiveness of manufacturing and the economy as a whole. Investing in innovations is one of the most essential steps towards attaining global competitiveness and in Indian scenario this has got added significance in the present context. Some strategies for innovation for enhanced productivity and competitiveness are given below:

- ❑ It is essential that increased investment in R&D is made to facilitate technological innovations by the industry and the Government. While world over 02 percent of their annual budget is earmarked for R&D, the same is only 1 percent in India. Hence it needs to be enhanced urgently to at least 2 percent with immediate effect.
- ❑ One priority issue before the Government may be that of encouraging Advanced Technology Products, as these are having a sizeable world market. Another priority of the Government is to be that of supporting Advanced Manufacturing Technologies (AMTs) and design innovations. At the individual firm level efforts are to be taken for embracing AMTs or producing ATPs as far as possible.
- ❑ Above all, the Intellectual Property Rights (IPR) framework in the country needs to be strengthened further, because the contemporary trends in manufacture and technology are being driven by the forces of competition. In the new patent regime, it is vitally important for firms to acquire new knowledge not only for innovation but for attaining adequate level of competitiveness in a TRIPS-compliant IPR environment. Accordingly, in a globalized environment it is essential to effectively utilize IPRs, particularly patents for technology upgradation and growth, wealth creation etc. In this context, it may be stated that in India there is an imminent need for a policy environment which is more conducive to innovation and IPRs.
- ❑ For any knowledge-driven industry, particularly the manufacturing industry, it is desirable to embrace a network model innovation and R&D, according to which industries go for collaboration with research institutes, universities and other counterparts for innovating their products and processes.
- ❑ Though innovation at the economy level is really important, the same has to start from the respective industry level and ultimately from the firms comprising the industry. A firm's competitiveness is significantly influenced by its ability to understand and embrace new product and process technologies. Thus, technological innovation within firms is all the more important strategically and so also, is the creation of new knowledge for (and from) innovation. This in turn may necessitate reformulation of its policies, reconfiguration of competencies and re-engineering of operations.
- ❑ It is highly advisable that India also administer a specialized society or institute to promote innovation. It is a fact that there are 106 countries in the world which have got some mechanism like the like the above. Currently, India is an exception in this regard.
- ❑ For successful technological innovation, it is not technology itself that matters. Rather, external factors like the market conditions as well as internal factors like organizational climate and human factors are equally important. On the one hand, firms have to constantly search potential market segments and on the other hand, they have to chalk out appropriate strategies to make their own internal staff abreast of the

developments. Accordingly, an environment conducive for technological innovation should be created. Ongoing training in advanced and emerging technologies as well as IPR related issues should be at the centre of such initiatives.

- Apart from the manpower development as suggested above, whatever is important is an array of visionaries and leaders in the field of manufacturing who are capable of effectively leading the Indian manufacturing firms in the days to come. It is heartening that a few IITs in India have already launched such programmes as per the directives of the Central Government for moulding high profile manufacturing visionaries.
- Last, but not the least, is the utmost significance of clustering and networking. SMEs tend to concentrate in the vicinity of large industries or in metros and big cities. This spatial concentration of SMEs of a certain product is called industrial clusters. A cluster provides the unit with a comprehensive facility to research and development. Clusters are based on various factors like product name and location, product manufacturing etc. (Example rubber products manufacturer in Kottayam, Kerala or the industrial pumps manufactures in Coimbatore, Tamilnadu etc.). There is increasing evidence throughout India that through clustering and networking SMEs can boost their competitiveness.

9. CONCLUDING REMARKS

In the ongoing era of globalization, to survive and prosper and also to take advantage of the emerging opportunities, it is imperative that manufacturing units in India, particularly the SMEs, improve their competitiveness. This in turn calls for innovation of technology, products and processes on an ongoing basis and also productive R&D which can deliver patentable innovations. The focus of industrial research should target on acquisition of more complex knowledge base that can support innovation. At the macroeconomic level, the focus should be on creation and management of knowledge as strategic asset rather than accumulation of minimum knowledge levels of innovative capability. In the India, adoption of clustering and networking model with modern manufacturing strategies like lean manufacturing appears to be quite meaningful for the SMEs – the backbone of Indian industry.

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**HANDLOOM SECTOR IN INDIA: A STUDY OF THE PROBLEMS AND PROSPECTS WITH
SPECIAL REFERENCE TO KERALA STATE**

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ABSTRACT

In India, handloom sector is the second largest employment creator after agriculture. It provides employment to over 43 lakh weavers and allied workers. It represents one of the most common traditional industries in India. This vital sector contributes nearly 15 percent of the total cloth production in India, and also contributes to the exports earnings of the country. In fact, as high as 95 percent of the total hand-woven fabric is produced in India. This paper looks into Indian handloom sector with a focus on Kerala, its prospects and problems, and suggests strategies for its growth.

Keywords: Handloom sector, Self Help Groups, Clusters, Employment, Rural Development.

1. INTRODUCTION

Balanced development of a nation like India is possible only through development of traditional industries as majority of the Indian population still lives in villages. Hence, the concept of rural development (RD) by way of providing rural employment opportunities and hence regular livelihood to the rural masses is an essential ingredient for the balanced economic development of a nation like India. In this context, the handloom sector in India plays a vital role in creating rural employment, and ensuring livelihood for the masses. It is second only to agriculture in employment generation. It is also a major foreign exchange earner and as high as 95 percent of the total hand-woven fabric is produced in India. In the above context, this paper looks into the problems and prospects of handloom sector in India with a focus on Kerala state.

2. RELEVANCE AND SIGNIFICANCE OF THE STUDY

In any nation, economic development that is equitable and balanced alone can be said to be holistic and hence sustainable in the long run. Hence, handloom sector which is one of the most common traditional industries in India has got a vital role to play so as to bring about a balanced and equitable development of the economy. In respect of Kerala state in India, the facts from the available literature suggest that there is enough scope for expansion of rural development (RD) in general and development of handloom sector in particular. This is particularly relevant when we see that Kerala's contribution to the total handloom production in India very low, much lower than its productive capacity and resource availability. It is in this context that a study of India's handloom sector with a focus on Kerala is attempted here.

3. OBJECTIVES OF THE STUDY

- (i) To make an overall study of the features of handloom sector in India, its performance over the years, major strengths and challenges;
- (ii) To study in detail the salient features of the handloom sector in Kerala, the handloom clusters prevalent in the state, self help groups (SHGs) associated with the sector; and
- (iii) To make suggestions for the sustained development of the handloom sector in Kerala based on the findings of this study.

4. METHODOLOGY OF THE STUDY

The study is descriptive-analytical in nature. It is based primarily on secondary data that are available from authentic sources, like, the publications of the Government of Kerala, Government of India (Ministry of Textiles), publications of NABARD, RBI, etc.

5. PREVIOUS STUDIES AND RESEARCH GAP

Asha Krishnakumar (2003) [5] has pointed out the fast declining performance of Indian handloom industry particularly in the reforms era initiated in the early 1990s. The utmost need for developing market, both domestic and international, for the handloom industry in India has been highlighted in her paper. The national textile policy (2000) has proposed a major policy shift for the textile industry comprising of the handlooms, power looms and mills. The significance of the handloom sector in the Indian economy is that it is the major employer next only to agriculture and it experienced severe crisis during the last decade and half. The report of the Satyam committee is crucial to the formulation of the Textile Policy, 2000. One of its principal objectives is coping with the competition in the international market. It stated that handloom weavers need market. It suggested the government to support the weavers by devising special schemes. The committee also recommend

the scrapping of the Reservation Act and Hank Yarn Obligation which despite their ineffective implementation. These legal measures were meant to protect the interests of the handloom weavers. (K. Srinivasulu, 2010) [6]. The handloom weavers are classified on the basis of organization of production into cooperative, master-weaver and independent weaver segments. It is a well accepted method to analyze the internal differentiation in the handloom sector and to appreciate the problems of the weavers therein. Deviating from this, the report differentiates the weavers into three tiers on the basis of the 'quality' of cloth produced. In the first tier are group of weavers producing unique, exclusive, high value added items. In the second tier producers of medium priced fabrics and made up articles from not-so-fine counts of yarn and in the third tier those producing plains and low cost textile items. The committee did not make any attempt to estimate the proportion of weavers in each tier either in terms of production of fabric or the volume of employment. For this the committee acknowledges that there is a poor and inadequate database on handlooms and it has not deterred it from making far-reaching recommendations. One of the committee's major assumptions is that the weavers in the third tier are unskilled and also ones who produce cloth that has no market demand. So, the committee recommended shifting the weavers of the third tier to other tiers of handlooms, power looms and other occupations. Government should take steps in this direction and provide the weavers with semi-automatic looms and training. (K. Srinivasulu, 2010) [2].

Dr. Manoj P. K. and Rajesh S (2013)[10] have studied the quality of work life (QWL) and such other variables relating to industrial relations scenario in textile units in Kannur district of North Kerala. Suggestions for improving the QWL are made based on the findings of the study. In another study by the same authors Dr. Manoj P. K. and Rajesh S (2015) [11] the case of unorganized sector workers in the textile industry in northern Kerala has been studied in detail with a focus on the challenges to industrial relations. The need for putting in place more stringent legislations for ensuring the welfare of the informal (unorganized) sector employees in textile and other sectors for bringing in cordial industrial relations has been highlighted in this paper. In yet another study by the above authors Dr. Manoj P. K. and Rajesh S (2015) [12] the work life in respect of women employees and their job satisfaction have been studied, with reference to textile units in Malabar region (Northern part) of Kerala. Accordingly 300 workers in various units in the unorganized sector were studied. Kannur district of North Kerala. Issues relating to social security, legal protection etc. of women workers of textile units were covered in this study. Suggestions for improving the QWL are made based on the findings of the study.

In spite of many studies on the handloom sector, studies that focus on the prospects and challenges of the handloom sector in Kerala are very scarce. Hence, this study seeks to bridge this research gap by making an overall study of the handloom sector in India with special reference to handloom industry in Kerala.

6. HANDLOOM SECTOR IN INDIA: AN OVERVIEW

The handloom sector in India is one of the largest unorganized economic activities after agriculture. It constitutes an integral part of the rural and semi rural livelihood in the country. Handloom weaving represents one of the richest and most vibrant aspects of the Indian cultural heritage. The strengths of this sector are as follows: (i) it is low capital intensive, (ii) It uses minimal use of power, (iii) it is eco-friendly, (iv) it has flexibility for small production, and (v) it has openness to innovations and adaptability to the market needs. It is a natural productive asset and tradition at cottage level, which has sustained and grown by transfer of skill from one generation to other. Handloom weaving is largely decentralized and the weavers are mainly from the vulnerable and weaker sections of the society, who weave for their household needs and also contribute to the production in the textile sector. The weavers of this industry are keeping alive the traditional craft of different States. The level of artistry and intricacy achieved in the handloom fabrics is unparalleled and certain weaves/designs are still beyond the scope of modern machines. Handloom sector can meet every need ranging from the exquisite fabrics, which takes months to weave, to popular items of mass production for daily use. According to the 3rd Handlooms Census (2009-'10), more than 43 lakh people are engaged in weaving and allied activities which was 65.5 lakh as per the 2nd handloom census conducted during 1995-96. The state-wise details of the handloom weavers and allied workers and number of handlooms are given in Table I.

Table-I: Handloom Sector in India – Some Basic Particulars

1.	No. of looms	23.77 lakh
		20.66 lakh looms (rural)
		3.11 lakh looms (urban)
2.	No. of looms in NER (North Eastern Region)	15.5 lakh (65% of total)
3.	No. of persons engaged in weaving and allied activities	43.31 lakh

		36.33 lakh workers (rural) 6.98 lakh workers (urban)
4.	No. of adult weavers and allied workers	38.47 lakh
5.	Man days worked per weaver per annum	234 days

Source: Govt. of India (2015), Ministry of Textiles, *Note on Handloom Sector*, p.2. [21]

Out of the 38.47 lakh adult weavers and allied workers in the country, 77 percent are women and 23 percent male weavers, 10 percent of the weavers are from scheduled castes (SCs), 18 percent of the weavers are from scheduled tribes (STs), 45 percent are from other backward classes (OBCs) and 27 percent are from other castes.

It is noted that there has been a general trend of gradual and steady increase in the production as well as export of handloom products in India over the years. But, the growth rate in production is very low, and in respect of exports some declining figures also in the last two years viz. FY 2014 and FY 2015. This points to the need for more attention on production with a special focus on raising the exports. The export figures for the last 2 years deserve a critical review so as to reverse the disturbing figures that reflect fall in exports. Reasons for the fall need to be studied meticulously and remedial measures taken. (Table II).

Table-II: Trend in Production and Exports of Handloom Products in India.

Year	Handloom cloth production (million sq.mt)	Handloom exports (Rs. in Crore)
2007-08	6947	N.A
2008-09	6677	N.A.
2009-10	6806	1252
2010-11	6907	1575
2011-12	6901	2624
2012-13	6952	2812
2013-14	7104	2233
2014-15	7203	2246

Source: Textiles Commissioner Office and HEPC

The salient features of the handloom sector in India are enumerated hereunder: (i) there is gradual value addition taking place to the handloom products, (ii) there is gradual improvement in the quality of the handloom products that are produced in India, (iii) over the years more number of weavers are taking up weaving as full time profession, (iv) Many SHGs and SPVs (special purpose vehicles) in the handlooms sector are exporting products directly, and (v) many high-end retailers are selling handloom products. [Adapted from, Govt. of India (2015), Ministry of Textiles, *Note on Handloom Sector*, p.3.] [21]

The major strengths of the handloom sector in India include mainly the following: (i) The sector is capable of producing of intricate woven fabric with high levels of versatility and in wide varieties, (ii) Availability of diverse designs, and also the capacity to quickly shift or switchover from one design to another, (iii) Availability of highly skilled manpower who are capable of producing wide range of products in diverse designs, (iv) Peculiar type of traditionally evolved modes of production that employ low-end technology, and avoid the use of electric power too, (v) The production technology/production process is of eco-friendly nature, (vi) Prevalence of informal school for skill generation as well as technology transfer, and (vii) Even today, many weaves or processes are beyond the scope of power looms and they continue to be produced using handlooms. [Adapted from, Govt. of India (2015), Ministry of Textiles, *Note on Handloom Sector*, p.3.] [21].

The main challenges that India's handloom sector is facing at present are briefly discussed hereunder: (i) Though the number of weavers who adopt full-time weaving profession is increasing, the fact remains that the number of handloom weavers is constantly and steadily falling; (ii) The productivity of India's handloom sector is quite low in comparison with power loom and mill sectors; (iii) There is only limited scope for technological upgradation and for improvement in the weaving activity; (iv) Switching over of skilled manpower from handloom sector to other sectors; (v) It is noted that younger generation of weavers is not taking up weaving profession owing to lower earnings, tougher conditions of work etc.; (vi) There are serious constrains relating to availability of credit facilities for the units in the handloom sector in India. [Adapted from, Govt. of India (2015), Ministry of Textiles, *Note on Handloom Sector*, p.3.] [21]

6. AN OVERVIEW OF THE HANDLOOM SECTOR IN KERALA

Textile industry in India occupies a vital as well as unique place in the national economy because of its significant contribution to the industrial output, employment generation and foreign exchange earnings.

Handloom industry in Kerala is a prominent traditional industry in the state and handloom sector is second only to the coir sector in respect of employment creation to the tune of nearly 1 lakh. Kerala's handloom industry is mostly clustered in two districts viz. Thiruvananthapuram and Kannur; and also in certain parts of districts like Kozhikode, Palakkad, Thrissur, Ernakulam, Kollam and Kasaragod.

Kerala, known as 'Gods own country' has its own textile tradition. Kerala Kasavu Sarees, which are symbolic of Kerala culture and tradition are praised by women all over India. Two piece clothes 'settu mundu' also known as 'mundum neriyathum' is the traditional dress of women in Kerala, with natural body colour and colourful border shades. Men in Kerala wear Kasavumundu or dhothies during festival and worship occasions. Kerala is also known for its unbleached cotton handloom crepe popularly known as 'Kora' cloth which has entered the foreign markets and occupy a proud place in garment Industry.

The handloom industry in Kerala is dominated by co-operative sector with 94 percent looms and remaining 6 percent of handloom units owned by industrial entrepreneurs. The co-operative sector consists both factory and cottage type societies. The largest number of co-operative societies is in Thiruvananthapuram district, which accounts 53 percent of the total, and the lowest in Wayanad and Pathanamthitta districts. Calicoes of Calicut, crepe clothes in Kannur district etc. are some of the traditional Kerala handloom textiles known for their excellence of texture, colour and beauty were ruling the world markets. Fabrics like 'Kattimundu', 'Kasavumundu', 'Kasavunariathu' etc are some of the names with which everyone is familiar with and which represents a few of the many rich traditional varieties for which Kerala has been famous for years.

The major products in handloom sector of the State are dhothies, furnishing material, bedsheets, grey sarees and lungi, which accounts 67 percent of the total production in the industry. About 80.13 percent of the major handloom cloths are produced in the Southern region of the State followed by the North (12 percent) and Central region (7.87 percent) as given in Figure 1.1. The handloom weavers of Balaramapuram in Thiruvananthapuram district, a historically important place for Handloom fabric, use original type throw-shuttle pit looms and produce Mundu/dhothies, Earezhathorthu, and Melmundu besides sarees.

The handloom industry is a traditional industry of Kerala. Till 1995, about 500,000 people were engaged in the sector despite facing serious problems like low productivity, inadequate working capital, weak marketing line and competition from the mill sector. But today the number has come down drastically to about 1,75,000 with more than 50 per cent of the cooperative societies closing down in the last decade. Still, this sector stands second only to the coir sector in terms of employment generation among the traditional industries in Kerala. There are 2 types of units viz. (i) Factory units, and (ii) Cottage units, in the handloom sector. Those working in factories were enjoying all kinds of benefits like Provident Fund and ESI. But 'weavers in cottage units get less than Rs 100 a day and struggle to meet both the ends, and they are leaving the cottage type to take up other suitable jobs. Not long before, handloom industry occupied a prominent place in the Indian economy and was next only to agriculture. Being one of the largest producers of handloom, Kerala was next only to Andhra Pradesh, Tamil Nadu and Uttar Pradesh with exports reaching countries including Norway, France, Britain and several European nations.

Kerala handloom products having geographical indication tags are Chennamangalam sarees, Kuthampully sarees and Kannur sarees. The fabrics are coloured with lasting quality materials certified by geographical indications registry. The weavers follow the traditional methods in the early days to produce Indian clothing like Kasavu, Double dhoti, Veshti and Settumundu. The handloom industry in the state is clustered in Thiruvananthapuram, Kannur, Kozhikode, Palakkad, Ernakulam, Thrissur, Kollam and Kasargode Districts. The Kerala Kasavusarees are praised by women all over India for their fineness of count and natural colours, texture and golden borders. Kerala is also known for the manufacture of cotton handloom fabrics in certain locations of Kannur, Vadagara and Kozhikode districts. These cotton products could capture an export market too over the years.

Balaramapuram in Thiruvananthapuram district is the most historically important and one of the oldest handloom centers in Kerala. The weavers belonging to Chaliyas community migrated from Nagarcoil and Thirunelveli in Tamilnadu during the period of Balaramavarma, ruler of Travancore about 250 years back. Kuthampully in Thrissur District is also well known for handloom fabrics. In Kuthampully Devangas migrated from Karnataka are engaged in weaving. It is believed that this community of traditional weavers were brought by the Kochi Royal family about 500 years back to make dress exclusively for the palace. Chennamangalam in Ernakulam District is also an important handloom centre in Kerala. Here, the weavers produce the Double dhoti and Mundu and Neriyathu. Once a major source of employment in the industry-starved Kerala, the handloom textile sector is in doldrums because of various factors forcing weavers to shift to other jobs to earn a living.

Handloom cluster may be defined as a place where there is a large concentration of handlooms producing fabrics of niche varieties of handlooms which are of market demand. It was during the 10th FY Plan that handloom industry was reorganized under cluster schemes. The Govt. of India had sponsored some schemes for handlooms, like, 1) Integrated Handloom Cluster Development Scheme, by the Ministry of Textiles, and 2) a special scheme under the Swarnajayanthi Gram Swarozgar Yojana (SGSY), by the Ministry of Rural Development.

Table-III: Handloom Clusters in Kerala (approved by GOI and GOK)

S.No.	Name of the Cluster	District	Implementing Agency
1	Trivandrum Handloom Cluster	Trivandrum	HANVEEV
2	Chendamangalam Cluster	Ernakulam	HANTEX
3	Kuthampully Cluster	Palakkad	HANTEX
4	Vadakara Cluster	Kozhikode	District Industrial Centre, Kozhikode
5	Payyannur Cluster	Kannur	Weavers Service Centre
6	Icon Cluster	Kannur	Irinava Handloom Consortium
7	Kozhikode Cluster	Kozhikode	HANTEX
8	Palakkad Cluster	Palakkad	HANVEEV
9	Chathannoor Cluster	Kollam	HANVEEV
10	Oorotambalam Cluster	Trivandrum	HANTEX
11	Thettivila Cluster	Trivandrum	HANTEX
12	Bhagavathynada Cluster	Trivandrum	HANTEX
13	Nedumangad Cluster	Trivandrum	HANTEX
14	Travancore Cluster	Trivandrum	HANVEEV
15	Neyyattinkara Cluster	Trivandrum	Consortex
16	Naveena Cluster	Trivandrum	Consortex
17	Swadesi Cluster	Trivandrum	Consortex
18	Kozhode Cluster	Trivandrum	Consortex
19	Ramapuram	Trivandrum	Consortex
20	Chirakkal Cluster	Kannur	Kannur Handloom Cooperative Societies consortium
21	Morazha Cluster	Kannur	Morazha weavers Industrial cooperative Society
22	Kalliassery Cluster	Kannur	Kalliassery Weavers Industrial Cooperative Society
23	Elappully Cluster	Palakkad	Elappully Handloom weavers Cooperative Society

Source: Directorate of Handlooms and Textiles, Thiruvananthapuram, Kerala

IHCDS Scheme: Govt. of India (GOI) had identified 20 handloom clusters in India wherein a large number of handloom are located. In respect of Kerala state in particular, a concentration of handlooms was identified in Neyyattinkara Taluk of South Kerala. Hence, this location was identified as a handloom cluster in India, namely Trivandrum Handloom Cluster. The financial assistance extended by the Govt. of India to each handloom cluster is Rs.2 crores.

SGSY Scheme: Under this scheme, two projects of the handloom sector in Kerala approved by the Ministry of Rural Development include (i) “Thanima” project covering 3000 weavers in Trivandrum district, and (ii) “Krithika” project covering 2500 weavers in Kannur district.

Cluster based approach during the XI Five Year Plan: The IHCDS along with some other centrally sponsored schemes were reformulated in the XI Plan in the name of Integrated Handloom Development Scheme (IHDS). [Details of clusters in Kerala given in Table III].

Self Help Groups (SHGs) can play a vital role in the development of handloom sector in Kerala. In the peculiar situation of Kerala, the vast network of Kudumbashree has already created a conducive environment for the meaningful functioning of SHGs and that too in a way beneficial to the society, particularly the disadvantaged segments of the society including women. Active engagement of SHGs in handloom sector would help in forging meaningful SHG-Bank Linkages (SBLs) with commercial banks, RRBs etc. This in turn enables greater flow of funds into this sector.

8. SUGGESTIONS FOR THE SUSTAINED GROWTH OF HANDLOOM SECTOR IN KERALA

- To enhance the demand for the handloom products, the Government should actively promote such products among the Government servants, school students etc. by providing incentives or making it mandatory to use the same once in a week or so.

- (ii) Besides, Government owned organisations like Kerala state handloom corporation should take the initiative to set up handloom showrooms in various tourism hotspots in Kerala. This would help to get business through tourists, both domestic and foreign.
- (iii) Technology integration by adoption of Information and Communication Technology (ICT) or otherwise through automation of processes would help to enhance the service quality and reduce the operational costs. It would help to attract more new generation customers to handloom products. Strategies like facilities for online purchase of handloom products, tie-ups with e-commerce players etc. attempted to enhance the competitiveness of products.
- (iv) The Government of Kerala should facilitate maximum involvement of SHGs in the handloom sector, especially through the participation and involvement of successful poverty alleviation programmes like Kudumbashree in the state's handloom sector. Besides, encouraging the banks, RRBs etc. to actively engage in SBLs with SHGs pertaining to the handloom sector is another option before the state government.
- (v) Special incentives be extend to clusters consisting of handloom industrial units with a view to expand their activities, and also to attract more people into this vital sector.
- (vi) Special focus is required to promote export of handloom products so as to enhance the flow of foreign exchange earnings from handloom sector.

9. CONCLUDING REMARKS

Given the vast resources of Kerala and also the conducive socio-economic conditions like the prevalence of vast network of Self-Help Groups (SHGs), leveraging on these special resources would be meaningful. Besides, the benefits derived from industry clusters should be channelled suitably into this sector. The state Government can play a pivotal role in this regard. Accordingly, the handloom sector in the state can catch up new heights from its present 'not so encouraging' status whereby its contribution to the national production is low.

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A STUDY ON ISLAMIC INVESTMENT AVENUES AVAILABLE FOR MUSLIM SALARIED PEOPLE BASED ON QURAN PRINCIPLES

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Abstract:

Islamic investment is founded by a totally different worldview and ethical foundation, Islam strongly shares the concerns towards social, ethical and environmental issues, and the incorporation of such concerns in Islamic investment will bring the industry to a new height and move closer to the idealized aspiration of Islamic economics. Nevertheless, the viability of such investment approach will ultimately depend on the favorable acceptance of the idea among investors. Therefore, the main objective of this paper is to investigate the perception on the level of importance investors attached to social responsibility dimension in Islamic investment and to explore the factors that influence this. The article starts by reviewing the Islamic investment industry, the prevalent nature of complying with the fiqh injunctions (as compared to its spirit and objective), and the prospect of incorporating broader aspects of social responsibility in the investment process in line with the experience of Socially Responsible Investment.

Islamic investment practices include the prohibition in all activities and transactions involving the elements of riba' (interest), gharar (excessive uncertainty), maysir (gambling) and all other types of activities and transactions which are considered unethical or harmful as deemed by the Shariah. Such prohibitions necessarily remove sectors like conventional banking and insurance, gaming, alcohol, non-halal meat production, tobacco, entertainment, weapon and genetic biotechnology from the Shariah approved investable universe. Similarly, conventionally structured financial products such as bonds, derivatives as well as excessively speculative transactions are also considered as Shariah offensive. Muslims should invest their income accordingly to the Shariah parameters, which need to be strictly observed in the investment process. Muslim investors needed an interest free financial market and as an effect of this need Islamic financial market emerged as an academic discipline adopting Shariah based financial strategies for application in the Islamic financial market.

Keywords: Islamic Finance, Islamic Investment, Quran principles, Avenues, Muslim salaried people.

Introduction

Globally, Islamic finance is estimated to be worth about \$350 billion, growing at 20% annually. With this growth, the need for Shariah compliant financial products has also increased. The products offerings are similar to normal banking products; however the main difference is that the funds collected are not for the purpose of accumulating/paying interest or invested in any negative businesses that harm morality of the society. The basic principle of Islamic banking is the prohibition of interest.

India with a 15% Muslim population, the highest in the non-Islamic country and the third highest in the world is slowly becoming forefront of Islamic banking initiatives. It has benefited the Indian economy by attracting investments from the cash rich Middle Eastern economies on the lookout for new investment destinations. A growing Indian economy has created huge interests among Islamic nations. Five Indian companies, Reliance industries, Infosys technologies, Wipro, Tata Motors and Satyam computer services figure in the Standard & Poor's BRIC Shariah Index. While Shariah compliant investment avenues are now becoming available in most of the countries, India is yet to see large-scale development. To gauge the scope of Islamic investment opportunities in the Indian stock market, it is imperative to examine stocks that conform to Islamic Shariah principles "Out of 6,000 BSE listed companies, approximately 4,200 are Shariah compliant. The market capitalization of these stocks accounts for approximately 61% of the total market capitalization of companies listed on BSE. This figure is higher even when compared with a number of predominantly Islamic countries such as Malaysia, Pakistan and Bahrain. In fact, the growth in the market capitalization of these stocks was more impressive than that of the non-Shariah compliant stocks.

The software, drugs and pharmaceuticals and automobile ancillaries sector were the largest sectors among the Shariah compliant stocks. They constitute about 36% of the total Shariah compliant stocks on NSE. Further on examining the BSE 500 the market capitalization of the 321 Shariah compliant companies hovered between 48% and 50% of the total BSE 500 market capitalization.

In Islam, investment in production and consumption is guided by strict ethical codes and Shariah laws. *Shariah* is a Divine Law which governs the practical aspect of a Muslim's daily life. In commerce, it can determine business style and indicate a desire to comply with 'halal' (lawful) and ethical investing. Islamic investing is growing rapidly as an alternative investment class for all investors, both Muslim and non-Muslim, for its foundation in ethical business practices, social responsibility and fiscal conservatism.

Muslims are not permitted to invest in production, distribution and consumption enterprises involved in alcohol, pork, gambling, illegal drugs, etc., even though these enterprises may be profitable. Providing financing for such activities is illegal in Islam. Hence, it is forbidden for an Islamic bank to finance activities or items that are not permitted by the Shariah. The limitation of investment and financing is extended to cover any activity or business which may be harmful to the individual or the society. Thus, financing investment for the production or consumption of tobacco, alcohol or pornography is also prohibited. This restriction provides limitation on the profitability of the Islamic banks. On the other hand, conventional banks do not face any such constraint in their financing investments.

Fixed interest based investments like the saving bank deposit, Bank FDR; Postal savings, Debentures, Bonds etc. are not permitted in Islam and thus Muslims stand to lose out from taking advantage in this market and their capital gets depleted over a period of time. Therefore, investments in stocks (The Shariah way) are a far better option available to the Muslims. The first option available for them is Investment in Real estate/ properties. Though it is permissible in Islam, it has got inherent and its own disadvantages over equities. The **second option** available for investment is Precious metals (gold, silver, platinum) investments, which are permitted in Islam. But from the point of view of economics and return on investments, these precious metals can at the best beat the inflation and since they are globally traded with prices being affected by global demand and supply, the price and value does not reflect the economic growth of the nation. Hence, more often than not, it under performs the domestic economy growth. Since the Indian economy is on a long-term growth path, Muslims are suggested to invest in **Shariah compliant** stocks.

Literature Review and Hypothesis Formulation:

A review of literature is a text of scholarly papers, articles which includes the status of knowledge of the research area including substantive findings as well as theoretical and methodological contributions in the study. This review of literature deals with past studies conducted on the subject, to generate understanding in the area, extensive review of literature was carried out by the researcher. All the sections of the study have undergone gradual change and evolved at present level. The study is conducted in the field of Islamic financial planning of Muslim salaried people and relevant literature is reviewed to find the gap in the literature and accordingly frames the problems, hypothesis and objectives for the research study.

Imam and Kpodar (2013) concluded that in the determination of Islamic bank expansion around the world, the interest rates were found to have a negative impact on banking selection, and the quality of institutions was not found to be a significant determinant. However, other investors such as non-Muslim do so for the benefits they derive, including greater stability of returns, transparency and diversification.

Iqbal and Mirakhor (2007) have stated that, In Islamic finance, a market is subject to *Shariah* constraint where the market is free from prohibited activities and elements such as *riba* (usury), *maysir* (gambling), *gharar* (ambiguity), and other prohibited activities like tobacco, alcohol, and so on. To describe the Islamic principle in detail, *riba* (*Interest*) technically is defined as the “premium” which should be paid by the borrower to the lender together with the principal amount as a condition in the contract of the loan or for an extension in the duration of loan”.

Aggarwal and Yousef (2000) examined that financial instruments used by Islamic and they found that Islamic banks rarely offer long-term financing to entrepreneurs seeking capital. The majority of the Islamic banks' financial transactions are towards retail or trade financing, and their model suggests that it was a rational response for the banks.

Rehman (2008) states that the sharing of profit and losses arising out of any legal Shariah compliant business, Islamic transaction must be asset-backed, as money itself has no intrinsic value, and investment should be in those businesses which are not prohibited by Shariah.

Khan (1997) examined that Islamic and conventional finance have profound differences in their nature from the point of view of their origin and from a legal perspective. However, in the field of project finance there are some points of convergence as well. Similarities exist between the field of project financing and classical Islamic financing techniques. These similarities arise from the conceptual basis and nature of project finance.

Wilson et al, (2004) states that Islamic investment practices which also applicable in all of the sub-sector of Islamic finance, lies on the ethical principles embodied in the Shariah (Islamic legal and ethical system), where its underlying objective are generally aimed at realizing overall human wellbeing and social justice. Some of the salient Shariah injunctions strictly observed in Islamic investment practices include the prohibition in all activities and transactions involving the elements of *riba* (interest), *gharar* (excessive uncertainty), *maysir* (gambling) and all other types of activities and transactions which are considered unethical or harmful as deemed by the Shariah. Such prohibitions necessarily remove sectors like conventional banking and insurance, gaming, alcohol, non-halal meat production, tobacco, entertainment, weapon and genetic biotechnology from the Shariah approved investable universe. Similarly, conventionally structured financial products such as bonds, derivatives as well as excessively speculative transactions are also considered as Shariah repugnant.

Zangeneh and Salam (1993) states that Islamic investments are more akin to equity financing. The Islamic banks are capable of taking financial risk. Islamic banks are not obliged to give fixed return to their depositors and general creditors. The creditors, shareholders and depositors share and participate in the bank's business. Therefore, if incase, there is a loss in Islamic banks, Islamic banks will be able to share this loss with their depositors and shareholders.

Chapra (2007) examined that Islamic investments are not involved in risk arbitrage, junk bonds, municipal bonds, currency options, swaps, call/ put options, combination or spread of options, future trading, forward contracts, short selling credit default swaps, speculative insurance underwriting, subprime loans, debt swaps, CDOs, excessive leveraging etc.

Al- Sultan (1999) analyzed that the investment behaviour of three hundred and eighty five Muslim investors in Kuwait towards the services of the Kuwait Finance House an interest- free bank. The major findings were that Muslim investors preferred the Islamic bank services because of religious convictions.

Karim (1996) states that Islamic investment is based on principle of profit and loss sharing. The profit and loss sharing principle allows the financial institutions to earn a return on invested funds, provided that the financial institutions share the risk of investment and incurs the loss if the investment fails.

Ghosh (2013) states that it is the duty of every Muslims investor to find Shariah based investments that comply with the rules and regulations described in the Quran. The main benefit of Shariah based investment is that it motivates people to invest in a socially responsible manner. They are recommended to avoid investing in those industries that promote alcohol, smoking, pornography and so forth. It is also against the Shariah rules, to invest in companies that originate their profit mainly from interest, casinos and gambling, pork, hedging in silver and gold, ordinary insurance and financial services that generate their income from interest.

Yusuf Talal Delorenzo et al (2002) they introduced the theoretical framework for Islamic Financial investment based on 'Shariah' principles. Every activities of a Muslim's life is governed by 'Shariah' principles that are lawful (halal) and unlawful (haram). The 'Shariah' point of view, money on its own may not generate profit. Income may generate profit only when it is combined with the sort of risk or liability inherent in financial institutions and business enterprises. The gain from capital is linked not only with profits but also with the possibility of losses. This is the reason why the 'interest' is prohibited by the religion.

Kamal (2012) states that Islamic investments face rate of return risk due to the fluctuations in microeconomic conditions. Islamic investment could experience greater fluctuations and volatility in rate of return risk due to limited product choices and prefixed income, which are absent in conventional investment. Furthermore, asset classes within Islamic investment are not easily converted to cash and may be subject to commodity price risk, as some of these assets do not have ready or deep secondary markets (*sukuk*—Islamic bonds) and, as such, must be held until maturity.

Objectives of the Study:

To study the Islamic investment avenues available for Muslim salaried people based on Quran principles.

Problems of the Study:

It is quite evident that Muslim salaried people before taking investment decision they screen the do and don't of the investment opportunity from the principles of Quran.

Hypothesis of the Study:

Null Hypothesis (H₀): Quran principles are not significantly affecting the investment decision of Muslim salaried people.

Alternative Hypothesis (H1): Quran principles are significantly affecting the investment decision of Muslim salaried people.

Research Methodology:

“Research design is the conceptual structure within which research is conducted. Research design indicates the blue print for the collection, measurement and analysis of data. The design includes an outline of what the researcher plans and frames the research work. It explains how samples are selected, sample size determined, how data is collected and which statistical methods are used for data analysis”.

Quantitative research approach is being used for the study as a quantitative research enables the researcher to examine association and differences among the variables. To carry out research effectively, Data is collected from primary sources and secondary sources.

Universe of the study: The study covers all the 52 railway station areas of Mumbai city dealing with Western line, Central line and Harbour line.

Sample of the study: To assess the quality of the study, the universe mentioned above is not possible for an individual to reach all areas of Mumbai city. Therefore, within Mumbai city there are 52 railway station areas, the researcher has purposely selected 40% of Western line, Central line and Harbour line viz. 20 areas for the research study. The researcher collects the filled questionnaire from 400 respondents including female/ male Muslim Financial planner in order to know the behavior of Muslims in Islamic financial planning and management. This research design fulfills the sample size determination suggested by R.V. Krejcie and D.W. Morgan.

Data Collection:

Primary data collection involved Mumbai city, there are 52 railway station areas, the researcher has purposely selected 40% of Western line, Central line and Harbour line viz. 20 areas for the conducting the study. The researcher collects the filled questionnaire from female/ male Muslim salaried people from selected railway station, colleges, schools and companies. The researcher also visits to all Muslim minority institutions. The survey enumerators facilitated 20 respondents from each of the 20 areas selected of the Mumbai city in completing the questionnaire.

Table 1: Demographic Description of the Respondents

Demographic Variable	Demographic Categories	Number	(%)
Area	Western line	200	50
	Central line	140	35
	Harbour line	60	15
Gender	Female	152	38
	Male	248	62
Age	Less than 20years	4	1.0
	20-30years	112	28
	31-40years	174	43.5
	41-60years	110	27.5
Education	Graduation	208	52.0
	Post-graduation	129	32.3
	Professional	63	15.8
Occupation	Private	82	20.5
	Public	68	17
	Profession	250	62.5
Annual Income (in INR)	Less than 2 lakh	12	3.0
	2-3.5 lakh	88	22.0
	3.5 -5 lakh	285	71.3
	5 lakh and above	15	3.8
Annual Savings (in INR)	Less than 10,000	78	19.5
	10, 000-20,000	82	20.5

	20, 000-40,000	209	52.3
	40,000 and above	31	7.8
Savings Objective	Children's education	129	32.3
	Retirement	19	4.8
	Home purchase	180	45
	Children's Marriage	17	4.3
	Health care	52	13
	Others	3	.8

Analysis and Results:

In the present study researcher used this analysis for hypothesis testing. For testing the hypothesis or test of significance, following tests are performed.

i) 'z' test for two independent samples at 95% confidence level.

ii) **Kolmogorov-Smirnov** test for two independent samples at 95% confidence level.

For analysis researcher used statistical package SPSS version 21. In addition to this, excel add-in Mega Stat is also used. Depending upon the type of data statistical methods are chosen. Statistical analysis is categorized as descriptive analysis and inferential analysis, which is often known as statistical analysis.

The value of the test-statistic is

$$\chi^2 = \sum_{i=1}^n \frac{(O_i - E_i)^2}{E_i}$$

where

χ^2 = Pearson's cumulative test statistic,

O_i = an observed frequency;

E_i = an expected (theoretical) frequency, asserted by the null hypothesis;

n = the number of cells in the table.

Table 2: Descriptive statistics parameters related to problems and difficulties faced by Muslim salaried people towards investment in present scenario.

	Statistical tools	Shariah rules forbid you from making investment in conventional financial market.	Large family size is the biggest obstacle of Muslim salaried people in the path of investment.	Lack of awareness is the biggest obstacle of Muslim salaried people in the path of investment.	Inflation is the biggest obstacle of Muslim salaried people in the path of investment.
N	Valid	400	400	400	400
	Missing	0	0	0	0
	Mean	2.50	1.74	3.77	2.98
	Median	2.00	1.00	4.00	3.00
	Mode	2	1	4	3
	Std. Deviation	1.069	1.085	.813	.635

Interpretation:

From the above table it is observed that

1. Mean value related to statement that Shariah rules forbid you from making investment in conventional financial market is 2.50 with low standard deviation value 1.069 indicates that most of the respondents agree with this statement. Median value 2 and Modal value 2 support this. Hence we may infer that Shariah rules forbid you from making investment in conventional financial market.
2. Mean value related to statement that large family size is the biggest obstacle of Muslim salaried people in the path of investment is 1.74 with low standard deviation value 1.085 indicates that most of the respondents agree with this statement. Median value 1 and Modal value 1 support this. Hence we may infer that large family size is the biggest obstacle of Muslim salaried people in the path of investment.

3. Mean value related to statement that lack of awareness is the biggest obstacle of Muslim salaried people in the path of investment is 3.77 with low standard deviation value 0.183 indicates that most of the respondents agree with this statement. Median value 4 and Modal value 4 support this. Hence we may infer that lack of awareness is the biggest obstacle of Muslim salaried people in the path of investment.
4. Mean value related to statement that Inflation is the biggest obstacle of Muslim salaried people in the path of investment is 2.98 with low standard deviation value 0.635 indicates that most of the respondents agree with this statement. Median value 3 and Modal value 3 support this. Hence we may infer that Inflation is the biggest obstacle of Muslim salaried people in the path of investment.

Table 3: Descriptive statistics parameters related to problems and difficulties faced by Muslim salaried people towards investment in present scenario.

	Statistical tools	Traditional belief is the biggest obstacle of Muslim salaried people in the path of investment.	Muslim salaried people face more inflation as compare to non-Muslim salaried people.	In present scenario Muslim salaried people faces more problems and difficulties towards investment opportunities.
N	Valid	400	400	400
	Missing	0	0	0
	Mean	1.91	1.89	2.02
	Median	2.00	2.00	1.00
	Mode	2	1	1
	Std. Deviation	.764	.919	1.315

Interpretation:

From the above table it is observed that

1. Mean value related to statement that traditional belief is the biggest obstacle of Muslim salaried people in the path of investment is 1.91 with low standard deviation value 0.764 indicates that most of the respondents agree with this statement. Median value 2 and Modal value 2 support this. Hence we may infer that traditional belief is the biggest obstacle of Muslim salaried people in the path of investment.
2. Mean value related to statement that Muslim salaried people face more inflation as compare to non-Muslim salaried people is 1.89 with low standard deviation value 0.919 indicates that most of the respondents agree with this statement. Median value 2 and Modal value 1 support this. Hence we may infer that Muslim salaried people face more inflation as compare to non-Muslim salaried people.
3. Mean value related to statement that in present scenario Muslim salaried people faces more problems and difficulties towards investment opportunities is 2.02 with low standard deviation value 1.315 indicates that most of the respondents agree with this statement. Median value 1 and Modal value 1 support this. Hence we may infer that in present scenario Muslim salaried people faces more problems and difficulties towards investment opportunities.

For testing above hypotheses we compare median rating scores with score 3 (which gives positive agreement opinion rating score).

Tests of Normality:

Before selecting statistical test we test normality of data as follows:

We use **Kolmogorov-Smirnov** test for testing normality and results of which are tabulated below

Table 4 Tests of Normality- Kolmogorov-Smirnov

	Kolmogorov-Smirnov ^a		
	Statistic	df	Sig.
effect of Quran principles on the investment decision of Muslim salaried people.	0.151	400	0.000

Observations and interpretations:

From the above table it is observed that significant p value 0.000 for k-s tests is less than 0.05 clearly indicates that data for different characteristics related to effect of Quran principles on the investment decision of Muslim salaried people is not normal. Hence we use non parametric **one sample sign test** for testing significance of different characteristics related to effect of Quran principles on the investment decision of Muslim salaried people.

One sample sign test:

To test above null hypothesis we use **one sample sign test** with hypothesized mean value 3

Table 5: One sample nonparametric sign test of median vs hypothesized score 3 for effect of Quran principles on the investment decision of Muslim salaried people

	Median score	Sample size	Calculated 'z' value (one tailed, upper)	Significant P value
Hypothesized scores different characteristics related to effect of Quran principles on the investment decision of Muslim salaried people.	$\mu_0 = 3.0$	n= 390	z = 18.48	p =0.000
Observed Mean rating scores for different characteristics related to effect of Quran principles on the investment decision of Muslim salaried people.	M= 4.4			
Critical z values: 1. At 5% level of significance the corresponding z value is 1.645 2. At 1% level of significance the corresponding z value is 2.326				

Observation:

From the above table it is observed that 'z' value for null hypothesis is 19.50 which is greater than +1.645 (also greater than +2.326). Also p value is 0.0000 which is less than 0.01. **Hence we reject null hypothesis at 5% & 1% level of significance.**

Interpretation:

On the basis of above data it can be inferred that Median rating scores for different characteristics related to effect of Quran principles on the investment decision of Muslim salaried people is greater than or equal to 3.

Findings:

Quran principles are significantly affecting the investment decision of Muslim salaried people.

Discussion and Findings:

1. Out of total 400 respondents, (86.8%) are either strongly agree or agree with the statement that Shariah principles are mandatory for making investment decision and (5.8%) of respondents are either strongly disagree or disagree.
2. Out of total 400 respondents, (73.8%) are either strongly agree or agree with the statement that Shariah based investment products is given better returns to Muslim salaried people and (26.3%) of respondents are either strongly disagree or disagree.
3. Out of total 400 respondents, (71.8%) are either strongly agree or agree with the statement that Investment schemes prepared as per Shariah rules is a profitable venture in India and (3.5%) of respondents are either strongly disagree or disagree.
4. Out of total 400 respondents, (78.8%) are either strongly agree or agree with the statement that Investment strategies framed as per Shariah rules is given better returns to Muslim salaried people and (8%) of respondents are either strongly disagree or disagree.
5. Out of total 400 respondents, (48.6%) are either strongly agree or agree with the statement that Shariah based investment is the faith based investment for Muslim salaried people and (47.3%) of respondents are either strongly disagree or disagree.

6. Out of total 400 respondents, (72.8%) are either strongly agree or agree with the statement that Muslim salaried people are getting better return from making investment in Shariah based investment products and only (5%) of respondents are either strongly disagree or disagree.
7. Out of total 400 respondents, (68%) are either strongly agree or agree with the statement that Shariah rules based investment products are available in Indian financial market and only (6.3%) of respondents are either strongly disagree or disagree.
8. Out of total 400 respondents, (96.8%) are either strongly agree or agree with the statement that Screening the do and don't of the investment opportunities is necessary before making investment decision and only (3.3%) of respondents are either strongly disagree or disagree.
9. Out of total 400 respondents, Only 76(19%) of respondents investing their money in non-Shariah based investment product and under that only 82(20.5%) of respondents investing their money in Entertainment.
10. Out of total 400 respondents, 365(91.3%) of respondents have awareness of Shariah rules which governing the investment opportunities and 33(8.3%) do not have Shariah awareness regarding that.
11. Out of total 400 respondents, 291(72.8%) of respondents following Quran principle of prohibition of interest before making interest, 60(15%) of respondents following Quran principle of Profit and loss sharing, 8(2%) following Quran principles of Absence of speculation, 3(0.8%) of respondents following Quran principle of Derivation of money on money, 38(9.5%) of respondents following Quran principle of Avoidance of unlawful activities.
12. Out of total 400 respondents, 346(86.5%) of respondents always considering Quran principles of Prohibition of interest before making investment decision and 9(2.3%) of respondents never considering Quran principles of Prohibition of interest.
13. Out of total 400 respondents, 162(40.5%) of respondents always considering Quran principles of Profit and loss sharing before making investment decision and 6(1.5%) of respondents never considering Quran principles of Profit and loss sharing.
14. Out of total 400 respondents, 191(47.8%) of respondents always considering Quran principles of Absence of speculation and gambling before making investment decision and 22(5.5%) of respondents never considering Quran principles of Absence of speculation and gambling.
15. 206(51.5%) of respondents always considering Quran principles of Derivation of money on money before making investment decision and 19(4.8%) of respondents never considering Quran principles of Derivation of money on money.
16. 363(90.8%) of respondents always considering Quran principles of Avoidance of unlawful (haram) activities before making investment decision and 8(2%) of respondents never considering Quran principles of Avoidance of unlawful (haram) activities before making investment decision.

Hence from the above findings it is revealed that **“Quran Principles is necessary for making investment decision in Islamic financial market”**.

Conclusion:

The Islamic investment faces a number of challenges. First, they have not yet been successful in devising an interest-free mechanism to place their funds on a short-term basis. They face the same problem in financing consumer loans and government deficits. Second, the risk involved in profit-sharing seems to be so high that most of the banks have resorted to those techniques of financing which bring them a fixed assured return. As a result, there is a lot of genuine criticism that these banks have not abolished interest but have in fact only changed the nomenclature of their transactions. Third, the Islamic investment does not have the legal support of central banks of their respective countries, which exposes them to great risks. Fourth, the Islamic investment do not have the necessary expertise and trained manpower to appraise, monitor, evaluate and audit the projects they are required to finance. As a result, they cannot expand despite having excess liquidity. The future of Islamic investment hinges, by and large, on their ability to find a viable alternative to interest for financing all types of loans. They should recognize that their success in abolishing interest has been at least partial and they have yet to go a long way in their search for a satisfactory alternative to interest. Simultaneously, Islamic investment needs to improve their managerial capabilities by training their personnel in project appraisal, monitoring, evaluation and performance auditing. Moreover, the future of Islamic investment also depends on developing and putting into practice such accounting standards which provide timely and reliable information

of the type that the Islamic investment would require for profit-sharing, rent-sharing or for cost-plus financing. These standards are yet to be developed. The Islamic investment would have to work hard to pursue their clients to accept these standards so that a reliable information base is established.

The emergence and growth of the Islamic finance industry is a phenomenon that has generated considerable interest in the financial world in recent years. Given its ability to offer innovative financial solutions to an under-served market, it is seen as a socially responsible, faith-based banking niche with considerable growth potential. In the Muslim world and increasingly in the West, significant segments of the institutional and retail markets are increasingly choosing Islamic finance for their financing and investment needs. Today, more than 500 Islamic financial institutions are operating throughout the world. Western banks are also doing Islamic banking, through their Islamic units in the UK, Germany, Switzerland, Luxembourg and other countries.

Scope for Further Studies:

Researcher has tried to evaluate the impact of Islamic financial planning on the investment behavior of Muslims such as investment in Shariah product, Awareness of Shariah rules and Quran principles, Shariah investment advice, Investment pattern and Savings pattern of Muslims, Investment objective and Financial literacy knowledge of Muslims. Further study can be conducted with reference to its impact on stock market performance, banking sector, growth rate, wealth creation and such other parameters.

Limitations of the study:

The geographical limitation of the primary data collection is confined to Mumbai city only. Respondents' opinion can be biased.

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NURSES MIGRATING FROM KERALA TO U. K: A STUDY OF THE LIVING CONDITIONS AND ASSETS OF MIGRANT HOUSEHOLDS

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ABSTRACT

It is noted that over the years there has been a constant rise in the migration of nurses from India to United Kingdom (UK) and other advanced nations of the world. Of these migrant nurses, the vast majority belong to Kerala state in India. The paper makes a study of the living conditions and assets of the households of the migrant nurses from Kerala to UK, socio-economic impact of their migration, and makes policy suggestions to channel their resources for the development of the home state.

Keywords: Migration, Non-Resident Keralites (NRKs), Remittances, Living Conditions.

1. INTRODUCTION

There has been steady increase in the immigration to the United Kingdom (UK) since 1945. This trend has been very prominent in the post-2000 period. Other immigrants have come as asylum seekers, seeking protection as refugees under the United Nations 1951 Refugee Convention, or from member states of the European Union, exercising one of the European Union's Four Freedoms. In fact, about 70 percent of the population increase between 2001 and 2011 censuses was due to foreign-born immigration. In fact, as high as 7.5 million people (11.9 percent of the population) were born abroad. This paper seeks to study in detail the savings and investments behavior of nurses migrating from Kerala and its implications.

2. RELEVANCE AND SIGNIFICANCE OF THE STUDY ON MIGRATION TO UK FROM INDIA

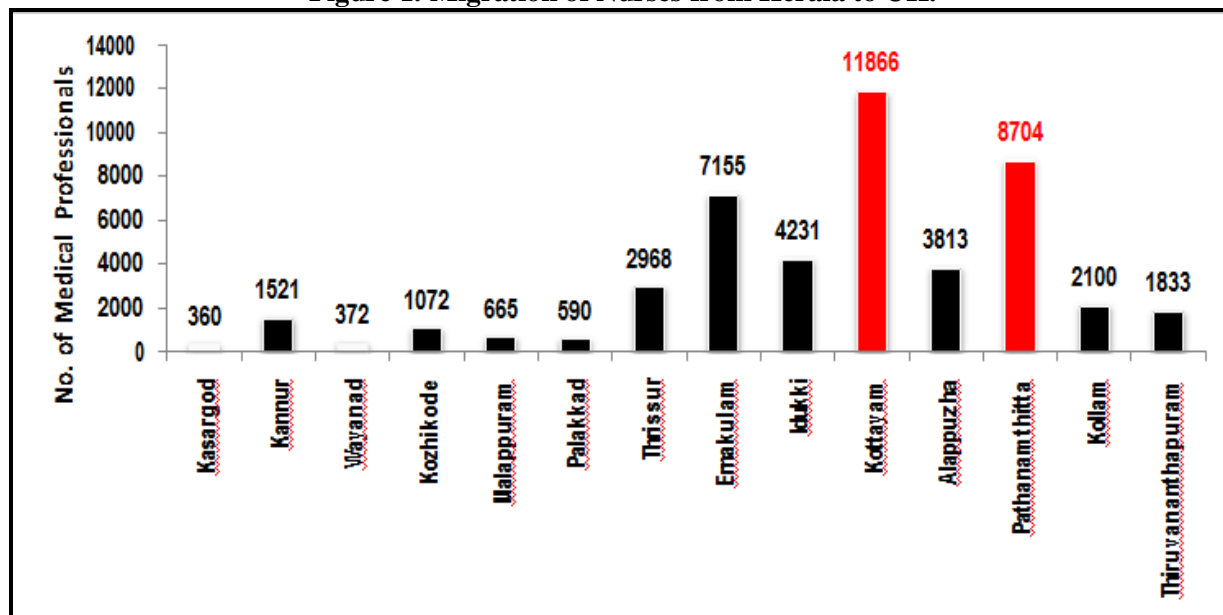
Over the last one decade, the size and characteristics of immigration to the United Kingdom (UK) have changed significantly. Immigrants are more numerous, more mobile and more diverse than ever before. The experience of immigration is different; immigrants are coming from a broader array of countries, staying for shorter period of time, enjoying significant engagements with communities outside of the United Kingdom and are no longer settling solely in cities. In parallel, UK immigration policy has undergone radical changes. Public opinion and other forces have prompted policy makers to focus their efforts on combating illegality and on flows of asylum seekers. At the same time, economic pressures have dictated the need to have selection systems so the country can attract desirable economic immigrants. Despite the current recession, immigration to the UK is expected to remain at approximately 150,000 net migrants per year. Globally, more than 232 million people are international migrants – a number that continues to rise. Advances in transportation and communication have increased the capacity and desire to move. Migration today is more widely distributed across more countries. The data-rich research offered here, based on credible sources, sketches migration flows, the sending of remittances, admission levels, enforcement actions and more for countries around the world. Net UK migration increased to 212,000 in the year to September 2013, pushing it further away from the conservatives' target of below 100,000 according to official estimates. Though there are many studies on inter-state migration in India and its impact, like, the study by Dr. Manoj P K and Neeraja James (2014) [9] on migration of housing construction workers to Kerala from other states, studies involving migration from India to other countries are very scarce. So, this empirical study focuses on the nurses who migrated from Kerala to UK, their living conditions, assets, etc.

3. OBJECTIVES OF THE PAPER

- (i) To make an overview of the trend of international migration of nurses from Kerala;
- (ii) To study the living conditions and assets of the households of the migrant nurses; and
- (iii) To suggest policies to encourage the migrants to use their resources in the home state.

4. METHODOLOGY OF THE STUDY

As part of this research study, a field study was conducted among the households of international health workers (nurses) in Kerala. The methodology adopted has been a multi-stage sampling. In the first stage, two districts in Kerala with the highest concentration of nurses viz. Kottayam (11866 nurses) and Pathanamthitta (8704 nurses) were selected using Purposive (Deliberate) sampling, based on the statistics on the number of nurses published by Dept. of Economics and Statistics, Govt. of Kerala. (Figure I).

Figure-I: Migration of Nurses from Kerala to UK.

Dept. of Economics and Statistics, Govt. of Kerala. (2013)

In the second stage, from these two selected districts (viz. Kottayam and Pathanamthitta) a total number of 600 nurses were selected on a pro-rata basis, based on the relative concentration of the nurses in these districts. Accordingly, 350 nurses and 250 nurses respectively were selected from Kottayam and Pathanamthitta districts. In the third stage, 350 households corresponding to the 350 nurses in Kottayam district and another 250 households corresponding to the rest 250 nurses in Pathanamthitta district were selected. Suitable number of households from various Panchayats and Municipalities in the respective districts were selected on a pro-rata basis, using the Govt. statistics relating to the distribution of migrant nurses. For this Random sampling (Lottery) method was used.

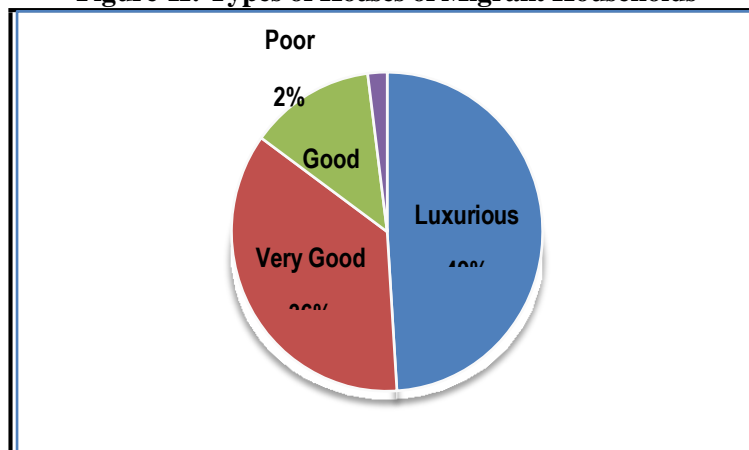
5. NURSING PROFESSIONALS IN KERALA: NATURE OF THEIR MIGRATION TO UK

As per 2011 Census, the total population in Kottayam is 1.97 million. The male population is 0.97 million and the female population is 1.01 million. The total working population in the district is 0.74 million. The literacy rate of the Kottayam is 97.21. The total population in Pathanamthitta is 1.20 million in 2011. The male and female population is 0.56 and 0.64 million respectively. The total working population is 0.39 million, and the literacy rate of the district is 96.55. As already noted, the two districts of Kottayam and Pathanamthitta were selected deliberately because the chunk of nursing professionals in Kerala is migrated from these two districts. As per the statistics available of the Dept. of Economics and Statistics, Govt. of Kerala as of 2013, as high as 25 percent of the nursing professionals working abroad are from Kottayam district, and the Pathanamthitta district records the second position with 18 per cent share of nurses.

Kottayam and Pathanamthitta districts together account for 43 per cent of the total migrant nurses from Kerala. Besides, the statistics indicate that 16 percent of the total international migrants from Kottayam district are from the medical field and that for Pathanamthitta district it is 8 per cent. A sample of 350 households were chosen randomly from Kottayam district using lottery method and another 250 were chosen from Pathanamthitta district. Totally, 600 households with international migrant nurses were surveyed. Representation of rural, semi urban and urban areas of both Kottayam and Pathanamthitta districts was ensured by adopting a pro-rata approach for sample selection. For this study, a sample of 350 nurses from Kottayam district representing 5 Taluks and 21 City or Panchayat areas have been selected. Also, a sample of 250 nurses from Pathanamthitta district representing 45 households from 3 Taluks and 15 City or Panchayat areas have been selected. The field survey was conducted during vacation time of migrants. Face to face discussion with the sample nurses was done in 54 percent of the cases.

6. LIVING CONDITIONS OF MIGRANT HOUSEHOLDS – HOUSING CONDITIONS

The survey data show that the majority of the health migrant workers' families live in 'luxurious houses' in the state. It comes around 49 percent of total families. 36 percent of families live in 'very good' housing structure and 13 percent of families live in 'good' houses. Only 2 percent of families live in 'poor' housing structure (Figure II).

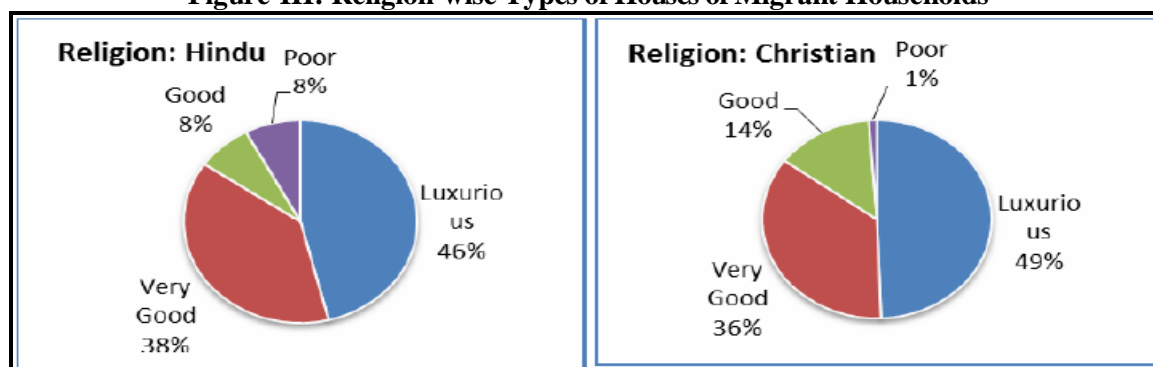
Figure-II: Types of Houses of Migrant Households

Source: Field Survey

The Household Classification Standards used in the field study has been as follows:

- *Luxurious* – 3 or more bedrooms with attached bathrooms, concrete roof, mosaic floor.
- *Very Good* – 2 bed rooms with attached bathrooms, concrete roof, Mosaic floor.
- *Good* – 1 bed room, brick and cement walls, concrete or tile roof.
- *Poor* – Brick walls, cement floor, tin or asbestos roof.
- *Kutch* – Mud walls, Mud floor and Thatched roof.

Religion wise analysis shows that among Hindu religion, 46 percent of families live in 'luxurious' houses, 38 percent live in 'very good' houses, and 8 percent in 'poor' houses. In the cases of Christians, 49 percent of families live in 'luxurious' houses and 36 percent of families live in 'very good' houses. However, migrant families living in 'poor' houses is only 1 percent, which is much lower than Hindu migrants. It may be due to the reasons that among Christian religion wealthy families invest more money in health education and migration to foreign nations (Figure III).

Figure-III: Religion-wise Types of Houses of Migrant Households

Source: Field Survey

The caste wise estimates indicate that among Hindu religion, 100 percent of Brahmin and 50 percent of Nair families live in 'luxurious' houses. It is interesting to observe that both of these caste groups are belong to the upper caste groups in Kerala. The 100 percent of migrant families who belong to backward castes, Ezhava and Viswakarma live in 'very good' houses. In short, the caste-based analysis of Hindu religion proves the fact that health migrant workers' families in Kerala live in a good housing conditions. It can be seen as one of the welfare indicators in Kerala. (Table I).

Table-I: Caste group-wise (Hindus) Types of Migrant Houses

Hindu Caste	Type of House				Total
	Luxurious	Very Good	Good	Poor	
Nair	50.0%	25.0%	12.5%	12.5%	100.0%
Ezhava		100.0%			100.0%

Brahmin	100.0%				100.0%
Viswakarma		100.0%			100.0%
Others		100.0%			100.0%
All	46.2%	38.5%	7.7%	7.7%	100.0%

Source: Field Survey

Table-II: Caste group-wise (Christians) Types of Migrant Houses

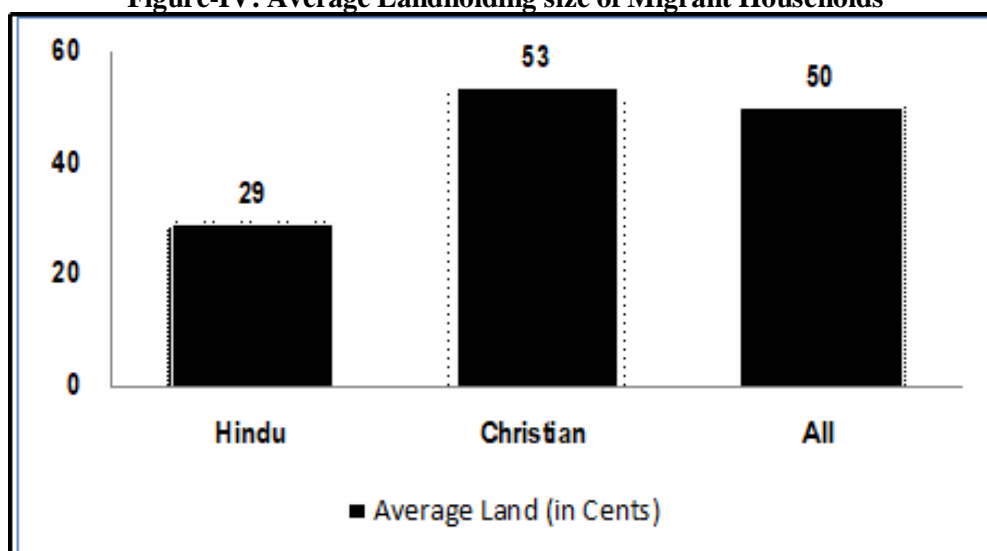
Christian Caste	Type of House				Total
	Luxurious	Very Good	Good	Poor	
Malankara Syrian Catholic		100.0%			100.0%
Roman Catholic	66.7%	27.5%	3.9%	2.0%	100.0%
Jacobite Syrian	33.3%	50.0%	16.7%		100.0%
Orthodox Syrian	44.4%	33.3%	22.2%		100.0%
Marthoma Syrian			100.0%		100.0%
SC (Dalit)		50.0%	50.0%		100.0%
Pentecost	50.0%	50.0%			100.0%
Others	16.7%	50.0%	33.3%		100.0%
All	49.4%	35.6%	13.8%	1.1%	100.0%

Source: Field Survey

Of the Christian migrants, 67 percent of Roman Catholic, 50 percent of Pentecost, 44 percent of Orthodox Syrian and 33 percent of Jacobite Syrian denominations are living in 'luxurious' houses. It is further noted that migrants from Christian religion are living in better housing conditions in the State (Table II).

7. LAND HOLDING PATTERN OF THE MIGRANT HOUSEHOLDS

Analysis based on field study data shows that the average landholding size of migrant families is 50 cents. Among Hindu families the average ownership of land is 29 cents per family. However, the average landholding size of Christian families is 53 Cents. It is higher than overall average and much higher than Hindu migrant families. Also, 28 percent of migrant households own additional properties. According to religion wise statistics, it was 4 percent among Hindu families and 24 percent among Christian families. It reveals that international health migrant workers invest their hard earned money mainly in fixed assets like land and building. Further investigation into the above factor is included in the coming section on 'Investment'. (Figure IV).

Figure-IV: Average Landholding size of Migrant Households

Source: Field Survey

In terms of housing conditions, migrants who live in 'luxurious' households own 54 percent of the total lands owned by all migrant families. The average landholding size is 59 cents. Migrant families living in 'very good' housing conditions own 36 percent of the total land owned by sample migrant workers, and their average landholding size is 47 cents. In short, migrant families who live in 'luxurious' and 'very good'

housing conditions constitute together the share 90 percent of land owned by international health migrant workers. (Table III)

Table-III: Housing condition-wise Landholding

Type of Household	Average Landholding (in Cents)	Percent of Total Land Holdings
Luxurious	59	53.70%
Very good	47	36.10%
Good	35	9.90%
Poor	7	0.30%
Total	50	100.00%

Source: Field Survey

8. OWNERSHIP OF HOUSEHOLD ASSETS BY THE MIGRANT HOUSEHOLDS

To understand the living standards of migrant families, the researcher has included certain questions related to the ownership of household articles. The sample statistics reveal that among migrant families, 53 percent of families have motor cars or jeeps and 44 percent of families own motorcycle or scooter. Regarding information and communication technologies (ICT), 70 percent of households possess land-phone connections at their home and 86 percent of families have mobile phones. It may be noted that as high as 81 percent of families under study own television and 79 percent of families own additional audio and video entertainment electronics. 41 percent of families have a computer in their home, and out of that 30 percent of families have internet connections. (Table IV).

Table-IV: Major Household Items Owned by Migrant Households

Household Items	Percentage of Households Owned
Motor car/Jeep	53
Taxi/Truck/Lorry	20
Motorcycle/Scooter	44
Telephone/Land phone	70
Mobile/Phone	86
Television	81
Mp3/DVD/VCD	79
Refrigerator	85
Computer/Laptop	41
Microwave/Oven	37
Internet/Connection	30

Source: Field Survey

9. IMPACT OF THE REMITTANCES BY MIGRANT NURSES ON KERALA ECONOMY: AN OVERVIEW

Summing up the major findings from the field study, the overall picture of the economic impact of remittances by the migrant nurses is as follows. In fact, 49 percent of migrant families live in a 'luxurious' houses and 36 percent live in 'very good' houses. The average landholding size of migrant families is 50 cents. Hindu migrant families own 29 cents per family and Christian migrant families own 53 cents per family. The average remittance per migrant household is 5.59 lakhs per annum. The data clearly establish a significant relationship between household structure and remittances. The migrant families who reside in 'luxurious' houses receive the remittance amount of 6.20 lakhs, and the 'very good' houses receive 5.38 lakhs. Those with 'good' and 'poor' households receive 3.41 and 0.50 lakhs respectively. The average remittances of Hindu migrant families is 1.59 lakhs while that of Christian families is 6.19 lakhs. The estimates show that 30.20 percent of total remittances are utilised for day-to-day expenses of families and 23.21 percent is used for medical expenses. The average savings of migrant

family is 4.86 lakhs. The average savings of Hindu families is 6.23 lakhs and Christian families is 4.66 lakhs. Besides, it is seen that 78 percent of the families have some kind of investments.

The major investment areas of migrant families are land, building and gold. 63 percent of migrant families invested in gold, 44 percent of migrant families invested in land and 25 percent migrant families invested in buildings. The average investment of migrant families is 49.58 lakhs. The average investment in land is 38.17 lakhs and in buildings is 8.95 lakhs. The average investment in gold is 2.28 lakhs. The average investment among Hindu migrant family is 39.95 lakhs and among the Christian family is 51.01 lakhs. Christian migrant families invest more in land and building. However, Hindu migrant families invest more in gold. The average monthly consumption expenditure of migrant families is Rs.18650.

The major chunk of consumption expenditure is made for food, medical and education purpose. The average monthly expenditure for food is Rs.8325. The average expenditure for medical and education is Rs.5358 and Rs.1286 respectively. Migrant families spend Rs.285 for alcohol and Rs.120 for tobacco products per month. The consumption expenditure of Hindu migrant families is Rs.21323. They spend Rs.11577 for food, Rs.4846 for medical expenses, Rs.463 for education and Rs.308 for alcohol. The average consumption expenditure of Christian migrant families is Rs.18250. It is lower than Hindu migrant families. Christian migrant families spend Rs.7839 for food, 5435 for medical expenses, Rs.1409 for education and Rs.282 for alcohols. Their average expenditure on medical and education is higher than the Hindu migrant families. In short, health migrant workers from Kerala contribute a huge amount as remittances, and its welfare impact on migrant families is well evident in Kerala state. Besides, empirical evidence suggests that there is a significant relationship between the remittances of nurses and their investments in the home country. In fact, higher remittances would promote more investments and hence more economic development. This is in line with the Neo-Classical Micro theory of migration. So, migration of nurses leads to local economic development.

10. SOME POLICY SUGGESTIONS

Going by the findings of the field study and facts revealed from the discussions with the stakeholders, the following are the policy suggestions put forward by the researcher:

- (i) The current state of international migration of health workers from Kerala is skewed towards the higher echelons of the society, those who are socially and financially well-established. It is mainly due to two reasons, higher costs of securing health education of international standards, and higher costs to get job visa from of international recruiting agencies. So, the Government should frame policies with an inclusive perspective to ensure cost-effective and/or Government-supported health education and training to poor sections of the population from all social groups. The Government should regulate the intermediary recruiting agencies to prevent them from exploiting the trained health workers. The Government may network with global health institutions to recruit professionals directly from Kerala.
- (ii) Even if international health migrant workers from Kerala lead a satisfactory life abroad, many of the migrant workers feel that they are underpaid, and they face certain racial discrimination from foreign nationals. So, the Government should focus on a policy to protect the interests of international migrant nurses from Kerala in terms of ensuring parity in salary, protection from social discrimination. In this regard, the Government should take up the matter with UN organisations (like, ILO and WTO) to resolve issues like social discrimination, disparity in salary etc.
- (iii) As it is noted that the majority of migrant workers looks for a permanent residency status abroad and most of them are not willing to return to India. This attitude of migrants may restrict the future flow of remittances to Kerala. Besides, it is seen that migrant workers are not keen to invest their earnings in a productive manner in Kerala, and that major part of their savings goes to unproductive avenues like land and gold. As this may adversely affect the economic interests of Kerala, the Government should take steps to divert the remittances to more productive sectors of the economy. There should be efforts to utilize the knowledge of the trained and skilled international migrant workers to improve the domestic health sector.
- (iv) The Government should frame policies to attract the international health tourists by utilizing the connection and experience of migrant health workers from Kerala, and should take steps to build health infrastructures at par with global standards. This would expand Kerala's capabilities to optimize its comparative advantage in terms of globally reputed and trained human resources in the healthcare sector.

- (v) As international migrant health workers from Kerala generate huge amounts of remittances to the state, the Government should adopt certain policy measures to protect the aged family members of migrant workers and their domestic wealth. In this regard, the Government should introduce a separate social security scheme for the family members of international health migrant workers.
- (vi) Lastly, the Government may provide incentives to migrant health workers from Kerala to attract health tourists to Kerala from their respective host countries (like, UK), as health tourism is an area that offers excellent prospects to a state like Kerala.

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STUDY OF ONLINE SHOPPING PROBLEMS IN INDIA

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Abstract

The online shopping companies must take appropriate measures for data encryption so that safety of financial transaction is ensured and privacy is also provided to customers with respect to their personal details. The dynamic character of online markets may result in greater risk of failure for some start-ups but spectacular success for others. Normal returns for the market as a whole may therefore correspond to ex post returns that are high for successful firms. The marketers during all these era devised and re-devised their strategies on the basis of the desired focus but in recent times the advent, usage and development of technology has changed the ways and means of conducting business drastically.

Keywords: Online shopping, India

Introduction

The growth of marketing function from production concept to selling concept from selling concept to marketing concept and from marketing to societal concept basically underlined the focus of marketers of that era. Production concept dealt with leveraging the benefits of low cost due to mass production. Selling concept dealt with extension of markets where as marketing concept believed in creation and retention of customers. Societal concept on the other hand deals with wealth maximization of all stakeholders related with the company. The marketers during all these era devised and re-devised their strategies on the basis of the desired focus but in recent times the advent, usage and development of technology has changed the ways and means of conducting business drastically.

The ease and selection that the Internet provides to shoppers has changed the face of retailing. More and more, consumers visit a store's Web site to make their choices before traveling to the store itself; and in a rapidly swelling tide, many shoppers are bypassing the store altogether and ordering online directly from the Web sites of their favorite brands and outlets. Companies like Sephora, Sears and Crate & Barrel have increased the range and quantity of products available at their online stores and are sending online coupons and sale announcements via e-mail directly to their customers.

Online markets are also very much information intensive. The very nature of many transactions places rich sources of information about consumers (and perhaps also other market participants) in conveniently digitized form, at the disposal of companies providing services such as search, payment and social network services. Collection of information about customers is not unique to online markets, but the scale under which it has become possible is unprecedented. The industry is undoubtedly very much alive to the value of information and is in process of implementing strategies to acquire it and use it profitably. We believe the formulation of strategies for profiting from the information explosion is very much in its infancy and, therefore, this is one major respect in which the market is "dynamic".

Objectives of the study

- To study the factors of online shopping in India
- To study the Common problem in online shopping

Online Shopping In India

Today, INDIA is big market that is growing day by day camper to worldwide market. In this fact and pace competition, the Indian online shoppers have specific expectations for website in INDIA. First of all, in India online shoppers have started expecting the option to return items purchased online, and some retailers already have made doing this convenient. Further, the retailers believe that this option is quite necessary to develop consumer trust and confidence in online shopping. Secondly, free door-to-door shopping is much needed, say online shoppers.

The invention of internet has created a new pattern of the traditional way people shop. Customers are no longer tied to the opening hours or specific location; it may become active virtually at any time and any place to purchase products and services. The internet is relatively new medium for the communication and the exchange of information which has become present in our daily lives. The number of internet users constantly increasing, which is also significance that online purchasing is increasing rapidly (Joines, Schere & Scheufele 2003). The growth in the number of online shoppers is greater than the growth in Internet users, indicating that more

Internet users are becoming comfortable to shop online. Until recently, the consumers generally visit online to reserve hotel rooms and buy air, rail or movie tickets, books and gadgets, but now more and more offline product like clothes - saris, kuris, T-shirts-shoes, and designer lingerie, consumer durables are being purchased online. Master Card Worldwide Insights, (2008) revealed that 47% of internet users shop online. Indian shopping community is around 28 million and Indian online shopping market is worth about \$71 billion. Indian online shoppers spend about 11% of their personal income in online shopping.



Figure 1: Factors related with Online Shopping

Review Of Literature

- (O'Connor & Galvin,2001) In addition, many marketing activities (e.g. relationship marketing, marketing research, data mining, promotion/communications, supply chain management, sales and purchasing and after sales support) are now technology enabled due to the increasing expansion of online marketing via the Internet .
- (Alam,Yasin 2010) Identified key dimensions of customer satisfaction of online shopping; these are website design, reliability, product variety and delivery performances which influence consumers' satisfaction of online shopping. However, it was found that, is no significant relationship exists between saved time and satisfaction.
- (Dash 2012) Identified the key factors influencing customers' satisfaction through online shopping. These factors are privacy, trust, complexity, product variety, risk, time utility and reliability. Multiple regressions were used to know impact of these factors on online shopping.
- (Kapoor,2012), online decision making and online shopping phenomena are governed by a number of consumer acceptance and behavior characteristics and grounded in theoretical aspects of consumer decision making. There are number of factors that affect what we buy, when we buy, and why we buy. In reference to buying online, the factors that influence consumers are marketing efforts, socio- cultural influences, psychological factors, personal questions, post decision behavior, and experience.
- (Upadhyay & Kaur, 2013) The growth of online shopping and examines the relationship between consumer factors and attitude toward online shopping and then analyze the various factors that influence attitude toward online shopping.

Common Problem In Online Shopping

1. Receiving wrong products: Many a times the product received are not of the same quality as promised customers have this fear since many of them wrong products or those are unfit to their expectations.
2. Damaging products in transit: This happens usually, in long distances, product gets damaged in the way and then customer fails to avail its benefits. They are totally at loss then.
3. Delay in delivery of products Companies located at far of distance tends to more delivery time. This is another feature due to which customer are not satisfied with online shopping.
4. Sometimes customer failed to receive the product Federal law (the Mail or Telephone Order Merchandise Rule) requires retailers that process orders by mail, telephone, or the Internet to deliver items within 30 days. If you have not received your order within that time frame, you have the right to a full refund of the purchase price. Likewise, retailers are required by law to explain your right to a full refund for undelivered goods. Likewise, the Fair Credit Billing Act protects you from being billed for items that are not delivered, but nevertheless charged to your credit card. If the online vendor is unwilling or unable to help you, or denies your claim that the item was never delivered, you may write to your credit card issuer's billing inquiries

department about the problem. Make sure you send it within 60 days after the bill with the errant charge (specifically, the charge for an item not received) was sent.

5. **Concerns When Buying from Foreign Companies** Problems with online shopping can be especially difficult to resolve if the seller is located in a foreign country. Before you order, you will want to know how the item is priced and when it is converted to U.S. dollars (if listed in a different currency); whether the retailer will ship to other countries; the likely length of time it will take to fulfill the order; any applicable special duties or taxes. If there are problems with your order, such as getting the wrong item, most vendors require you to resolve the dispute in their local court. So is it worth traveling to Switzerland, for example, to assert your claim that you were sent the wrong Swiss Army Knife? A safer alternative may be to look for a U.S. reseller who offers the same items.

Conclusion

In India reviewing the circumstances multi brand retailers have to be ready to launch more number of services. There is a need for online shopping services in multi languages than online in English language in India, since India is linguistically diverse country. The customers have favorable attitude towards online shopping and also majority of the customers suffer due to unnecessary delay. So they should take care to improve their environment to avoid delay. The online shopping companies must take appropriate measures for data encryption so that safety of financial transaction is ensured and privacy is also provided to customers with respect to their personal details regarding address and contact numbers. Finally the website of the online shopping companies must be customer friendly and must be intriguing enough to ensure the revisit of customers to online shopping websites.

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AWARENESS ABOUT THE NECESSITY OF COMMUNICATION IN BUSINESS

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ABSTRACT

The current study address to find out the scenario of Awareness about the necessity of communication in business. The papers explore the sectors for improvement of the existing and creation of new strategies, techniques and management systems in the light of the the necessity of communication. Awareness about the necessity of communication in business in Mumbai district of Maharashtra. The principles are a set of underlying assumptions about how to view the organization and its relation to customers, competitors and suppliers. Awareness about the necessity of communication in business is based on some principles: Employees focus, sustainable performance and career growth. All organizations can have more or less systematic, integrated and proactive approaches to deal with the principles. Accordingly, a quality profile cannot simply be implemented based on the existing management structures and systems. It may require the redesign of work, the redefinition of managerial roles, the redesign of organizational structures, the learning of new skills by employees and the reorientation of organizational goals & Awareness about the necessity of communication in business.

There are many places which are unaware about the necessity of communication in business hence the researcher feels to study on the Awareness about the necessity of communication in business in the District of Mumbai district of Maharashtra.

Keywords: Impact, communication, Quality Management, factors, Indian awareness, sectors, Mumbai, etc.

INTRODUCTION

Awareness about the necessity of communication in business having some factors those are interrelated.

1. There should be improvement in development processes with Employees focus, such as new development tools or programming teams.
2. Involvement of sustainable performance with organization for the development.
3. Innovations in which the uses for career growth in either business functions or core processes of the organization.

These three factors of development are mutually dependent, as an innovation in one type may lead to innovations in others. This co-dependency is created because Awareness about the necessity of communication in business processes are simultaneously before the study it is essential to know what are the aims and objectives of Awareness about the necessity of communication in business in India.

THE MAIN OBJECTIVES OF AWARENESS ABOUT THE NECESSITY OF COMMUNICATION IN BUSINESS

- a. To know the Awareness about the necessity of communication in business across the country in the country.
- b. To minimize the efforts and improving the career growth for organization.
- c. To replace a lot of other management process to reduce efforts of organization
- d. To comprehend with most of the quality management with technology.
- e. To study the Awareness about the necessity of communication in business of each area.
- f. To improve the competitiveness of the organization.
- g. To ensure the availability of knowledge for the improvement
- h. To reduce the complications in the system and organization
- i. To decrease the unhealthy competition among the states due to unawareness of the necessity of communication in business.
- j. To analyze the Awareness about the necessity of communication in business to avoid further issues.
- k. To simplify the process of quality management with Awareness about the necessity of communication in business.

Thus, there are many good and beneficial aims and objectives of using Awareness about the necessity of communication in business in India.

Mumbai is one of the important districts of Maharashtra. Current study aims to find out the awareness of sectors of Mumbai District in Maharashtra.

LITERATURE REVIEW

There are several studies on Awareness about the necessity of communication in business in India. Few of them are highlighted as:

1. Vijay M. Kumbhar in **Business Communication** gives idea about the Business communication is known simply as "communications". It encompasses a variety of topics, including marketing, branding, customer relations, consumer behavior, advertising, public relations, corporate communication, community engagement, research & measurement, reputation management, interpersonal communication, employee engagement, online communication, and event management.
2. **Zareen Husain in Effective communication brings successful organizational change** the paper offers a change communication model, which identifies different variables facilitating effective communication to encourage employees for desired change, organizations, must address the apprehensions and issues related with them. Job insecurity should be decreased and a sense of community should be created so that employees may feel their responsibilities.
3. **Shonubi,A.O., akintaro,A.A The Impact Of Effective Communication On Organizational Performance** Better understanding of the physical and human environment when communicating; A thorough analysis of the purpose of communication; In planning communication, consultation should both be top down and bottom up, while all facts are rendered implicit and explicit; Consideration should be given to the content and tone of the messages, Whenever possible.

AIMS AND OBJECTIVES OF THE STUDY

- a. To study about Awareness about the necessity of communication in business in India
- b. To study about the awareness of about Awareness about the necessity of communication in business of Mumbai District.
- c. To study about the awareness of about Awareness about the necessity of communication in business among the customers of rural parts of Mumbai District in Maharashtra.

HYPOTHESIS

- a. There is not clear picture of about Awareness about the necessity of communication in business to the all sectors of Maharashtra.
- b. Rural customers are not having proper knowledge of about Awareness about the necessity of communication in business.

METHODOLOGY OF THE STUDY

Survey method with providing the questionnaire to the respondent is used for current study. Written and interview test are conducted for the organization. Few schemes were also asked them.

LIMITATION OF THE STUDY

Current study is limited with the Mumbai District of Maharashtra. Hence, no data is collected outside this district.

SOURCES OF DATA COLLECTION

Following two types of source is used for the data collection of current study.

- a. **Primary Source:** For the current study, the descriptive and experimental research method is used. The design of the study is adopted for doing this research paper.
- b. **Secondary Source:** Secondary source for current study is used from the books, journal, articles, thesis – both published and unpublished, available material on current study in printed form, even available on internet. The data for the study has been collected from secondary sources like newspapers, research papers and websites.

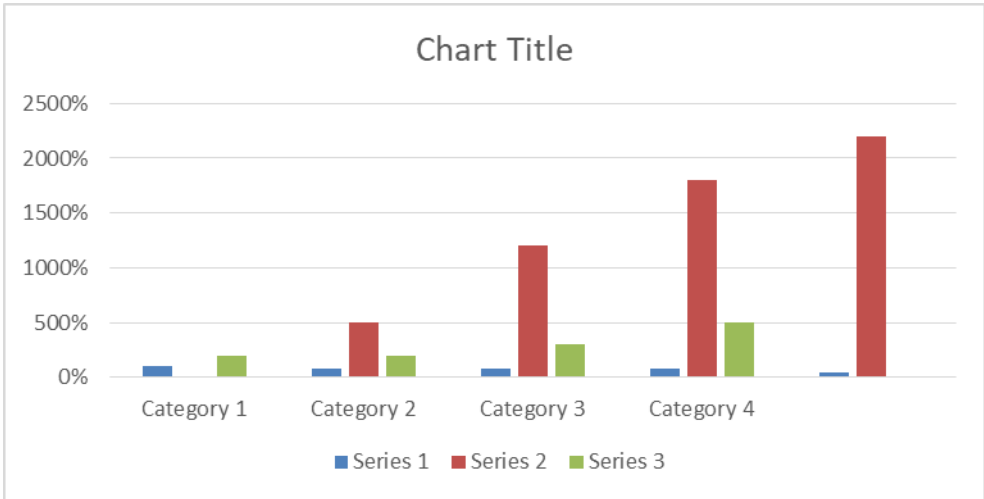
DATA COLLECTION METHOD

In Mumbai district, there are total three zones. Out of which five sectors are selected for the current study. i.e. IT, Banking,Mechanical, medical, and Marketing. Total 50 people were selected as a sample size from these five places i.e. 10 from each.

DATA OF NORTH MUMBAI

Sr. no.	Customers' Awareness	Awareness about the necessity of communication in business
01	100%	IT
02	80%	Banking.
03	75%	Mechanical
04	80%	Marketing
05	50%	Medical

Table 1.1

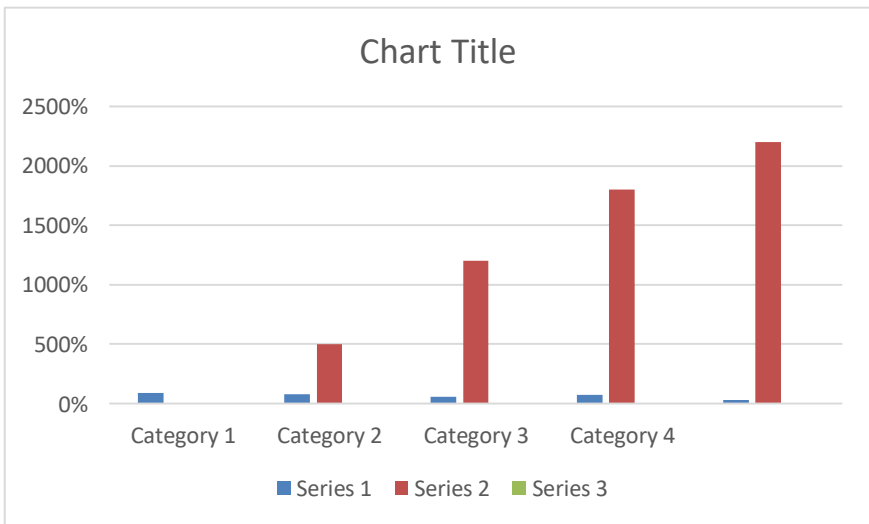


Graph 1.1

DATA OF CENTRAL MUMBAI

Sr. no.	Customers' Awareness	Awareness about the necessity of communication in business
01	90%	IT
02	80%	Banking.
03	55%	Mechanical
04	70%	Marketing
05	30%	Medical

Table 1.2

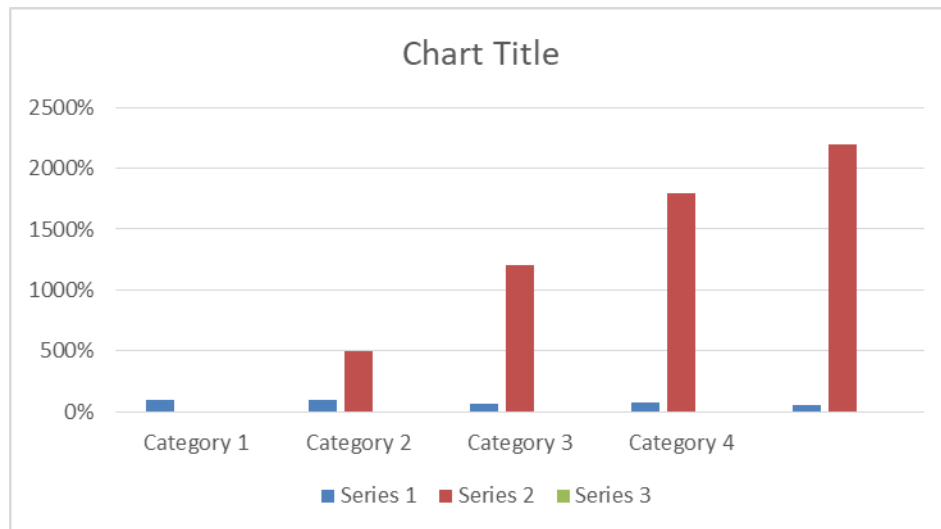


Graph 1.2

DATA OF SOUTH MUMBAI

Sr. no.	Customers' Awareness	Awareness about the necessity of communication in business
01	100%	IT
02	90%	Banking.
03	60%	Mechanical
04	75%	Marketing
05	50%	Medical

Table 1.3



Graph 1.3

As shown in above tables and graph, most of the sectors are aware about Awareness about the necessity of communication in business in Mumbai. They know on which sector Awareness about the necessity of communication in business is applicable and on which product it not but they know it about used in everyday life. They are not much more aware about the about Awareness about the necessity of communication in marketing sector which are having high demand and fast innovative growth. They know only concept and few of them knows about it in details. Finding of the study are given below:

FINDINGS OF THE STUDY

- There are many cases in which client themselves are confused about Awareness about the necessity of communication in business and its applications. Therefore, customers knew only that these are impactful and these are under strategies.
- What is exactly Awareness about the necessity of communication in business very few of know.
- As Awareness about the necessity of communication in business is basic concept, it will not take time to understand to the customers also in the point of view of its benefits.
- Overall study shows that early stage of Awareness about the necessity of communication in business will be a part of creating complication in the mind of consumers.
- There are negative approach and views of customers about Awareness about the necessity of communication in business.
- Lack of IT facilities is also one of the major reasons to make consumers unaware about Awareness about the necessity of communication in business.

SUGGESTIONS OF THE STUDY

- It is essential to give training for practical knowledge of Awareness about the necessity of communication in business.
- Need of counselling and communicating to all level of sectors about Awareness about the necessity of communication in business and its benefits.
- It is necessary to inform the customers that Awareness about the necessity of communication in business is more advanced and innovative than previous technologies

- d) It is essential to convey all the sectors to make aware that there is no exemption from Awareness about the necessity of communication in business to anyone, so they should prepare themselves with positive attitude towards the use of it.
- e) It needs to go time to understand the particle benefits of Awareness about the necessity of communication in business to organization

CONCLUSION

Awareness about the necessity of communication in business to improvement will take time to understand. It is not as hard as to understand but to apply organization quickly. there were different ratio of previous system which were divided as per location of users. Such complications are not in the application of Awareness about the necessity of communication in business. As it is new, it will take some time to understand by the consumers about its system, pattern benefits and application. They will be aware about it when will start to use it by practically through. It needs only proper counselling. One should communicate verbally as well as in written format very effectively. There should be clear communication of responsibilities, expectations, goals, performance and feedback.

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STUDY OF FUNCTIONS AND CHARACTERISTICS OF MONEY

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ABSTRACT

Money and money supply, both are very important factors for making the growth and developing of economics more interesting and effective. With either of these functions, students are able to understand its characteristics in their head without need of any modern innovation etc. The money is based on term that is medium of exchange, which are actually describing natural ways of medium whole range of economic problems are based on functions of money. This money, which produced as paper money having very advantages over the period and in terms of economy. Originally in history, enables one to solve exchange problems quickly. The money, also called a counting and storing medium, is a calculating tool used for performing basic exchange operations. So, keeping in mind their importance efforts should be made to make teachers, students and parents more aware about the importance of learning characteristic of money and its function.

There Are Many Places, Which Are Unaware About Functions And Characteristics Of Money. Hence, The Researcher Feels To Study On The Awareness Of Functions And Characteristics Of Money.

INTRODUCTION

Money has indispensable contribution to the development of society in all the times; it may be industrial revolution era, green revolution era or economics era. Even in the present era of modern economics and finance, the role of Money cannot be undermined. Money really is a building block subject and deserves its place at the center of the economics. So many other subjects rely on the money function that a student learns at various stages. Also, it is worth remembering that as the economic progresses, the Money always relate back to the Money function that was done previously therefore, it is essential that students basic money functions should be as known as possible. Students will say it's boring and difficult. In India most of the students studying the conventional methods of exchange like using gold m which can not solve problems that are difficult to save records.

Reason for this is lack of basic concept clarity. Hence, instead of conventional way there is the need of such economical concepts that provides basic clarity so that overall learning can be improved. Today, probably there are different very popular functions of money are available for students to conquer economic. Study of the determination of income & of administration of scarce resources and employment. Allocation of resources for achievement and maintenance of growth and stability and Social science connected with proper uses.

What is money?

Money has no legal definition. Money is a stock of asset, it is used for transaction and it's a type of wealth. As money is medium of exchange, it is used to buy goods and services. The place at which an asset can be converted into a medium of exchange and used to buy other goods and services is sometimes called an asset's liquidity. Money is the economy's most liquid asset. Monetization increases efficiency. Money is the yardstick with which we measure economic transactions. Without it, we would be forced to barter. However, barter requires the double coincidence of wants—the unlikely situation of two people, each having a good that the other wants at the right time and place to make an exchange. It is based on goods and services translated from these medium. Translated the complex medium into simpler understandable method. Describing natural ways of solving a whole range of economic problems. These functions describe the way the mind naturally works and are therefore a great help in directing the economics to the appropriate method of solution.

Functions of Money: Perhaps the most striking function of the money system is its medium of exchange. Instead of a hotchpotch of unrelated methods the whole system is beautifully interrelated and unified: the general method, for example, is easily reversed to allow two way exchange method, it can be served as store of value And these are all easily understood. This unifying quality is very satisfying; it makes economic growth easy and encourages innovation. it is a unit of account. The ease with which money is converted into other things such as goods and services--is sometimes called money's liquidity.

Types of money

1. Fiat money is money by declaration
2. Commodity money

In the type of money for the understanding one way of doing a medium exchange. In the economics system there are general types that always work, for example a one type is fiat money that is money by declaration and it has no intrinsic value like paper money. Also, there are many types, when a money has some special characteristic that can be used to find the answer more easily. So there are special types that apply in special cases and also general methods. Another type is commodity money, money that has intrinsic value that is gold exchange standard for example people uses gold as money that type of economy is called as gold currency standard. Money supply in gold standard is an ancient methodology. Paper money in today's time is made of paper with effective advantages

Features of Money

- The features and simplicity of money means that government can carry out monetary system.
- Paper money increases the capability for economic growth management reducing the dependence upon other standards.
- It also improves the overall performance of the economics.

Monetary System

To help people reduce transaction costs the government may get involved in the monetary system. The purity and weight has to be verified as per consideration gold as a currency is very costly. In addition, coins are more recognized than gold bullion.

From the public in exchange for gold-certificates pieces of paper that can be redeemed for actual gold the government then accepts gold. It is easier to carry around as paper than gold. Then the currency will be just as valuable as the gold itself. If people trust that the government will give them the gold upon request, the end result is that because no one redeems the gold anymore and everyone accepts the paper, they will have value and serve as money.

Money Supply Vs Monetary Policy

- Quantity of money available in an economy is called as the money supply.
- Monetary policy are said to be the control over the money supply.
- In India, partially independent institution called the Reserve bank conducted as monetary policy.
- The central bank in the U.S. is called the Federal Reserve, or the Fed.

Advantages of Paper Money

- i. Paper money is Economical and cheap to produce.
- ii. It is Convenient- to carry and store.
- iii. It is Homogeneous and the Notes are almost identical
- iv. It has Stability-Value can be kept stable.
- v. It has Elasticity-it can be increased/decreased at will of government.
- vi. It has Cheap remittance means it can be easily moved
- vii. It is very much Advantageous to banks.
- viii. It has Fiscal advantage to government- print/destroy as need arises.

Essentials of a Sound Currency System:

It should must maintain a reasonable stability of prices in the country means Internal Value to be stable. It should must maintain a reasonable stability external value of currency like Purchasing power in foreign countries should remain constant. It should be economical – avoid national waste. Elasticity and automatic to expand and contract as required by trade, industry and government. Must be simple enough for an average person to follow.

Value of Money

- a. Command over a definite weight and purity of gold/ silver (gold/ silver standard)
- b. Units of foreign currency that it will purchase.
- c. Command over goods & services with a country means internal purchase power.

- d. 1 US\$- Rs 71.93 approx.
- e. Quantity of goods and services that will be exchanged for a unit of money.
- f. Quantity of goods and services that a unit of money can buy.
- g. Value of money inverse to general price level.
- h. Medium has been mastered the same method can be applied
- i. The beautiful coherence between goods and services is clearly manifest in the money supply system.

CONCLUSION

The function of money and characteristics is an immediate and natural consequence of medium of exchange. In addition, this is the true nature of money- not the rigid and boring 'system' that is currently widespread. Thus, in short we can say that both **goods** and services are very important in today's age when people's economical skills are deteriorating as the use of paper money is increasingly commencing at every stage instance of gold. Students of economics and Abacus dispel their fear of paper money and gain a newfound confidence to use to remove problem without apprehension. So, keeping in mind their importance efforts should be made to make teachers, students and parents more aware about the importance of learning function and characteristics of money in the growth of economy. Everyone should organize the workshops and seminars for the money supply features and students in which they are told about the importance of money functions.

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A STUDY ON CONSUMER'S PERCEPTION AND PREFERENCE OF LIFE INSURANCE PRODUCTS OF FOREIGN PLAYERS IN TIRUPUR DISTRICT

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ABSTRACT

The insurance sector has opened up for the private sector in 1999 because of the new economic policy. Currently, one public sector insurance company and 22 private insurance companies are in operation in India. The results reveal that 65.18 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level followed by low level (18.57 per cent) and high level (16.25 per cent). There is significant difference between socio-economic status of consumers and their perception about foreign life insurance players except type of family of consumers and perception about foreign life insurance players. The results imply that 29.59 per cent of consumers prefer ICICI Prudential followed by Bajaj Allianz (18.76 per cent), HDFC Standard Life (16.63 per cent), Aviva (11.61 per cent), Bharti – AXA (10.06 per cent), Tata AIG (7.16 per cent) and Max New York (6.19 per cent). There is significant association between socio-economic status of consumers and their preference of life insurance products of foreign players except type of family of consumers and preference of life insurance products of foreign players. Hence, the foreign insurance companies should give importance to the segmentation of the insurance market on the basis of socio-economic status to know the perception and preference consumers. Foreign insurance companies should make positive perception among consumers and meet their requirements to keep them and to draw the attention of new consumers for their survival and growth. Foreign insurance companies should provide quality services and innovative products to their consumers.

Keywords: Consumers, Foreign Players, Life Insurance, Perception, Preference

1. INTRODUCTION

Insurance is the instrument by through which people can protect their risk about something they have. Insurance assists to remove or decrease the risk of life. Any kind of risk on life may be insured against at a premium proportionate with the risk engages. Indian insurance sector is the second major mobilization of savings after banking sector and comprises 15 per cent of gross domestic product savings. The liberalization, globalization and privatization have taken place in India in early 1990s. The insurance sector has opened up for the private sector in 1999 because of the new economic policy. Currently, one public sector insurance company and 22 private insurance companies are in operation in India.

The newer competitive market situation is expected to give various benefits to the consumers. Now the consumers have a variety of options in terms of quantity and quality of products and services, low premium rates and effective services. At the same time, country has benefited in terms of savings, availability of money for investment, enhancing productivity and development of various kinds of debt. With the entrance of private players, the competition is tough and deep. To attract the consumers, insurance companies have to provide innovative products and services (Leepsa and Digal, 2016). Hence, the accomplishment of a company is massively depending on the availability and quality of their services and products to the consumers (Rajkumar and Kannan, 2014).

Correspondingly perception of consumers is changed about the quality of service and kinds products of the insurance companies. Therefore, insurance companies attempt to recognize the wants and preferences of consumers and their perception towards insurance companies so that they can able to fulfill their requirements efficiently and effectively. With this backdrop, the present research is made to study consumer's perception and preference of life insurance products of foreign players in Tirupur district.

2. METHODOLOGY

The Tirupur district is selected for the present study. The 517 consumers of foreign insurance players are chosen for the present study using adopting random sampling method. The frequency and percentage analysis are done to understand socio-economic status of consumers of foreign insurance players and consumer's preference of life insurance products of foreign players. The mean and standard deviation are worked out for consumer's perception about foreign life insurance players. The ANOVA (Analysis of Variance) test is carried out to examine the difference between socio-economic status of consumers and their perception about foreign life insurance players. The Chi-square test is used to study the association between socio-economic status of consumers and their preference of life insurance products of foreign players.

3. RESULTS AND DISCUSSION

3.1. SOCIO-ECONOMIC STATUS OF CONSUMERS OF FOREIGN INSURANCE PLAYERS

The socio-economic status of consumers of foreign insurance players was analyzed and the results are presented in Table-1. The results show that 65.96 per cent of consumers are males and the remaining of 34.04 per cent of consumers are females. The results indicate that 28.63 per cent of consumers are in the age group of 31 – 40 years, 26.30 per cent of consumers are in the age group of 21 – 30 years, 23.79 per cent of consumers are in the age group of 41 – 50 years, 9.48 per cent of consumers are in the age group of 51 – 60 years, 6.58 per cent of consumers are in the age group of above 60 years and 5.22 per cent of consumers are in the age group of less than 20 years.

The results reveal that 26.11 per cent of consumers have educational qualification of under graduation, 22.82 per cent of consumers have educational qualification of post graduation, 17.22 per cent of consumers have educational qualification of higher secondary, 13.35 per cent of consumers have educational qualification of diploma, 10.44 per cent of consumers have educational qualification of secondary and 10.06 per cent of consumers are illiterates. The results show that 36.75 per cent of consumers are private employees, 24.18 per cent of consumers are government employees, 19.15 per cent of consumers are professionals, 14.51 per cent of consumers are businessmen and 5.41 per cent of consumers are agriculturists.

Table-1: Socio-Economic Status of Consumers of Foreign Insurance Players

Socio-Economic Status	Number of Consumers	Percentage
Gender		
Male	341	65.96
Female	176	34.04
Age Group		
Less than 20 years	27	5.22
21 – 30 years	136	26.30
31 – 40 years	148	28.63
41 – 50 years	123	23.79
51 – 60 years	49	9.48
Above 60 years	34	6.58
Educational Qualification		
Illiterates	52	10.06
Secondary	54	10.44
Higher Secondary	89	17.22
Diploma	69	13.35
Under Graduation	135	26.11
Post Graduation	118	22.82
Occupation		
Businessmen	75	14.51
Government Employees	125	24.18
Private Employees	190	36.75
Professionals	99	19.15
Agriculturists	28	5.41
Work Experience		
1 – 5 years	98	18.96
6 – 10 years	148	28.63
11 – 15 years	165	31.91
16 – 20 years	67	12.96
More than 20 years	39	7.54
Monthly Income		
Below Rs,20,000	102	19.73
Rs.20,001 – Rs.30,000	209	40.42
Rs.30,001 – Rs.40,000	105	20.31
Rs.40,001 – Rs.50,000	63	12.19
Above Rs.50,000	38	7.35
Marital Status		
Unmarried	172	33.27

Married	345	66.73
Type of Family		
Joint Family	196	37.91
Nuclear Family	321	62.09
Residential Area		
Urban	235	45.45
Semi-Urban	152	29.40
Rural	130	25.15

The results indicate that 31.91 per cent of consumers have work experience of 11 – 15 years, 28.63 per cent of consumers have work experience of 6 – 10 years, 18.96 per cent of consumers have work experience of 1 – 5 years, 12.96 per cent of consumers have work experience of 16 – 20 years and 7.54 per cent of consumers have work experience of more than 20 years. The results reveal that 40.42 per cent of consumers are in the monthly income group of Rs.20,001 – Rs.30,000, 20.31 per cent of consumers are in the monthly income group of Rs.30,001 – Rs.40,000, 19.73 per cent of consumers are in the monthly income group of below Rs.20,000, 12.19 per cent of consumers are in the monthly income group of Rs.40,001 – Rs.50,000 and 7.35 per cent of consumers are in the monthly income group of above Rs.50,000.

The results show that 66.73 per cent of consumers are married and the rest of 33.27 per cent of consumers are unmarried. The results indicate that 62.09 per cent of consumers have nuclear family and the remaining of 37.91 per cent of consumers has joint family. The results reveal that 45.45 per cent of consumers are residing in urban area, 29.40 per cent of consumers are residing in semi-urban area and 25.15 per cent of consumers are residing in rural area.

3.2 CONSUMER'S PERCEPTION ABOUT FOREIGN LIFE INSURANCE PLAYERS

The consumer's perception about foreign life insurance players was analyzed and the results are presented in Table-2.

Table-2: Consumer's Perception about Foreign Life Insurance Players

Perception	Mean	Standard Deviation
The agents of foreign insurance players inform consumers well about policies	4.44	0.55
The foreign insurance players provide services on time	4.36	0.38
The foreign insurance players send proper reminders about installments	4.73	0.20
The agents of foreign insurance players are cooperative	3.42	0.95
The employees of foreign insurance players are responsible towards consumers	4.27	0.51
The agents of foreign insurance players respond promptly	3.66	0.88
The foreign insurance players provide hassle free settlements	3.13	1.82
The foreign insurance players give personal attention to individual consumers	3.84	0.80
The foreign insurance players fulfill their promises	3.74	0.85
The foreign insurance players provide the claims on time	3.61	0.84
The foreign insurance players understand the financial needs of consumers	3.39	1.06
The terms and conditions of foreign insurance players are easily understandable	3.37	1.07
The life insurance policies of foreign players are beneficial	3.60	0.86
The foreign insurance players have high level of reputation	3.62	0.79
The foreign insurance players settle claims timely and easily	3.44	1.02

The results show that the consumers are strongly agreed with the foreign insurance players send proper reminders about installments, while, they are neutral with the agents of foreign insurance players are cooperative, the foreign insurance players provide hassle free settlements, the foreign insurance players understand the financial needs of consumers, the terms and conditions of foreign insurance players are easily understandable and the foreign insurance players settle claims timely and easily. Meanwhile, the consumers are agreed with the agents of foreign insurance players inform consumers well about policies, the foreign insurance players provide services on time, the employees of foreign insurance players are responsible towards consumers, the agents of foreign insurance players respond promptly, the foreign insurance players give personal attention to individual consumers, the foreign insurance players fulfill their promises, the foreign insurance players provide the claims on time, the life insurance policies of foreign players are beneficial and the foreign insurance players have high level of reputation.

3.3 SOCIO-ECONOMIC STATUS OF CONSUMERS AND THEIR PERCEPTION ABOUT FOREIGN LIFE INSURANCE PLAYERS

The consumer's perception about foreign life insurance players is differing with their socio-economic status. The relationship between socio-economic status of consumers and their consumer's perception about foreign life insurance players was analyzed and the results are hereunder presented. The distribution of consumers on the basis of their perception about foreign life insurance players was analyzed and the results are presented in Table-3. The responses of consumers about foreign life insurance players has been classified into low level, moderate level and high level based on "Mean \pm Standard Deviation (SD)" criterion. The mean is 56.62 and the SD is 9.86.

Table-3: Distribution of Consumers on the Basis of their Perception about Foreign Life Insurance Players

Level of Perception	Number of Consumers	Percentage
Low	96	18.57
Moderate	337	65.18
High	84	16.25
Total	517	100.00

The results indicate that 65.18 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level followed by low level (18.57 per cent) and high level (16.25 per cent).

3.3.1 GENDER AND PERCEPTION ABOUT FOREIGN LIFE INSURANCE PLAYERS

The relationship between gender of consumers and perception about foreign life insurance players was analyzed and the results are presented in Table-4.

Table-4: Gender and Perception about Foreign Life Insurance Players

Gender	Level of Perception			Total
	Low	Moderate	High	
Male	88 (25.81)	189 (55.42)	64 (18.77)	341 (65.96)
Female	8 (4.55)	148 (84.09)	20 (11.36)	176 (34.04)
Total	96 (18.57)	337 (65.18)	84 (16.25)	517 (100.00)

(The figures in the parentheses are per cent to total)

Out of 341 male consumers, 55.42 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 25.81 per cent of consumers perceived that the level of perception about foreign life insurance players at low level and 18.77 per cent of consumers perceived that the level of perception about foreign life insurance players at high level.

Out of 176 female consumers, 84.09 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 11.36 per cent of consumers perceived that the level of perception about foreign life insurance players at high level and 4.55 per cent of consumers perceived that the level of perception about foreign life insurance players at low level.

To examine the difference between gender of consumers and perception about foreign life insurance players, the Analysis of Variance (ANOVA) test is applied and the results are presented in Table-5.

Table-5: Gender and Perception about Foreign Life Insurance Players – ANOVA

	Sum of Squares	Degrees of Freedom	Mean Square	F	Sig.
Between Groups	1575.976	1	1575.976	16.687	.000
Within Groups	48639.719	515	94.446		
Total	50215.694	516	-	-	-

The F-value of 16.687 is significant at one per cent level showing that there is significant difference between gender of consumers and perception about foreign life insurance players. Thus, the null hypothesis of there is no significant difference between gender of consumers and perception about foreign life insurance players is rejected.

3.3.2 AGE GROUP AND PERCEPTION ABOUT FOREIGN LIFE INSURANCE PLAYERS

The relationship between age group of consumers and perception about foreign life insurance players was analyzed and the results are presented in Table-6.

Table-6: Age Group and Perception about Foreign Life Insurance Players

Age Group	Level of Perception			Total
	Low	Moderate	High	
Less than 20 years	1 (3.70)	26 (96.30)	0 (0.00)	27 (5.22)
21 – 30 years	24 (17.65)	94 (69.12)	18 (13.23)	136 (26.30)
31 – 40 years	35 (23.65)	97 (65.54)	16 (10.81)	148 (28.63)
41 – 50 years	17 (13.82)	82 (66.67)	24 (19.51)	123 (23.79)
51 – 60 years	12 (24.49)	17 (34.69)	20 (40.82)	49 (9.48)
Above 60 years	7 (20.59)	21 (61.76)	6 (17.65)	34 (6.58)
Total	96 (18.57)	337 (65.18)	84 (16.25)	517 (100.00)

(The figures in the parentheses are per cent to total)

Out of 27 consumers who are in the age group of less than 20 years, 96.30 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level and 3.70 per cent of consumers perceived that the level of perception about foreign life insurance players at low level.

Out of 136 consumers who are in the age group of 21 – 30 years, 69.12 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 17.65 per cent of consumers perceived that the level of perception about foreign life insurance players at low level and 13.23 per cent of consumers perceived that the level of perception about foreign life insurance players at high level.

Out of 148 consumers who are in the age group of 31 – 40 years, 65.54 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 23.65 per cent of consumers perceived that the level of perception about foreign life insurance players at low level and 10.81 per cent of consumers perceived that the level of perception about foreign life insurance players at high level.

Out of 123 consumers who are in the age group of 41 – 50 years, 66.67 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 19.51 per cent of consumers perceived that the level of perception about foreign life insurance players at high level and 13.82 per cent of consumers perceived that the level of perception about foreign life insurance players at low level.

Out of 49 consumers who are in the age group of 51 – 60 years, 40.82 per cent of consumers perceived that the level of perception about foreign life insurance players at high level, 34.69 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level and 24.49 per cent of consumers perceived that the level of perception about foreign life insurance players at low level.

Out of 34 consumers who are in the age group of above 60 years, 61.76 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 20.59 per cent of consumers perceived that the level of perception about foreign life insurance players at low level and 17.65 per cent of consumers perceived that the level of perception about foreign life insurance players at high level.

To examine the difference between age group of consumers and perception about foreign life insurance players, the Analysis of Variance (ANOVA) test is applied and the results are presented in Table-7.

Table-7: Age Group and Perception about Foreign Life Insurance Players – ANOVA

	Sum of Squares	Degrees of Freedom	Mean Square	F	Sig.
Between Groups	1436.548	5	287.310	3.010	.011
Within Groups	48779.146	511	95.458		
Total	50215.694	516	-	-	-

The F-value of 3.010 is significant at one per cent level showing that there is significant difference between age group of consumers and perception about foreign life insurance players. Thus, the null hypothesis of there is no significant difference between age group of consumers and perception about foreign life insurance players is rejected.

3.3.3 EDUCATIONAL QUALIFICATION AND PERCEPTION ABOUT FOREIGN LIFE INSURANCE PLAYERS

The relationship between educational qualification of consumers and perception about foreign life insurance players was analyzed and the results are presented in Table-8.

Table-8: Educational Qualification and Perception about Foreign Life Insurance Players

Educational Qualification	Level of Perception			Total
	Low	Moderate	High	
Illiterates	1 (1.92)	33 (63.46)	18 (34.62)	52 (10.06)
Secondary	13 (24.07)	37 (68.52)	4 (7.41)	54 (10.44)
Higher Secondary	36 (40.45)	47 (52.81)	6 (6.74)	89 (17.22)
Diploma	0 (0.00)	54 (78.26)	15 (21.74)	69 (13.35)
Under Graduation	46 (30.07)	89 (65.93)	0 (0.00)	135 (26.11)
Post Graduation	0 (0.00)	77 (65.25)	41 (34.75)	118 (22.82)
Total	96 (18.57)	337 (65.18)	84 (16.25)	517 (100.00)

(The figures in the parentheses are per cent to total)

Out of 52 consumers who are illiterates, 63.46 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 34.62 per cent of consumers perceived that the level of perception about foreign life insurance players at high level and 1.92 per cent of consumers perceived that the level of perception about foreign life insurance players at low level.

Out of 54 consumers who have secondary education, 68.52 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 24.07 per cent of consumers perceived that the level of perception about foreign life insurance players at low level and 7.41 per cent of consumers perceived that the level of perception about foreign life insurance players at high level.

Out of 89 consumers who have higher secondary education, 52.81 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 40.45 per cent of consumers perceived that the level of perception about foreign life insurance players at low level and 6.74 per cent of consumers perceived that the level of perception about foreign life insurance players at high level.

Out of 69 consumers who are diploma holders, 78.26 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level and 21.74 per cent of consumers perceived that the level of perception about foreign life insurance players at high level.

Out of 135 consumers who are under graduates, 65.93 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level and 30.07 per cent of consumers perceived that the level of perception about foreign life insurance players at low level.

Out of 118 consumers who are post graduates, 65.25 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level and 34.75 per cent of consumers perceived that the level of perception about foreign life insurance players at high level.

To examine the difference between educational qualification of consumers and perception about foreign life insurance players, the Analysis of Variance (ANOVA) test is applied and the results are presented in Table -9.

Table-9: Educational Qualification and Perception about Foreign Life Insurance Players – ANOVA

	Sum of Squares	Degrees of Freedom	Mean Square	F	Sig.
Between Groups	20639.381	5	4127.876	71.319	.000
Within Groups	29576.313	511	57.879		
Total	50215.694	516	-	-	-

The F-value of 71.319 is significant at one per cent level showing that there is significant difference between educational qualification of consumers and perception about foreign life insurance players. Thus, the null hypothesis of there is no significant difference between educational qualification of consumers and perception about foreign life insurance players is rejected.

3.3.4 OCCUPATION AND PERCEPTION ABOUT FOREIGN LIFE INSURANCE PLAYERS

The relationship between occupation of consumers and perception about foreign life insurance players was analyzed and the results are presented in Table-10.

Table-10: Occupation and Perception about Foreign Life Insurance Players

Occupation	Level of Perception			Total
	Low	Moderate	High	
Businessmen	2 (2.67)	46 (61.33)	27 (36.00)	75 (14.51)
Government Employees	21 (16.80)	80 (64.00)	24 (19.20)	125 (24.18)
Private Employees	32 (16.84)	130 (68.42)	28 (14.74)	190 (36.75)
Professionals	35 (35.35)	59 (59.60)	5 (5.05)	99 (19.15)
Agriculturists	6 (21.43)	22 (78.57)	0 (0.00)	28 (5.41)
Total	96 (18.57)	337 (65.18)	84 (16.25)	517 (100.00)

(The figures in the parentheses are per cent to total)

Out of 75 consumers who are businessmen, 61.33 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 36.00 per cent of consumers perceived that the level of perception about foreign life insurance players at high level and 2.67 per cent of consumers perceived that the level of perception about foreign life insurance players at low level.

Out of 125 consumers who are government employees, 64.00 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 19.20 per cent of consumers perceived that the level of perception about foreign life insurance players at high level and 16.80 per cent of consumers perceived that the level of perception about foreign life insurance players at low level.

Out of 190 consumers who are private employees, 68.42 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 16.84 per cent of consumers perceived that the level of perception about foreign life insurance players at low level and 14.74 per cent of consumers perceived that the level of perception about foreign life insurance players at high level.

Out of 99 consumers who are professionals, 59.60 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 35.35 per cent of consumers perceived that the level of perception about foreign life insurance players at low level and 5.05 per cent of consumers perceived that the level of perception about foreign life insurance players at high level.

Out of 28 consumers who agriculturists, 78.57 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level and 21.43 per cent of consumers perceived that the level of perception about foreign life insurance players at low level.

To examine the difference between occupation of consumers and perception about foreign life insurance players, the Analysis of Variance (ANOVA) test is applied and the results are presented in Table-11.

Table-11: Occupation and Perception about Foreign Life Insurance Players – ANOVA

	Sum of Squares	Degrees of Freedom	Mean Square	F	Sig.
Between Groups	6028.387	4	1507.097	17.463	.000
Within Groups	44187.308	512	86.303		
Total	50215.694	516	-	-	-

The F-value of 17.463 is significant at one per cent level showing that there is significant difference between occupation of consumers and perception about foreign life insurance players. Thus, the null hypothesis of there is no significant difference between occupation of consumers and perception about foreign life insurance players is rejected.

3.3.5 WORK EXPERIENCE AND PERCEPTION ABOUT FOREIGN LIFE INSURANCE PLAYERS

The relationship between work experience of consumers and perception about foreign life insurance players was analyzed and the results are presented in Table-12.

Table-12: Work Experience and Perception about Foreign Life Insurance Players

Work Experience	Level of Perception			Total
	Low	Moderate	High	
1 – 5 years	25 (25.51)	69 (70.41)	4 (4.08)	98 (18.96)
6 – 10 years	42 (28.38)	99 (66.89)	7 (4.73)	148 (28.63)
11 – 15 years	20 (12.12)	98 (59.39)	47 (28.49)	165 (31.91)
16 – 20 years	9 (13.43)	43 (64.18)	15 (22.39)	67 (12.96)
More than 20 years	0 (0.00)	28 (71.79)	11 (28.21)	39 (7.54)
Total	96 (18.57)	337 (65.18)	84 (16.25)	517 (100.00)

(The figures in the parentheses are per cent to total)

Out of 98 consumers who have work experience of 1 – 5 years, 70.41 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 25.51 per cent of consumers perceived that the level of perception about foreign life insurance players at low level and 4.08 per cent of consumers perceived that the level of perception about foreign life insurance players at high level.

Out of 148 consumers who have work experience of 6 – 10 years, 66.89 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 28.38 per cent of consumers perceived that the level of perception about foreign life insurance players at low level and 4.73 per cent of consumers perceived that the level of perception about foreign life insurance players at high level.

Out of 165 consumers who have work experience of 11 – 15 years, 59.39 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 28.49 per cent of consumers perceived that the level of perception about foreign life insurance players at high level and 12.12 per cent of consumers perceived that the level of perception about foreign life insurance players at low level.

Out of 67 consumers who have work experience of 16 – 20 years, 64.18 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 22.39 per cent of consumers perceived that the level of perception about foreign life insurance players at high level and 13.43 per cent of consumers perceived that the level of perception about foreign life insurance players at low level.

Out of 39 consumers who have work experience of more than 20 years, 71.79 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level and 28.21 per cent of consumers perceived that the level of perception about foreign life insurance players at high level.

To examine the difference between work experience of consumers and perception about foreign life insurance players, the Analysis of Variance (ANOVA) test is applied and the results are presented in Table-13.

Table-13: Work Experience and Perception about Foreign Life Insurance Players – ANOVA

	Sum of Squares	Degrees of Freedom	Mean Square	F	Sig.
Between Groups	10105.778	4	2526.445	32.250	.000
Within Groups	40109.916	512	78.340		
Total	50215.694	516	-	-	-

The F-value of 32.250 is significant at one per cent level showing that there is significant difference between work experience of consumers and perception about foreign life insurance players. Thus, the null hypothesis of there is no significant difference between work experience of consumers and perception about foreign life insurance players is rejected.

3.3.6 MONTHLY INCOME AND PERCEPTION ABOUT FOREIGN LIFE INSURANCE PLAYERS

The relationship between monthly income of consumers and perception about foreign life insurance players was analyzed and the results are presented in Table-14.

Table-14: Monthly Income and Perception about Foreign Life Insurance Players

Monthly Income	Level of Perception			Total
	Low	Moderate	High	
Below Rs,20,000	6 (5.88)	76 (74.51)	20 (19.61)	102 (19.73)
Rs.20,001 – Rs.30,000	36 (17.23)	142 (67.94)	31 (14.83)	209 (40.42)
Rs.30,001 – Rs.40,000	26 (24.76)	68 (64.76)	11 (10.48)	105 (20.31)
Rs.40,001 – Rs.50,000	19 (30.16)	42 (66.67)	2 (3.17)	63 (12.19)
Above Rs.50,000	9 (23.68)	9 (23.68)	20 (52.64)	38 (7.35)
Total	96 (18.57)	337 (65.18)	84 (16.25)	517 (100.00)

(The figures in the parentheses are per cent to total)

Out of 102 consumers who are in the monthly income group of below Rs,20,000, 74.51 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 19.61 per cent of consumers perceived that the level of perception about foreign life insurance players at high level and 5.88 per cent of consumers perceived that the level of perception about foreign life insurance players at low level.

Out of 209 consumers who are in the monthly income group of Rs.20,001 – Rs.30,000, 67.94 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 17.23 per cent of consumers perceived that the level of perception about foreign life insurance players at low level and 14.83 per cent of consumers perceived that the level of perception about foreign life insurance players at high level.

Out of 105 consumers who are in the monthly income group of Rs.30,001 – Rs.40,000, 64.76 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 24.76 per cent of consumers perceived that the level of perception about foreign life insurance players at low level and 10.48 per cent of consumers perceived that the level of perception about foreign life insurance players at high level.

Out of 63 consumers who are in the monthly income group of Rs.40,001 – Rs.50,000, 66.67 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 30.16 per cent of consumers perceived that the level of perception about foreign life insurance players at low level and 3.17 per cent of consumers perceived that the level of perception about foreign life insurance players at high level.

Out of 38 consumers who are in the monthly income group of above Rs.50,000, 52.64 per cent of consumers perceived that the level of perception about foreign life insurance players at high level and 23.68 per cent of consumers perceived that the level of perception about foreign life insurance players at both moderate and low level.

To examine the difference between monthly income of consumers and perception about foreign life insurance players, the Analysis of Variance (ANOVA) test is applied and the results are presented in Table-15.

Table-15: Monthly Income and Perception about Foreign Life Insurance Players – ANOVA

	Sum of Squares	Degrees of Freedom	Mean Square	F	Sig.
Between Groups	4436.481	4	1109.120	12.405	.000
Within Groups	45779.213	512	89.413		
Total	50215.694	516	-	-	-

The F-value of 12.405 is significant at one per cent level showing that there is significant difference between monthly income of consumers and perception about foreign life insurance players. Thus, the null hypothesis of there is no significant difference between monthly income of consumers and perception about foreign life insurance players is rejected.

3.3.7 MARITAL STATUS AND PERCEPTION ABOUT FOREIGN LIFE INSURANCE PLAYERS

The relationship between marital status of consumers and perception about foreign life insurance players was analyzed and the results are presented in Table-16.

Table-16: Marital Status and Perception about Foreign Life Insurance Players

Marital Status	Level of Perception			Total
	Low	Moderate	High	
Unmarried	42 (24.42)	120 (69.77)	10 (5.81)	172 (33.27)
Married	54 (15.65)	217 (62.90)	74 (21.45)	345 (66.73)
Total	96 (18.57)	337 (65.18)	84 (16.25)	517 (100.00)

(The figures in the parentheses are per cent to total)

Out of 172 consumers who are unmarried, 69.77 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 24.42 per cent of consumers perceived that the level of perception about foreign life insurance players at low level and 5.81 per cent of consumers perceived that the level of perception about foreign life insurance players at high level.

Out of 345 consumers who are married, 62.90 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 21.45 per cent of consumers perceived that the level of perception about foreign life insurance players at high level and 15.65 per cent of consumers perceived that the level of perception about foreign life insurance players at low level.

To examine the difference between marital status of consumers and perception about foreign life insurance players, the Analysis of Variance (ANOVA) test is applied and the results are presented in Table - 17.

Table-17: Marital Status and Perception about Foreign Life Insurance Players – ANOVA

	Sum of Squares	Degrees of Freedom	Mean Square	F	Sig.
Between Groups	2124.384	1	2124.384	22.750	.000
Within Groups	48091.311	515	93.381		
Total	50215.694	516	-	-	-

The F-value of 22.750 is significant at one per cent level showing that there is significant difference between marital status of consumers and perception about foreign life insurance players. Thus, the null hypothesis of there is no significant difference between marital status of consumers and perception about foreign life insurance players is rejected.

3.3.8 TYPE OF FAMILY AND PERCEPTION ABOUT FOREIGN LIFE INSURANCE PLAYERS

The relationship between type of family of consumers and perception about foreign life insurance players was analyzed and the results are presented in Table-18.

Table-18: Type of Family and Perception about Foreign Life Insurance Players

Type of Family	Level of Perception			Total
	Low	Moderate	High	
Joint Family	35 (17.86)	142 (72.45)	19 (9.69)	196 (37.91)
Nuclear Family	61 (19.00)	195 (60.75)	65 (20.25)	321 (62.09)

Total	96 (18.57)	337 (65.18)	84 (16.25)	517 (100.00)
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(The figures in the parentheses are per cent to total)

Out of 196 consumers who have joint family, 72.45 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 17.86 per cent of consumers perceived that the level of perception about foreign life insurance players at low level and 9.69 per cent of consumers perceived that the level of perception about foreign life insurance players at high level.

Out of 321 consumers who have nuclear family, 60.75 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 20.25 per cent of consumers perceived that the level of perception about foreign life insurance players at high level and 19.00 per cent of consumers perceived that the level of perception about foreign life insurance players at low level.

To examine the difference between type of family of consumers and perception about foreign life insurance players, the Analysis of Variance (ANOVA) test is applied and the results are presented in Table-19.

Table-19: Type of Family and Perception about Foreign Life Insurance Players – ANOVA

	Sum of Squares	Degrees of Freedom	Mean Square	F	Sig.
Between Groups	149.083	1	149.083	1.534	.216
Within Groups	50066.611	515	97.217		
Total	50215.694	516	-	-	-

The F-value of 1.534 is not statistically significant showing that there is no significant difference between type of family of consumers and perception about foreign life insurance players. Thus, the null hypothesis of there is no significant difference between type of family of consumers and perception about foreign life insurance players is accepted.

3.3.9 RESIDENTIAL AREA AND PERCEPTION ABOUT FOREIGN LIFE INSURANCE PLAYERS

The relationship between residential area of consumers and perception about foreign life insurance players was analyzed and the results are presented in Table-20.

Table-20: Residential Area and Perception about Foreign Life Insurance Players

Residential Area	Level of Perception			Total
	Low	Moderate	High	
Urban	64 (27.23)	143 (60.85)	28 (11.92)	235 (45.45)
Semi-Urban	19 (12.50)	103 (67.76)	30 (19.74)	152 (29.40)
Rural	13 (10.00)	91 (70.00)	26 (20.00)	130 (25.15)
Total	96 (18.57)	337 (65.18)	84 (16.25)	517 (100.00)

(The figures in the parentheses are per cent to total)

Out of 235 consumers who are residing in urban area, 60.85 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 27.23 per cent of consumers perceived that the level of perception about foreign life insurance players at low level and 11.92 per cent of consumers perceived that the level of perception about foreign life insurance players at high level.

Out of 152 consumers who are residing in semi-urban area, 67.76 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 19.74 per cent of consumers perceived that the level of perception about foreign life insurance players at high level and 12.50 per cent of consumers perceived that the level of perception about foreign life insurance players at low level.

Out of 130 consumers who are residing in rural area, 70.00 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level, 20.00 per cent of consumers perceived that the level of perception about foreign life insurance players at high level and 10.00 per cent of consumers perceived that the level of perception about foreign life insurance players at low level.

To examine the difference between residential area of consumers and perception about foreign life insurance players, the Analysis of Variance (ANOVA) test is applied and the results are presented in Table-21.

Table-21: Residential Area and Perception about Foreign Life Insurance Players – ANOVA

	Sum of Squares	Degrees of Freedom	Mean Square	F	Sig.
Between Groups	1285.124	2	642.562	6.750	.001
Within Groups	48930.571	514	95.196		
Total	50215.694	516	-	-	-

The F-value of 6.750 is significant at one per cent level showing that there is significant difference between residential area of consumers and perception about foreign life insurance players. Thus, the null hypothesis of there is no significant difference between residential area of consumers and perception about foreign life insurance players is rejected.

3.4 CONSUMER'S PREFERENCE OF LIFE INSURANCE PRODUCTS OF FOREIGN PLAYERS

The consumer's preference of life insurance products of foreign players was analyzed and the results are presented in Table-22.

Table-22: Consumer's Preference of Life Insurance Products of Foreign Players

Foreign Insurance Players	Number of Consumers	Percentage
Aviva	60	11.61
Bajaj Allianz	97	18.76
ICICI Prudential	153	29.59
HDFC Standard Life	86	16.63
Tata AIG	37	7.16
Bharti - AXA	52	10.06
Max New York	32	6.19
Total	517	100.00

The results show that 29.59 per cent of consumers prefer ICICI Prudential followed by Bajaj Allianz (18.76 per cent), HDFC Standard Life (16.63 per cent), Aviva (11.61 per cent), Bharti – AXA (10.06 per cent), Tata AIG (7.16 per cent) and Max New York (6.19 per cent).

3.5 SOCIO-ECONOMIC STATUS OF CONSUMERS AND THEIR PREFERENCE OF LIFE INSURANCE PRODUCTS OF FOREIGN PLAYERS

The consumer's preference of life insurance products of foreign players is varying with their socio-economic status. The association between socio-economic status of consumers and preference of life insurance products of foreign players was analyzed and the results are hereunder presented.

3.5.1 GENDER AND PREFERENCE OF LIFE INSURANCE PRODUCTS OF FOREIGN PLAYERS

The association between gender of consumers and preference of life insurance products of foreign players was analyzed and the results are presented in Table-23.

Table-23: Gender and Preference of Life Insurance Products of Foreign Players

Gender	Foreign Insurance Players							Total
	Aviva	Bajaj Allianz	ICICI Prudential	HDFC Standard Life	Tata AIG	Bharti - AXA	Max New York	
Male	44 (12.90)	73 (21.41)	98 (28.74)	52 (15.25)	12 (3.52)	37 (10.85)	25 (7.33)	341 (65.96)
Female	16 (9.09)	24 (13.64)	55 (31.25)	34 (19.32)	25 (14.20)	15 (8.52)	7 (3.98)	176 (34.04)
Total	60 (11.61)	97 (18.76)	153 (29.59)	86 (16.63)	37 (7.16)	52 (10.06)	32 (6.19)	517 (100.00)

(The figures in the parentheses are per cent to total)

Out of 341 male consumers, 28.74 per cent of consumers prefer ICICI Prudential followed by Bajaj Allianz (21.41 per cent), HDFC Standard Life (15.25 per cent), Aviva (12.90 per cent), Bharti – AXA (10.85 per cent), Max New York (7.33 per cent) and Tata AIG (3.52 per cent).

Out of 176 female consumers, 31.25 per cent of consumers prefer ICICI Prudential followed by HDFC Standard Life (19.32 per cent), Tata AIG (14.20 per cent), Bajaj Allianz (13.64 per cent), Aviva (9.09 per cent), Bharti – AXA (8.52 per cent) and Max New York (3.98 per cent).

To study the association between gender of consumers and preference of life insurance products of foreign players, the Chi-Square test is done and the results are presented in Table-24.

Table-24: Gender and Preference of Life Insurance Products of Foreign Players-Chi-square Test

	Value	Degrees of Freedom	Sig.
Pearson Chi-square	27.849	6	.000

The Chi-square value of 27.849 is significant at one per cent level indicating that there is significant association between gender of consumers and preference of life insurance products of foreign players. Hence, the null hypothesis of there is no significant association between gender of consumers and preference of life insurance products of foreign players is rejected.

3.5.2 AGE GROUP AND PREFERENCE OF LIFE INSURANCE PRODUCTS OF FOREIGN PLAYERS

The association between age group of consumers and preference of life insurance products of foreign players was analyzed and the results are presented in Table-25.

Table-25: Age Group and Preference of Life Insurance Products of Foreign Players

Gender	Foreign Insurance Players							Total
	Aviva	Bajaj Allianz	ICICI Prudential	HDFC Standard Life	Tata AIG	Bharti - AXA	Max New York	
Less than 20 years	1 (3.70)	4 (14.82)	13 (48.15)	5 (18.52)	1 (3.70)	3 (11.11)	0 (0.00)	27 (5.22)
21 – 30 years	11 (8.09)	28 (20.59)	40 (29.41)	26 (19.12)	16 (11.76)	11 (8.09)	4 (2.94)	136 (26.30)
31 – 40 years	16 (10.81)	21 (14.19)	48 (32.43)	32 (21.62)	8 (5.41)	15 (10.13)	8 (5.41)	148 (28.63)
41 – 50 years	17 (13.82)	27 (21.95)	33 (26.83)	14 (11.38)	8 (6.50)	15 (12.20)	9 (7.32)	123 (23.79)
51 – 60 years	11 (22.45)	4 (8.16)	13 (26.53)	5 (10.21)	2 (4.08)	5 (10.21)	9 (18.36)	49 (9.48)
Above 60 60 years	4 (11.77)	13 (38.23)	6 (17.65)	4 (11.77)	2 (5.88)	3 (8.82)	2 (5.88)	34 (6.58)
Total	60 (11.61)	97 (18.76)	153 (29.59)	86 (16.63)	37 (7.16)	52 (10.06)	32 (6.19)	517 (100.00)

The figures in the parentheses are per cent to total

Out of 27 consumers who are in the age group of less than 20 years, 48.15 per cent of consumers prefer ICICI Prudential followed by HDFC Standard Life (18.52 per cent), Bajaj Allianz (14.82 per cent), Bharti – AXA (11.11 per cent) and Aviva and Tata AIG (3.70 per cent).

Out of 136 consumers who are in the age group of 21 – 30 years, 29.41 per cent of consumers prefer ICICI Prudential followed by Bajaj Allianz (20.59 per cent), HDFC Standard Life (19.12 per cent), Tata AIG (11.76 per cent), Aviva and Bharti – AXA (8.09 per cent) and Max New York (2.94 per cent).

Out of 148 consumers who are in the age group of 31 – 40 years, 32.43 per cent of consumers prefer ICICI Prudential followed by HDFC Standard Life (21.62 per cent), Bajaj Allianz (14.19 per cent), Aviva (10.81 per cent), Bharti – AXA (10.13 per cent) and Tata AIG and Max New York (5.41 per cent).

Out of 123 consumers who are in the age group of 41 – 50 years, 26.83 per cent of consumers prefer ICICI Prudential followed by Bajaj Allianz (21.95 per cent), Aviva (13.82 per cent), Bharti – AXA (12.20 per cent), HDFC Standard Life (11.38 per cent), Max New York (7.32 per cent) and Tata AIG (6.50 per cent).

Out of 49 consumers who are in the age group of 51 – 60 years, 26.53 per cent of consumers prefer ICICI Prudential followed by Aviva (22.45 per cent), Max New York (18.36 per cent), HDFC Standard Life and Bharti – AXA (10.21 per cent), Bajaj Allianz (8.16 per cent) and Tata AIG (4.08 per cent).

Out of 34 consumers who are in the age group of above 60 years, 38.23 per cent of consumers prefer Bajaj Allianz followed by ICICI Prudential (17.65 per cent), Aviva and HDFC Standard Life (11.77 per cent), Bharti – AXA (8.82 per cent), Tata AIG and Max New York (5.88 per cent).

To study the association between age group of consumers and preference of life insurance products of foreign players, the Chi-square test is done and the results are presented in Table-26.

Table-26: Age Group and Preference of Life Insurance Products of Foreign Players-Chi-square Test

	Value	Degrees of Freedom	Sig.
Pearson Chi-Square	56.450	30	.002

The Chi-square value of 56.450 is significant at one per cent level indicating that there is significant association between age group of consumers and preference of life insurance products of foreign players. Hence, the null hypothesis of there is no significant association between age group of consumers and preference of life insurance products of foreign players is rejected.

3.5.3 EDUCATIONAL QUALIFICATION AND PREFERENCE OF LIFE INSURANCE PRODUCTS OF FOREIGN PLAYERS

The association between educational qualification of consumers and preference of life insurance products of foreign players was analyzed and the results are presented in Table-27.

Table-27: Educational Qualification and Preference of Life Insurance Products of Foreign Players

Educational Qualification	Foreign Insurance Players							Total
	Aviva	Bajaj Allianz	ICICI Prudential	HDFC Standard Life	Tata AIG	Bharti - AXA	Max New York	
Illiterates	8 (15.38)	12 (23.08)	12 (23.08)	2 (3.85)	6 (11.54)	7 (13.46)	5 (9.61)	52 (10.06)
Secondary	2 (3.70)	3 (5.56)	25 (46.30)	13 (24.07)	6 (11.11)	3 (5.56)	2 (3.70)	54 (10.44)
Higher Secondary	2 (2.25)	4 (4.49)	38 (42.70)	20 (22.47)	13 (14.61)	7 (7.86)	5 (5.62)	89 (17.22)
Diploma	11 (15.94)	36 (52.17)	4 (5.80)	0 (0.00)	3 (4.35)	10 (14.49)	5 (7.25)	69 (13.35)
Under Graduation	5 (3.70)	14 (10.37)	46 (34.08)	31 (22.96)	6 (4.44)	22 (16.30)	11 (8.15)	135 (26.11)
Post Graduation	32 (27.12)	28 (23.73)	28 (23.73)	20 (16.95)	3 (2.54)	3 (2.54)	4 (3.39)	118 (22.82)
Total	60 (11.61)	97 (18.76)	153 (29.59)	86 (16.63)	37 (7.16)	52 (10.06)	32 (6.19)	517 (100.00)

(The figures in the parentheses are per cent to total)

Out of 52 consumers who are illiterates, 23.08 per cent of consumers prefer Bajaj Allianz and ICICI Prudential followed by Aviva (15.38 per cent), Bharti – AXA (13.46 per cent), Tata AIG (11.54 per cent), Max New York (9.61 per cent) and HDFC Standard Life (3.85 per cent).

Out of 54 consumers who have secondary education, 46.30 per cent of consumers prefer ICICI Prudential followed by HDFC Standard Life (24.07 per cent), Tata AIG (11.11 per cent), Bajaj Allianz and Bharti – AXA (5.56 per cent) and Aviva and Max New York (3.70 per cent).

Out of 89 consumers who have higher secondary education, 42.70 per cent of consumers prefer ICICI Prudential followed by HDFC Standard Life (22.47 per cent), Tata AIG (14.61 per cent), Bharti – AXA (7.86 per cent), Max New York (5.62 per cent), Bajaj Allianz (4.49 per cent) and Aviva (2.25 per cent).

Out of 69 consumers who are diploma holders, 52.17 per cent of consumers prefer Bajaj Allianz followed by Aviva (15.94 per cent), Bharti – AXA (14.49 per cent), Max New York (7.25 per cent), ICICI Prudential (5.80 per cent) and Tata AIG (4.35 per cent).

Out of 135 consumers who are under graduates, 34.08 per cent of consumers prefer ICICI Prudential followed by HDFC Standard Life (22.96 per cent), Bharti – AXA (16.30 per cent), Bajaj Allianz (10.37 per cent), Max New York (8.15 per cent), Tata AIG (4.44 per cent) and Aviva (3.70 per cent).

Out of 118 consumers who are post graduates, 27.12 per cent of consumers prefer Aviva followed by Bajaj Allianz and ICICI Prudential (23.73 per cent), HDFC Standard Life (16.95 per cent), Max New York (3.39 per cent) and Tata AIG and Bharti – AXA (2.54 per cent).

To study the association between educational qualification of consumers and preference of life insurance products of foreign players, the Chi-Square test is done and the results are presented in Table-28.

Table-28: Educational Qualification and Preference of Life Insurance Products of Foreign Players – Chi-square Test

	Value	Degrees of Freedom	Sig.
Pearson Chi-square	.019	30	.000

The Chi-square value of 0.019 is significant at one per cent level indicating that there is significant association between educational qualification of consumers and preference of life insurance products of foreign players. Hence, the null hypothesis of there is no significant association between educational qualification of consumers and preference of life insurance products of foreign players is rejected.

3.5.4 OCCUPATION AND PREFERENCE OF LIFE INSURANCE PRODUCTS OF FOREIGN PLAYERS

The association between occupation of consumers and preference of life insurance products of foreign players was analyzed and the results are presented in Table-29.

Table-29: Occupation and Preference of Life Insurance Products of Foreign Players

Occupation	Foreign Insurance Players							Total
	Aviva	Bajaj Allianz	ICICI Prudential	HDFC Standard Life	Tata AIG	Bharti - AXA	Max New York	
Businessmen	60 (80.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	15 (20.00)	0 (0.00)	75 (14.51)
Government Employees	0 (0.00)	97 (77.60)	0 (0.00)	14 (11.20)	0 (0.00)	14 (11.20)	0 (0.00)	125 (24.18)
Private Employees	0 (0.00)	0 (0.00)	140 (73.68)	0 (0.00)	13 (6.84)	23 (12.11)	14 (7.37)	190 (36.75)
Professionals	0 (0.00)	0 (0.00)	13 (13.13)	72 (72.73)	0 (0.00)	0 (0.00)	14 (14.14)	99 (19.15)
Agriculturists	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	24 (85.71)	0 (0.00)	4 (14.29)	28 (5.41)
Total	60 (11.61)	97 (18.76)	153 (29.59)	86 (16.63)	37 (7.16)	52 (10.06)	32 (6.19)	517 (100.00)

(The figures in the parentheses are per cent to total)

Out of 75 consumers who are businessmen, 80.00 per cent of consumers prefer Aviva followed by Bharti – AXA (20.00 per cent). Out of 125 consumers who are government employees, 77.60 per cent of consumers prefer Bajaj Allianz followed HDFC Standard Life and Bharti – AXA (11.20 per cent).

Out of 190 consumers who are private employees, 73.68 per cent of consumers prefer ICICI Prudential followed by Bharti – AXA (12.11 per cent), Max New York (7.37 per cent) and Tata AIG (6.84 per cent).

Out of 99 consumers who are professionals, 72.73 per cent of consumers prefer HDFC Standard Life followed by Max New York (14.14 per cent) and ICICI Prudential (13.13 per cent).

Out of 28 consumers who agriculturists, 85.71 per cent of consumers prefer Tata AIG followed by Max New York (14.29 per cent).

To study the association between occupation of consumers and preference of life insurance products of foreign players, the Chi-square test is done and the results are presented in Table-30.

Table-30: Occupation and Preference of Life Insurance Products of Foreign Players – Chi-square Test

	Value	Degrees of Freedom	Sig.
Pearson Chi-square	.014	24	.000

The Chi-square value of 0.019 is significant at one per cent level indicating that there is significant association between occupation of consumers and preference of life insurance products of foreign players. Hence, the null

hypothesis of there is no significant association between occupation of consumers and preference of life insurance products of foreign players is rejected.

3.5.5 WORK EXPERIENCE AND PREFERENCE OF LIFE INSURANCE PRODUCTS OF FOREIGN PLAYERS

The association between work experience of consumers and preference of life insurance products of foreign players was analyzed and the results are presented in Table-31.

Table-31: Work Experience and Preference of Life Insurance Products of Foreign Players

Work Experience	Foreign Insurance Players							Total
	Aviva	Bajaj Allianz	ICICI Prudential	HDFC Standard Life	Tata AIG	Bharti - AXA	Max New York	
1 – 5 years	6 (6.12)	15 (15.31)	36 (36.73)	13 (13.27)	9 (9.18)	13 (13.27)	6 (6.12)	98 (18.96)
6 – 10 years	4 (2.70)	9 (6.08)	54 (36.49)	27 (18.24)	21 (14.19)	23 (15.54)	10 (6.76)	148 (28.63)
11 – 15 years	30 (18.18)	40 (24.24)	39 (23.64)	29 (15.58)	6 (3.64)	11 (6.66)	10 (6.06)	165 (31.91)
16 – 20 years	7 (10.45)	23 (34.33)	15 (22.39)	11 (16.42)	0 (0.00)	5 (7.46)	6 (8.95)	67 (12.96)
More than 20 years	13 (33.33)	10 (25.64)	9 (23.08)	6 (15.39)	1 (2.56)	0 (0.00)	0 (0.00)	39 (7.54)
Total	60 (11.61)	97 (18.76)	153 (29.59)	86 (16.63)	37 (7.16)	52 (10.06)	32 (6.19)	517 (100.00)

(The figures in the parentheses are per cent to total)

Out of 98 consumers who have work experience of 1 – 5 years, 36.73 per cent of consumers prefer ICICI Prudential followed by Bajaj Allianz (15.31 per cent), HDFC Standard Life and Bharti – AXA (13.27 per cent), Tata AIG (9.18 per cent) and Aviva and Max New York (6.12 per cent).

Out of 148 consumers who have work experience of 6 – 10 years, 36.49 per cent of consumers prefer ICICI Prudential followed by HDFC Standard Life (18.24 per cent), Bharti – AXA (15.54 per cent), Tata AIG (14.19 per cent), Max New York (6.76 per cent), Bajaj Allianz (6.08 per cent) and Aviva (2.70 per cent).

Out of 165 consumers who have work experience of 11 – 15 years, 24.24 per cent of consumers prefer Bajaj Allianz followed by ICICI Prudential (23.64 per cent), Aviva (18.18 per cent), HDFC Standard Life (15.58 per cent), Bharti – AXA (6.66 per cent), Max New York (6.06 per cent) and Tata AIG (3.64 per cent).

Out of 67 consumers who have work experience of 16 – 20 years, 34.33 per cent of consumers prefer Bajaj Allianz followed by ICICI Prudential (22.39 per cent), HDFC Standard Life (16.42 per cent), Aviva (10.45 per cent), Max New York (8.95 per cent) and Bharti – AXA (7.46 per cent).

Out of 39 consumers who have work experience of more than 20 years, 33.33 per cent of consumers prefer Aviva followed by Bajaj Allianz (25.64 per cent), ICICI Prudential (23.08 per cent), HDFC Standard Life (15.39 per cent) and Tata AIG (2.56 per cent).

To study the association between work experience of consumers and preference of life insurance products of foreign players, the Chi-square test is done and the results are presented in Table-32.

Table-32: Work Experience and Preference of Life Insurance Products of Foreign Players – Chi-square Test

	Value	Degrees of Freedom	Sig.
Pearson Chi-square	.010	24	.000

The Chi-square value of 0.010 is significant at one per cent level indicating that there is significant association between work experience of consumers and preference of life insurance products of foreign players. Hence, the null hypothesis of there is no significant association between work experience of consumers and preference of life insurance products of foreign players is rejected.

5.5.6 MONTHLY INCOME AND PREFERENCE OF LIFE INSURANCE PRODUCTS OF FOREIGN PLAYERS

The association between monthly income of consumers and preference of life insurance products of foreign players was analyzed and the results are presented in Table-33.

Table-33: Monthly Income and Preference of Life Insurance Products of Foreign Players

Monthly Income	Foreign Insurance Players							Total
	Aviva	Bajaj Allianz	ICICI Prudential	HDFC Standard Life	Tata AIG	Bharti - AXA	Max New York	
Below Rs.20,000	16 (15.69)	26 (25.49)	20 (19.61)	22 (21.57)	7 (6.86)	7 (6.86)	4 (3.92)	102 (19.73)
Rs.20,001 – Rs.30,000	16 (7.66)	40 (19.14)	66 (31.58)	43 (20.57)	12 (5.74)	15 (7.18)	17 (8.13)	209 (40.42)
Rs.30,001 – Rs.40,000	15 (14.29)	16 (15.24)	32 (30.48)	11 (10.48)	7 (6.67)	16 (15.24)	8 (7.62)	105 (20.31)
Rs.40,001 – Rs.50,000	4 (6.35)	4 (6.35)	22 (34.92)	10 (15.87)	10 (15.87)	10 (15.87)	3 (4.77)	63 (12.19)
Above Rs.50,000	9 (23.68)	11 (28.95)	13 (34.21)	0 (0.00)	1 (2.63)	4 (10.53)	0 (0.00)	38 (7.35)
Total	60 (11.61)	97 (18.76)	153 (29.59)	86 (16.63)	37 (7.16)	52 (10.06)	32 (6.19)	517 (100.00)

(The figures in the parentheses are per cent to total)

Out of 102 consumers who are in the monthly income group of below Rs.20,000, 25.49 per cent of consumers prefer Bajaj Allianz followed by HDFC Standard Life (21.57 per cent), ICICI Prudential (19.61 per cent), Aviva (15.69 per cent), Tata AIG and Bharti – AXA (6.86 per cent) and Max New York (3.92 per cent).

Out of 209 consumers who are in the monthly income group of Rs.20,001 – Rs.30,000, 31.58 per cent of consumers prefer ICICI Prudential followed by HDFC Standard Life (20.57 per cent), Bajaj Allianz (19.14 per cent), Max New York (8.13 per cent), Aviva (7.66 per cent), Bharti – AXA (7.18 per cent) and Tata AIG (5.74 per cent).

Out of 105 consumers who are in the monthly income group of Rs.30,001 – Rs.40,000, 30.48 per cent of consumers prefer ICICI Prudential followed by Bajaj Allianz and Bharti – AXA (15.24 per cent), Aviva (14.29 per cent), HDFC Standard Life (10.48 per cent), Max New York (7.62 per cent) and Tata AIG (6.67 per cent).

Out of 63 consumers who are in the monthly income group of Rs.40,001 – Rs.50,000, 34.92 per cent of consumers prefer ICICI Prudential followed by HDFC Standard Life, Tata AIG and Bharti – AXA (15.87 per cent), Max New York (4.77 per cent) and Aviva and Bajaj Allianz (6.35 per cent).

Out of 38 consumers who are in the monthly income group of above Rs.50,000, 34.21 per cent of consumers prefer ICICI Prudential followed by Bajaj Allianz (28.95 per cent), Aviva (23.68 per cent), Bharti – AXA (10.53 per cent) and Tata AIG (2.63 per cent).

To study the association between monthly income of consumers and preference of life insurance products of foreign players, the Chi-square test is done and the results are presented in Table-34.

Table-34: Monthly Income and Preference of Life Insurance Products of Foreign Players – Chi-square Test

	Value	Degrees of Freedom	Sig.
Pearson Chi-square	59.573	24	.000

The Chi-square value of 59.573 is significant at one per cent level indicating that there is significant association between monthly income of consumers and preference of life insurance products of foreign players. Hence, the null hypothesis of there is no significant association between monthly income of consumers and preference of life insurance products of foreign players is rejected.

5.5.7 MARITAL STATUS AND PREFERENCE OF LIFE INSURANCE PRODUCTS OF FOREIGN PLAYERS

The association between marital status of consumers and preference of life insurance products of foreign players was analyzed and the results are presented in Table-35.

Table-35: Marital Status and Preference of Life Insurance Products of Foreign Players

Marital Status	Foreign Insurance Players							Total
	Aviva	Bajaj Allianz	ICICI Prudential	HDFC Standard Life	Tata AIG	Bharti - AXA	Max New York	
Unmarried	12 (6.98)	32 (18.60)	57 (33.14)	35 (20.35)	7 (4.07)	21 (12.21)	8 (4.65)	172 (33.27)
Married	48 (13.91)	65 (18.84)	96 (27.83)	51 (14.78)	30 (8.70)	31 (8.99)	24 (6.95)	345 (66.73)
Total	60 (11.61)	97 (18.76)	153 (29.59)	86 (16.63)	37 (7.16)	52 (10.06)	32 (6.19)	517 (100.00)

(The figures in the parentheses are per cent to total)

Out of 172 consumers who are unmarried, 33.14 per cent of consumers prefer ICICI Prudential followed by HDFC Standard Life (20.35 per cent), Bajaj Allianz (18.60 per cent), Bharti – AXA (12.21 per cent), Aviva (6.98 per cent), Max New York (4.65 per cent) and Tata AIG (4.07 per cent).

Out of 345 consumers who are married, 27.83 per cent of consumers prefer ICICI Prudential followed by Bajaj Allianz (18.84 per cent), HDFC Standard Life (14.78 per cent), Aviva (13.91 per cent), Bharti – AXA (8.99 per cent), Tata AIG (8.70 per cent) and Max New York (6.95 per cent).

To study the association between marital status of consumers and preference of life insurance products of foreign players, the Chi-square test is done and the results are presented in Table-36.

Table-36: Marital Status and Preference of Life Insurance Products of Foreign Players – Chi-square Test

	Value	Degrees of Freedom	Sig.
Pearson Chi-square	13.598	6	.034

The Chi-square value of 13.598 is significant at five per cent level indicating that there is significant association between marital status of consumers and preference of life insurance products of foreign players. Hence, the null hypothesis of there is no significant association between marital status of consumers and preference of life insurance products of foreign players is rejected.

5.5.8 TYPE OF FAMILY AND PREFERENCE OF LIFE INSURANCE PRODUCTS OF FOREIGN PLAYERS

The association between type of family of consumers and preference of life insurance products of foreign players was analyzed and the results are presented in Table-37.

Table-37: Type of Family and Preference of Life Insurance Products of Foreign Players

Type of Family	Foreign Insurance Players							Total
	Aviva	Bajaj Allianz	ICICI Prudential	HDFC Standard Life	Tata AIG	Bharti - AXA	Max New York	
Joint Family	20 (10.20)	39 (19.90)	54 (27.55)	29 (14.80)	22 (11.22)	18 (9.19)	14 (7.14)	196 (37.91)
Nuclear Family	40 (12.46)	58 (18.07)	99 (30.84)	57 (17.76)	15 (4.67)	34 (10.59)	18 (5.61)	321 (62.09)
Total	60 (11.61)	97 (18.76)	153 (29.59)	86 (16.63)	37 (7.16)	52 (10.06)	32 (6.19)	517 (100.00)

(The figures in the parentheses are per cent to total)

Out of 196 consumers who have joint family, 27.55 per cent of consumers prefer ICICI Prudential followed by Bajaj Allianz (19.90 per cent), HDFC Standard Life (14.80 per cent), Tata AIG (11.22 per cent), Aviva (10.20 per cent), Bharti – AXA (9.19 per cent) and Max New York (7.14 per cent).

Out of 321 consumers who have nuclear family, 30.84 per cent of consumers prefer ICICI Prudential followed by Bajaj Allianz (18.07 per cent), HDFC Standard Life (17.76 per cent), Aviva (12.46 per cent), Bharti – AXA (10.59 per cent), Max New York (5.61 per cent) and Tata AIG (4.67 per cent).

To study the association between type family of consumers and preference of life insurance products of foreign players, the Chi-square test is done and the results are presented in Table-38.

Table-38: Type of Family and Preference of Life Insurance Products of Foreign Players – Chi-square Test

	Value	Degrees of Freedom	Sig.
Pearson Chi-square	9.840	6	.132

The Chi-square value of 9.840 is not statistically significant indicating that there is no significant association between type of family of consumers and preference of life insurance products of foreign players. Hence, the null hypothesis of there is no significant association between type of family of consumers and preference of life insurance products of foreign players is accepted.

5.5.9 RESIDENTIAL AREA AND PREFERENCE OF LIFE INSURANCE PRODUCTS OF FOREIGN PLAYERS

The association between residential area of consumers and preference of life insurance products of foreign players was analyzed and the results are presented in Table-39.

Table-39: Residential Area and Preference of Life Insurance Products of Foreign Players

Residential Area	Foreign Insurance Players							Total
	Aviva	Bajaj Allianz	ICICI Prudential	HDFC Standard Life	Tata AIG	Bharti - AXA	Max New York	
Urban	16 (6.81)	52 (22.13)	77 (32.76)	43 (18.30)	11 (4.68)	25 (10.64)	11 (4.68)	235 (45.45)
Semi-Urban	23 (15.13)	16 (10.53)	46 (30.26)	26 (17.10)	19 (12.50)	16 (10.53)	6 (3.95)	152 (29.40)
Rural	21 (16.15)	29 (22.31)	30 (23.08)	17 (13.08)	7 (5.38)	11 (8.46)	15 (11.54)	130 (25.15)
Total	60 (11.61)	97 (18.76)	153 (29.59)	86 (16.63)	37 (7.16)	52 (10.06)	32 (6.19)	517 (100.00)

(The figures in the parentheses are per cent to total)

Out of 235 consumers who are residing in urban area, 32.76 per cent of consumers prefer ICICI Prudential followed by Bajaj Allianz (22.13 per cent), HDFC Standard Life (18.30 per cent), Bharti – AXA (10.64 per cent), Aviva (6.81 per cent) and Tata AIG and Max New York (4.68 per cent).

Out of 152 consumers who are residing in semi-urban area, 30.26 per cent of consumers prefer ICICI Prudential followed by HDFC Standard Life (17.10 per cent), Aviva (15.13 per cent), Tata AIG (12.50 per cent), Bajaj Allianz and Bharti – AXA (10.53 per cent) and Max New York (3.95 per cent).

Out of 130 consumers who are residing in rural area, 23.08 per cent of consumers prefer ICICI Prudential followed by Bajaj Allianz (22.31 per cent), Aviva (16.15 per cent), HDFC Standard Life (13.08 per cent), Max New York (11.54 per cent), Bharti – AXA and Tata AIG (5.38 per cent).

To study the association between residential area of consumers and preference of life insurance products of foreign players, the Chi-square test is done and the results are presented in Table-40.

Table-40: Residential Area and Preference of Life Insurance Products of Foreign Players – Chi-square Test

	Value	Degrees of Freedom	Sig.
Pearson Chi-square	37.674	12	.000

The Chi-square value of 37.674 is significant at one per cent level indicating that there is significant association between residential area of consumers and preference of life insurance products of foreign players. Hence, the null hypothesis of there is no significant association between residential area of consumers and preference of life insurance products of foreign players is rejected.

4. CONCLUSION

The study reveals that majority of consumers are males and most of them are in the age group of 31 – 40 years. Majority of consumers are undergraduates and most of them are private employees. Majority of consumers have work experience of 11 – 15 years and most of them are in the monthly income group of Rs.20,001 – Rs.30,000. Majority of consumers are married and most of them have nuclear family. Majority of consumers are residing in urban area.

The results show that 65.18 per cent of consumers perceived that the level of perception about foreign life insurance players at moderate level followed by low level (18.57 per cent) and high level (16.25 per cent). There is significant difference between socio-economic status of consumers and their perception about foreign life insurance players except type of family of consumers and perception about foreign life insurance players.

The results indicate that 29.59 per cent of consumers prefer ICICI Prudential followed by Bajaj Allianz (18.76 per cent), HDFC Standard Life (16.63 per cent), Aviva (11.61 per cent), Bharti – AXA (10.06 per cent), Tata AIG (7.16 per cent) and Max New York (6.19 per cent). There is significant association between socio-economic status of consumers and their preference of life insurance products of foreign players except type of family of consumers and preference of life insurance products of foreign players.

Hence, the foreign insurance companies should give importance to the segmentation of the insurance market on the basis of socio-economic status to know the perception and preference consumers. Foreign insurance companies should make positive perception among consumers and meet their requirements to keep them and to draw the attention of new consumers for their survival and growth. Foreign insurance companies should provide quality services and innovative products to their consumers. Employees of foreign insurance players must be sincere and should have enough knowledge to resolve the issues of the consumers. In addition, foreign insurance players must ensure the punctual and competent after sales service to their consumers.

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CHALLENGES FACED BY SME'S IN INDIA

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ABSTRACT

It is evident that small businesses play an integral role in both developed and developing economies. However, small businesses face numerous challenges. Small business operators often point to a range of issues. The major obstacles to business expansion faced by small, medium, enterprises (SMEs) are the competitive environment, regulations/red tape, and the availability of a skilled workforce.

Keywords: SME's

INTRODUCTION

Small and Medium Enterprises (SME's) plays a major role in the socio-economic development of the country. Though, SME's sector has consistently registered higher growth rate compared to the overall industrial sector, they have been facing great challenges in the era of liberalization. The SME's have to continuously update themselves to meet these emerging challenges due to changes in technology; demand patterns and the varying market conditions. This chapter aims to detail the various problems and challenges faced by the SME's based on the nature of SME's as well as the problem creating areas for these SME's.

The Micro and Small-scale Enterprises are grown very rapidly over the years. The Government of India has initiated number of program and schemes to promote the business Enterprises. According to the fourth census of SMEs Govt. of India, there are 15.64 Lakh registered and working SMEs in India. Micro enterprises have vast scope covering activities like manufacturing, servicing, financing, retailing, construction, infrastructure etc. These 15.64 Lakh registered SMEs providing employment to 93.09 Lakh needful people. Out of 15.64 Lakh registered SMEs, 10.49 Lakh (67.01 per cent) are manufacturing Enterprises, 2.62 Lakh (16.78 per cent) are service Enterprises and 2.52 Lakh (16.13 per cent) are repairing and maintenance Enterprises in India.

LITERATURE REVIEW

According to Dalberg (2011), MSMEs account over 95% of firms and 60–70% of total employment, 55% of GDP in the Organization for Economic Cooperation and Development (OECD) economies. Mesut Savrul et al. (2014), analyzed the fact that the size of the MSMEs have put them in a disadvantageous position. However, for Small and Micro Enterprises (SMEs) to compete in global platform, e-commerce can help them to overcome the several obstacles and barriers that limit or prevent them from getting into e-commerce. Globalization brings risks and hence SMEs are unlikely to survive in their current form. They need to improve their standards and quality, cost competitiveness and other management practices (Hwang 2007). It is up to the SMEs to implement competitive business operational practices and strategies. However, the choices available to SMEs are associated with the quality of institutions, markets and organizations. And it is the productivity and efficiency of the institutions, markets and establishments that boost or dampen SMEs to take their signs for learning novel ways of doing business, compare their own competitive features with their rivals, including launch of new innovations into their business plans. (OECD 2004:9). The other studies include study by Mukherjee (2001) who presented an outline of the role of SMEs, challenges posed by the several global forces, changes in the policy environment of SMEs, selected World Trade Organization (WTO) agreements in the context of SMEs, possibilities of legitimate cover of protection under WTO rules and policy recommendations.

Naik (2002) analyzed the post-liberalization business environment for the Small Scale Industries (SSI) and mentioned that the present global scenario has become harsh for the SSI sector because of the increased internal and external competition. Subrahmanya (2004a, b) highlighted the impact of globalization and domestic reforms on the small-scale industries sector. The study advised that the focus must be turned to technology development and strengthening of the financial infrastructure in order to make Indian small industry internationally competitive in the global market. Sudan (2005) described the challenges in Micro and Small Scale Enterprises Development and Policy issues arising different questions related to Micro and Small Enterprises (MSE). The study concluded that all the policies which were opted by the Government of Indian were the efforts made to form a dynamic MSE sector. Rathod (2007) evaluated the impact of globalization on SSIs, identified the barriers and constraints faced by SSI.

PRODUCT RELATED CHALLENGES

- Removal of quantity restriction.

- Non-conformity of standardization/lack of quality awareness/Poor quality of products .
- Product and service range and usage differences.
- Complexity of trade documentation including packaging and labelling.
- Problems of storage, designing, packaging and Product display/Lack access of packaging technologies.
- Introduction of better substitutes.

R&D/MANUFACTURING/DISTRIBUTION RELATED CHALLENGES

- Low production capacity
- R&D shortage
- Improper distribution system
- Poor delivery schedules and lack of proper distribution system

TECHNOLOGICAL / IPR RELATED CHALLENGES

- Limited communication networks.
- Low levels of technology.
- Lack of accessibility to information and knowledge.
- Lack of accessibility to investment technology equipment and know-how.
- Low technology levels and lack of access to modern technology.
- Inadequate intellectual property protection

FINANCE RELATED CHALLENGES

- Poor / non-availability of loan finance
- Difficulties accessing financial resources/lack of capital.
- Lack of availability of adequate and timely credit.
- Limited access to equity capital.
- Limited capital and knowledge.
- Difficulties in accessing capital.
- Lack of sufficient finance at affordable interest rates.
- Highly inadequate credit flow.
- Diversion of working capital funds for acquisition of fixed assets.

The SMEs need to be supported through appropriate programmes/schemes with focus on skill development and technology up gradation for improving the quality of their products so that rate of rejection is minimized. Also, there is a need to provide enabling legal environment-by suitably amending the labour and urban zoning laws-that is conducive to setting up of new enterprises as well as functioning of existing enterprises. The capacity of SMEs to buy raw materials is limited and at times when the material is needed, it is not readily available. Considering their financial constraints and the need for minimizing their inventory costs, SMEs are forced to buy small amounts of needed raw-materials as and when the actual need arises. Unlike the organized sector enterprises, they are unable to derive the advantage of bulk purchases when market is favorable. Nor can they be sure of meeting their full requirements from the open market whenever they want, especially at reasonable price of acceptable quality that would keep them competitive.

Marketing issues of SMEs are distinct from those that the organized sector faces. First of all, there is no clear concept of advertising, as the customer base is the local population or trader. On very few occasions is the producer actually thinking in terms of targeting a market and building marketing strategies around that. In most cases, the formal markets as available in the cities or towns are too far the producer in the informal sector to be in a position to influence it or target it consciously. While this might be true for a large number of producers, it is also true that a significant proportion of unorganized sector output reaches international and distant national markets. Institutional arrangements for marketing are thus very crucial to allow SMEs producers to link up with

markets, whether local, national or international. However, the institutional marketing requirements of different kinds of industries are different.

CONCLUSION

The challenges faced by SMEs of India is putting them way behind their competitors both in terms of sales and production as the production is less and the export price and formalities are very complex which make the Indian SMEs to opt out from the foreign trade. India should increasingly embrace a network of innovation and increase their partnership with other research institutions, universities and other organizations.

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ILL EFFECTS OF ANABOLIC STEROIDS IN ATHLETES

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ABSTRACT

Ben Johnson's victory in the 100 m at the 1988 seole Olympics. He subsequently failed the drug test when stanozolol was found in his urine. He later admitted to using the steroid as well as Dianabol, testosterone, Furazabol, and human growth hormone amongst other things. The side-effects of anabolic steroids include Intramuscular abscesses and other microbial bacteria that can cause infections, from counterfeited products the user decides to purchase on the black market, high blood pressure and cholesterol, as well as infertility, and dermatological conditions like severe acne. Mental effects include increased aggression and depression. Most common side-effects concentric cardiac hypertrophy, dilated cardiomyopathy, fibrosis and myocytolysis; with significantly lower left ventricular ejection fraction and diastolic dysfunction

INTRODUCTION

Anabolic steroids are misused in sports to increase muscle strength and bulk and to promote aggressiveness and as a result increase athletic performance. Anabolic steroids act upon the central nervous system .Ben Johnson's victory in the 100 m at the 1988 seole Olympics.He subsequently failed the drug test when stanozolol was found in his urine. He later admitted to using the steroid as well as Dianabol, testosterone, Furazabol, and human growth hormone amongst other things. Johnson was stripped of his gold medal as well as his world-record performance. Carl Lewis was then promoted one place to take the Olympic gold title. Lewis had also run under the current world record time and was therefore recognized as the new record holder.[In 2003, however, Wade Exum, the United States Olympic Committee (USOC) director of drug control administration from 1991 to 2000, gave copies of documents to *Sports Illustrated* which revealed that some 100 American athletes who failed drug tests and should have been prevented from competing in the Olympics were nevertheless cleared to compete; among those athletes was Carl Lewis. In sports where physical strength is favored, athletes have used anabolic steroids, known for their ability to increase physical strength and muscle mass.The drug mimics the effect of testosterone and dihydrotestosterone in the body. They were developed after Eastern Bloc countries demonstrated success in weightlifting during the 1940s. At the time they were using testosterone, which carried with it negative effects, anabolic steroids were developed as a solution. The drug has been used across a wide range of sports from football and basketball to weightlifting and track and field. While not as life-threatening as the drugs used in endurance sports.

ORAGAN DAMAGE

High and multi-doses of AAS used for athletic enhancement can lead to serious and irreversible organ damage. Among the most common **adverse effects** of AAS are some degree of reduced fertility and gynecomastia in males and masculinization in women and children.

DEFINITION OF ANABOLIC STEROIDS

Anabolic steroids (AAS) are the most commonly used substances to improve exercise performance and/or body image of an athlete . The WADA's most recent definition of doping incorporates both a negative list of banned substances and a description of various behaviors related to them.

HISTORICAL OVERVIEW ANABOLIC STEROIDS

Anabolic steroids use in sports began in October 1954 when John Ziegler, a doctor who treated American athletes, went to Vienna with the American weightlifting team. There he met a Russian physician who, over "a few drinks", repeatedly asked "What are you giving your boys?" When Ziegler returned the question, the Russian said that his own athletes were being given testosterone.

ILL EFFECTS OF ANABOLIC STYROID

Cardiac arrest

Cardiac arrest is a sudden loss of blood flow resulting from the failure of the heart to pump effectively. Signs include loss of consciousness and abnormal or absent breathing. Some individuals may experience chest pain, shortness of breath, or nausea before **cardiac arrest**. Cardiovascular complications, with recent reports of sudden cardiac death in young otherwise healthy athletes who have been abusing testosterone for several years. Cause of death among AAS users reported that around 35% of AAS users had chronic cardiac changes

Cardiac related effects

Most common findings are concentric cardiac hypertrophy, dilated cardiomyopathy, fibrosis and myocytolysis; with significantly lower left ventricular ejection fraction and diastolic dysfunction.

Muscular side effects

Anabolic-androgenic steroids (AAS) are used as ergogenic aids by athletes and non-athletes to enhance performance by augmenting muscular development and strength. Muscle rupture, tendon and ligament injuries are also reported, which may result from disproportionate increase in muscle mass without an increase in strength of supporting tissue.

Endocrine effects

The **endocrine system** is the collection of glands that produce hormones that regulate metabolism, growth and development, tissue function, sexual function, reproduction, sleep, and mood, among other things. healthy adults who have received GH in controlled prospective studies report side effects. Most of the acute side effects of GH administration arise from fluid retention. Other side effects relate to suppression of the hypothalamic-pituitary-testicular (HPT) axis. Although suppression of pituitary gonadotropin secretion is potentially reversible, largely depending on the duration of AAS abuse, hypogonadism may persist for prolonged periods of time after androgens are discontinued. The endocrine system is a chemical messenger system comprising feedback loops of the hormones released by internal glands of an organism directly into the circulatory system, regulating distant target organs. In humans, the major endocrine glands are the thyroid gland and the adrenal glands.

Sexual dysfunction

Androgenic effects are responsible for growth of the male reproductive system and development of secondary sexual characteristics, whereas anabolic effects stimulate nitrogen fixation and increased protein synthesis

Effects on anabolic storied in women

In women using anabolic steroids for a prolonged period of time, masculinization may be manifested as hirsutism, deepening of the voice, and menstrual irregularities that are caused by steroid use. In women, AAS abuse associates with breast atrophy, hirsutism, clitoral enlargement, and menstrual irregularity. Other androgen-related side effects include acne, male pattern balding and an increase in haemoglobin.

Psychological Effects

Many studies have reported an association between AAS use and aggression, violent behaviour, mood swings and mania. In AAS-dependent users the psychological/psychiatric symptoms are more prevalent and severe, with twice as many subjects reporting anxiety and major depression compared to AAS users without dependence.

Acne

Acne is a common side effect of steroid use and it is a result of the androgenic stimulation of the sebaceous glands.

CONCLUSION

Anabolic steroids also increase muscle mass and physical strength, and are therefore used in sports and bodybuilding to enhance strength or physique. Known side effects include harmful changes in cholesterol levels. Acne, high blood pressure, liver damage. Other adverse effects include hypertension and atherosclerosis, blood clotting, jaundice, hepatic neoplasms and carcinoma, tendon damage, psychiatric and behavioral disorders

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DIGITAL INDIA ISSUES AND CHALLENGES

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ABSTRACT

The vision of digital India is grand. It is a huge step towards building a truly empowered nation. The Digital India drive is a dream project of the Indian Government to remodel India into a knowledgeable economy and digitally empowered society, with good governance for citizens by bringing synchronization and co-ordination in public accountability, digitally connecting and delivering the government programs and services to mobilize the capability of information technology across government departments. The Digital India initiative seeks to lay emphasis on e-Governance and transform India into a digitally empowered society.

Keywords: Digital India, e-governance

INTRODUCTION

The growth of new technologies has transformed the teaching and learning of subjects. The doors have been opened to innovative and stimulating ways of working with ICTs (Information and Communications Technologies) to make teaching and learning more varied and engaging today. Digital India is a step by the government to inspire and fasten Indian Economy to a knowledge savvy world where all the information can be acquired with in no time. It will provide all services electronically and endorse digital literacy. The program targets to make Government services available to people digitally and have the benefit of the newest information and technological innovations. It aspires to transform India into a digitally empowered society and knowledge economy through infrastructural reforms such as high-speed internet in all gram panchayats, lifelong digital identification for citizens, mobile banking for all, easy access to Common Service Centres (CSC), shareable private spaces on an easily accessible public Cloud and cyber-security. Thus, the concept intended to build a participative, transparent and responsive system where all educational institutions and government services are to provide I-ways round the clock.

LITERATURE REVIEW

According to **Laila Memdani** Indian farmers are no longer traditional and illiterate. They are capable to grab the opportunities they get and make full use of the available technology.

Rani (2016) concluded that the digital India project provides a huge opportunity to use the latest technology to redefine India the paradigms of service industry. She also highlighted many projects which require some transformational process, reengineering, refinements to achieve the desired service level objectives.

Midha(2016) recognized digital India as a great plan to develop India for knowledge future but he also expressed his doubt regarding implementation due to inaccessibility and inflexibility to requisite which can lead to its failure. He admitted that though digital India programme is facing number of challenges yet if properly implemented it can make the best future of every citizen.

Study of **Gupta and Arora (2015)** on the impact of digital India project on India's rural sector found that many schemes have been launched in digital India to boost agriculture sector and entrepreneurship development in rural areas. Digital India programme has also set the stage for empowerment of rural Indian women.

According to **Seema Dua** the mission of digital India is facing serious challenges in implementation. She believed that Digital India campaign can't be successful until there is massive digital literacy among the citizen, development of infrastructure in rural and remote areas, improved skill in cyber security and effective participation of various departments and demanding commitment and efforts.

AIM OF DIGITAL INDIA

Run by the government of India, Digital India is a campaign launched to empower the country digitally. The motive of this campaign is to strengthen the electronic services of government services; it is done by reducing the paperwork. It is a very fruitful technique as it takes off the weight of investing time over paperwork and devotes man labor in the various field, it is highly efficient and effective. Started on 1st July 2015, it is to link the rural people with the high-speed internet network to gain any information needed. Improving digital infrastructure, digitally delivering services and digital literacy are the three major aspects of digital India campaign. By digital infrastructure here we mean, creating a space where all the registered citizens will have a digital identity, which will help in getting easy and fast government services. All the government services like managing a bank account, financial management, safe and secure cyberspace, education, distance learning etc.

NINE PILLARS OF DIGITAL INDIA PROGRAMME

Under Digital India programme, 9 key initiatives are in progress, which are as follows

- 1. Broadband Highways** ---The aim is to cover 250000 village Panchayats under National Optical Fiber Network (NOFN) by December 2016. Nationwide internet infrastructure (NII) would integrate the network and cloud infrastructure in the country to provide high speed connectivity and cloud platform to various government departments up to the panchayat level.
- 2. Universal Access to Mobile Connectivity---** The aim is to increase network penetration and to provide mobile connectivity to 44000 villages by 2018 with investment of RS 16000.
- 3. Public Internet Access Programme---** One Common Service Centre(CSC) would be provided to each gram panchayat and 150,000 Post Offices are proposed to be converted into multi service centers.
- 4. E Governance---** IT would be used to make the delivery of government services more effectively. There would be integration of services and platform-UIDAI ,Payment Gateway, Mobile Seva platform, Public redressal etc., through IT. All information would be available in electronic form.
- 5. E-Kranti---** The aim is electronic delivery of services to people be it education, health, financial inclusion or justice.
- 6. Information for All** ---MyGov.in is a website launched by the government to facilitate a 2-way communication between citizens and the government. It is a medium to exchange ideas or suggestion with government. The citizen would have open access to information through open data platform.
- 7. Electronics Manufacturing** -- The government is focusing on zero imports of electronics by2020 through local manufacturing of items such as smart energy meters, micro ATMs, mobile, consumer and medical electronics. Government is also taking several steps to promote manufacturing and investment in electronics sector by providing clarity on taxation, incentives skill development etc.
- 8. IT for Jobs---** the aim is to train 10 million people in towns and villages for IT sector jobs in five years. It also aims to provide training to three lakh service delivery agents as part of skill development to run viable businesses delivering IT services. It also focuses on training of five lakh Rural Workforce on Telecom and Telecom related services and setting up of BPOs in each North-eastern state.
- 9. Early Harvesting Programmes----** Government plans to install Wi-Fi facilities in all universities across the country. All books will be converted into e books. Email will be made the primary mode of communication within government. Biometric Attendance System will be installed in all central government offices where recording of attendance will be made online.

CHALLENGES OF DIGITAL INDIA

- 1.** High level of digital illiteracy is the biggest challenge in the success of digital India programme. Low digital literacy is key hindrance in adaptation of technologies. According to ASSOCHAM-Deloitte report on Digital India, November, 2016, around 950 million Indians are still not on internet.
- 2.** Making Digital India scheme known and creating awareness among common masses about its benefits is also a great challenge.
- 3.** It is a mammoth task to have connectivity with each and every village, town and city. Connecting 250000 Gram Panchayats through National Optical Fiber is not an easy task. The biggest challenge is ensuring that each panchayat point of broad band is fixed up and functional. It is found that 67% of NOFN points are non functional even at the pilot stage.
- 4.** A key component under this vision is high speed of internet as a core utility to facilitate online delivery of various services. India has low internet speed. According to third quarter 2016 Akamai report on internet speed, India is at the 105th position in the world in average internet speed. This rank is the lowest in entire Asia Pacific region.
- 5.** According to ASSOCHOM- Deloitte report , the issue pertaining to taxation and regulatory guidelines have proved to road block in realizing the vision of Digital India. Some of the common policy hurdles include lack of clarity in FDI policies have impacted the growth of ecommerce.
- 6.** The biggest challenge faced by Digital India programme is slow and delayed infrastructure development. India's digital infrastructure is comprehensively inadequate to tackle growing increase in digital transactions.

India needs over 80 lakh hotspots as against the availability of about 31000 hotspot at present to reach global level, according to ASSOCHAM-Deloitte report.

7. The private participation in government projects in India is poor because of long and complex regulatory processes.

8. Many request proposals issued by government are not picked up by competent private sector organizations since they are not commercially viable. Currently Over 55000 villages remain deprived of mobile connectivity because providing mobile connectivity in such locations is not commercially viable for service providers, ASSOCHAM-Deloitte report pointed out.

CONCLUSION

Digital India programme is the beginning of digital revolution. It is a big initiative to empower people of the country. This initiative will enable people to get engaged in the innovation process which is needed by the economy to move forward. But to implement this is a great challenge. There are many roadblocks in the way of its successful implementation like digital illiteracy ,poor infrastructure, low internet speed, lack of coordination among various departments, issue pertaining to taxation etc. Non availability of digital services in local languages is a great barrier in digital literacy.

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STUDY OF DOPING EFFECT OF Li^+ AND Cs^+ ON CDS NPSD. V. Meshram¹ and G. G. Muley²¹Department of Physics, Vaidyanath College, Parli-Vajinath, Dist. Beed²Department of Physics, Sant Gadge Baba Amravati University, Amravati**Abstract**

We report here the synthesis of CdS nano particle co-doped with Li^+ and Cs^+ using L- Arginine as a capping agent. The nanoparticle is prepared by adopting the chemical route method using sodium sulphide as a reducing agent. PL spectra show a shift in the emission peak towards longer wavelength side with increase in the doping concentration. The intensity of peak increases with increase in the doping concentration. FTIR spectra confirm the surface passivation of the CdS nanoparticle by L- Arginine.

Key words: CdS, doped semiconductors, PL, FTIR, quantum confinement

1. Introduction

Doping effectively alters the electrical and optical properties of semiconductors. CdS nanoparticle with various metal dopants of different concentrations and size controlling capping agents are studied for their tunable band gap, size dependent optical properties and chemical stability to find out the potential candidate for optoelectronic device applications. The study of optical properties of doped semiconductor NPs with dimensions close to the Bohr radius of the electron- hole pair are of recent interest, due to their possible application in future high-capacity communication networks, optoelectronics and photonic devices [1-9].

Various methods are reported to synthesis semiconductor nanoparticles such as chemical method, micro emulsion, vacuum evaporation, sol gel technique, spray pyrolysis, molecular beam epitaxy etc. The most popular method of synthesis of CdS nanoparticle is chemical reduction method where CdS is reduced by sodium sulphide.

We synthesized Li^+ and Cs^+ co-doped CdS nanoparticles by chemical reduction method using L-Arginine as capping agent and Na_2S as reducing agent. We have studied the possible effects of co-doping on physical, chemical and optical properties of CdS nanoparticles and the result is recorded, analyzed, and reported. The synthesized nanoparticles are characterized by Fourier transform infrared (FT-IR) spectroscopy and photoluminescence (PL).

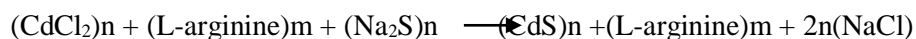
2. Materials and Methods

Cadmium chloride (CdCl_2), sodium sulphide (Na_2S), lithium chloride, cesium chloride (CsCl) and L-Arginine, all of analytical grade purity, were purchased from Sigma-Aldrich (Germany) and used without further purification for the synthesis. Double distilled water was used in the synthesis process.

2.1 Synthesis of L-Arginine Stabilized (Li^+ - Cs^+) Doped CdS NPs

The CdS NPs were synthesized by using chemical reduction method. Firstly, 0.5 M stock solutions of cadmium chloride, L-Arginine, and sodium sulphide were prepared. 0.5 M solution of CdCl_2 was added to 200 ml double distilled water kept in three separate round bottom flasks each, kept on a magnetic stirrer. 1wt%, 2wt%, and 5wt% solutions of LiCl and CsCl were added drop by drop into three round bottom flask. 0.5 M solution of L-Arginine as capping agent was added to the solution. Finally of 0.5 M Na_2S solution was added to the solution under continuous stirring. Color of Solution turned to yellow, confirming the formation of CdS NPs. Stirring was continued for 2 hours for homogeneous mixing. It was centrifuged for 25 minutes at 4500 rpm. The resultant precipitate was dried at 40°C for 16 hours to remove the solvents. The dried mass was powdered for further characterization.

The following chemical reaction takes place during synthesis of NPs:

**2.2 Characterization:**

The prepared powder is characterised by PL spectra is recorded by using F-7000, FL spectrophotometer in the range of 200-600 nm. FT-IR spectra is obtained with machine 3000 hyperion microscope with vertex 80 FT-IR system (Bruker, Germany) in the range of $450 - 7500 \text{ cm}^{-1}$.

3. Results and Discussion

3.1 Photoluminescence Study

The PL spectra for CdS doped with Li and Cs is as shown in Figure 1 at an excitation wavelength of 370 nm along with the optical absorption spectra. The PL spectra for CdS doped with Li and Cs exhibit the near band edge emission due to CdS nanoparticles at 547, 540 and 532 nm for 1wt%, 2wt% and 5wt% respectively. The bands are blue shifted as the doping concentration is increased. In addition, for 1wt % co-doping a weak peak is observed at 510 nm, similarly for 2 wt% co-doping concentration a weak peak is observed at 500 nm for 5wt % co-doping weak peak is also observed at 500 nm. These multiple peaks may be due to the existence of Li^+ and Cs^+ ions present in the CdS host which acts as multiple luminescent centres [9-12]. An increase in the PL intensity is observed with increase in the doping content. Similar result is reported by Nazerdeylami, *et al.* [8]. It is noticed from PL spectra that the intensity of emission peak increases as the doping concentration increased from 1 to 5 wt%, have reported similar intensity-trend. Green emission is observed. It is associated with the emission due to electronic transition from conduction band to acceptor level due to interstitial sulphur. This confirms that the luminescence property of CdS nanoparticle enhances when Li and Cs ions were introduced in the CdS matrix. [13]

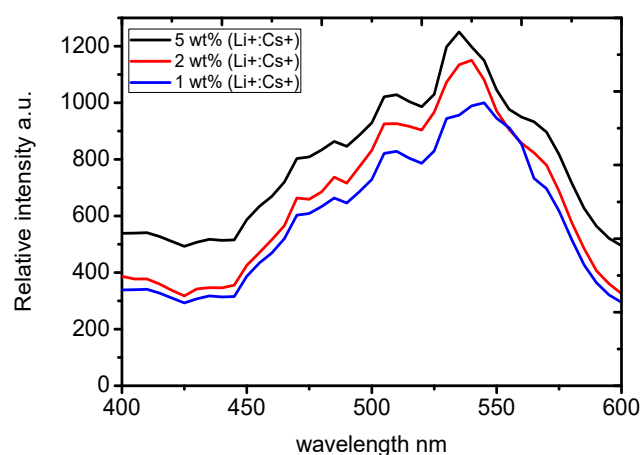


Figure 1 Photoluminescence spectra of L-arginine capped CdS nanoparticles co doped with 1, 2 and 5wt% doping concentration of Li^+ and Cs^+

3.2 FTIR spectroscopy

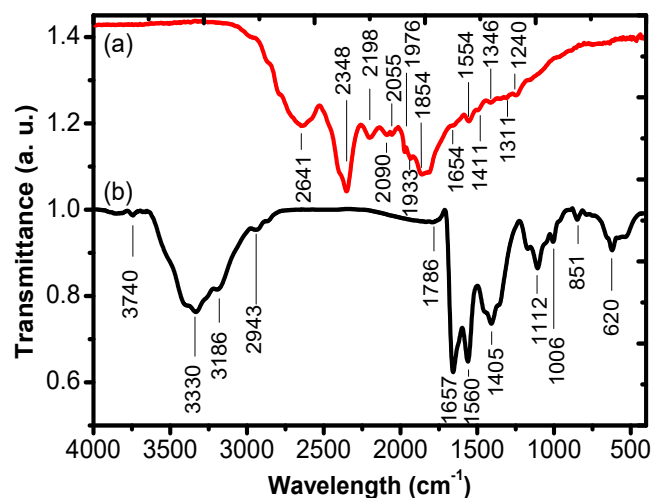


Figure 2: FTIR spectra of (a) L-arginine capped CdS nanoparticles co doped with Li^+ and Cs^+ and (b) Pure L-arginine.

The FT-IR spectra of the samples are depicted in Figure 2. Strong absorption peaks at 1050 cm^{-1} and 1006 cm^{-1} in CdS-OH are attributed to the hydroxyl groups on the surface of CdS nanoparticles. The characteristic vibration peaks of the L-Arginine 3330 cm^{-1} is broadened and shifted, confirming the passivation of CdS with L-Arginine. The C=O stretch vibration absorption of Li and Cs appears at 1554 cm^{-1} . Some absorption peaks at 1311 cm^{-1} and 1240 cm^{-1} , among which the first peak may be assigned to the C=O stretch absorption of a newly formed linkage between L-Arginine and CdS [9-10]. The other important peaks in the FT-IR spectrum of L-Arginine capped CdS nanoparticles, as given in the Table 1 below [14-17].

Table 1: Important peaks in the FT-IR spectrum of L-Arinine capped Cds nanoparticles

Peaks (cm ⁻¹)	Assignment
3330	N-H stretching
2943	Assymetric stretching of CH ₃ group
1657	NH ₂ group bending
1560	C-O stretching
1405	Assymetric bending of CH ₃ group
1410	Symetric bending of CH ₃ group
1112	CCC bond stretching
1006	C-H stretching
851	CC bond stretching
620	C-N-H stretching

4. Conclusion

CdS nanoparticle co-doped with Li⁺ and Cs⁺ capped by L-Arginine is prepared by chemical reduction method. From the photoluminescence study, it is found that the NPs show emission peaks at around 535, 540 and 545 nm. A blue shift is observed and the intensity of peak increases with increase in the doping concentration. It can be concluded that the doping ions acts as luminescent centers within the host matrix which enhances the relative intensity of luminescence of the material. The FT-IR spectra of capped CdS NPs reveal the capping L-arginine ligands to the CdS nanoparticles. The method of surface passivation prevents aggregation of the prepared nanoparticles and their bulk crystal growth.

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THERAPEUTIC VIRTUE OF WET CUPPING IN SCIATIC PAIN (*IRQUNNISA*)

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ABSTRACT

Wet cupping therapy, also known as *Hijamah Bis Shart* is a well-known approach of treatment now a days. It involves the removal of subcutaneous blood through suction cups after making scarification at the particular area of the body. This study was undertaken to evaluate the efficacy of wet cupping therapy in pain caused by sciatica (*Irqunnisa*) at Regima Healthcare Centers, Aligarh and Regima Healthcare Pvt. Ltd. Delhi. 116 patients with the history of sciatica were selected randomly, 92 patients between 19-60 years of age were completed the treatment. Cups applied for therapy along L₄/L₅, S₁ (bilateral), one at the upper lateral quadrant of gluteal region and other cups along the sciatic nerve, two cups on the back of the thigh, and one on the calf muscle. The therapy was applied thrice at an interval of 30 days between each session. The pain decreases in patients of sciatica (*Irqunnisa*) was assessed after three sessions of wet cupping therapy by Visual Analogue Scale (VAS). There was overall significant reduction in pain with 68 % of patients showing relief in up to varying degree. The present study suggests that wet cupping therapy has been found to be effective in relieving pain in patients of sciatica, hence may be used as an effective tool to alleviate pain.

Keywords: Cupping Therapy, Pain, Sciatica, Visual Analogue Scale, LSR

1.1 INTRODUCTION

Wet cupping therapy or *Hijamah bis Shart* is an ancient treatment, used from centuries. In Unani system of medicine, wet cupping therapy (*Hijamah bis shart*) was used widely in various diseases since antiquity. [1], [10], [12], [16], [22], [23], [27]. Description of wet cupping is also found in Ebres Papyrus. Hippocrates and Galen were great advocates of *Hijamah*. Razi claimed that he treated a large number of patients of sciatica by blood-letting. *Al Qanoon Fit Tib*, *Zakheera Khwarzam Shahi*, *Kitabul Havi*, *Jame-ul-Hikmat*, *Akseer-ul-Quloob*, *Firdous -ul- Hikmat*, *Kamil-us-Sana*, *Moalijat-e-Sharah Asbab* and approximately in all Unani ancient literature where the prominent Unani physicians strongly advocated to wet cupping therapy. This is the procedure of making superficial scarification on the skin and applying cups to draw out blood present subcutaneously [15]. Typically, the cups were made of glass, but now disposable plastic cups were frequently used [5]. Many studies have been done to evaluate the efficiency of cupping therapy in various disorders such as low back pain (S₁), results shows that wet cupping has been effective in reducing severity of symptoms without any serious adverse effect [5]. Sciatica (*Irqunnisa*) is characterized by an excruciating pain originating from hip joint, radiating through leg and terminates up to toe. Numbness of leg upon standing and walking also accompanies the pain in leg in most of the cases [5], [30]. The cause is usually compressed sciatic nerve, which is the longest nerve of the body also known as *Asbe Wirki Kabeer*. [2], [4], [8], [11], [31]. At the level of L₄/L₅ due to disc herniation, disc prolapse, muscular Spasm of lower back muscle, loss of lumber lordosis, lifting heavy weights at wrong angles and wrong posture. It may also be caused due to the compression of a dorsal nerve root at the level of S₁, S₂, and S₃ sacral nerves. In case of lumber spinal stenosis, bone spurs, protruded disc, spondylolisthesis, spinal canal is narrowed and resulted in the compression of structures inside the spinal canal i.e. spinal cord, caudal equine, or sciatic nerve roots. The compression of spinal cord pinches the nerves that leave the spinal cord causing pain [5]. Sciatica is very important condition during pregnancy which is reversible and there is no treatment is suggested during pregnancy [5]. Herniation of disc is a pathology characterized by extrusion of the liquid muscle pulposus through the crack in external annulus fibrosus, compressing the nerve root against the lamina of vertebra, causing sciatica. Bulging disc may because of inflammation of surrounding tissue, which further increase the compression of nerve root within the spinal canal [5], [6]. Physical examination and the history of symptoms help in diagnosing sciatica. [5], [14], [18], [19], [21], [25], [26], [28], [31]. Straight Leg Raising (SLR) test is the crucial key of diagnosis if produces Lasegue's sign. Straight leg is passively flexed between 30-70 degree, if pain begins in the passage of the sciatic nerve, the result is considered to be positive. [5], [7], [8], [15], [17], [19], [20], [21], [25], [29].

1.2 Objective of study: To evaluate the therapeutic efficacy and safety of wet cupping therapy in the patient of the sciatica (*Irqunnisa*), improvement in the degree of pain using Visual Analogue Scale.

2. MATERIAL AND METHOD

2.1 Design of study: The study was designed to evaluate the therapeutic effectiveness of wet cupping therapy in patients having sciatic pain, after approved from Ethical Committee of Scientific Society of Hijamah (Regd.)

and Regima Healthcare Centers, Aligarh and Delhi and fulfil the guidelines of Helsinki Declaration to conduct study on human. The patients were required to fill a consent form duly signed by them acknowledging their free will to participate in the study. 116 patients between age of 18 to 60 years were enrolled but only 92 patients followed-up and completed the treatment, and pain was evaluated using Visual Analogue Scale (VAS). Hijamah cups were applied generally at L₄/L₅ (bilaterally), S₁, (bilaterally), one at upper lateral quadrant of gluteal region, two cups on the back side of thigh and one on calf muscle. All cups are applied three times at the interval of 30 days between each session.

2.2 Inclusion Criteria

Patients suffering from pain of sciatica and not receiving any treatment were included in the study.

- a. SLR confirms the diagnosis of sciatica for inclusion criteria.
- b. Patients of either sex.
- c. Patients in age group of 18-65 years.

2.3 Exclusion Criteria

- a. Patients below the age of 18 years.
- b. Pregnant and lactating mothers.
- c. Patients who failed to give consent.
- d. Patients with malignancy.
- e. Patients on steroid and analgesics.
- f. Patients with hemoglobin below 8gm/dl.
- g. Patients with low platelets count.

Subjects has been investigated for heamogram at base line and at the end of the study. HBsAg and HIV was investigated once before the first sitting and C.T., B.T. and Blood sugar were investigated before every sitting of therapy.

2.4 Wet cupping procedure

Therapy was skilled after 30 days on each patient at the site chosen, in following manner:

- a. The site of therapy cleaned with diluted Savlon, Betadine paint for 5 minutes then removed by isopropyl alcohol (Medical sprit).
- b. A4 number cup sterilized in UVB chamber for 24 hours was placed on the site and vacuum was produced through manual vacuum pump, enough to attach the cup was to the skin and maintain a suction force on the site.
- c. The cup was detached after 4-5 minutes to make incision /scarification deep up to 1mm with the help of sterilized surgical blade 11 no. and was placed again on the sites as described above.
- d. Cup left on the skin according the clotting time of the subject.
- e. Cup was finally removed and subcutaneous blood collected in safe manner. The incised area under the cup was cleaned with sterilized cotton, covered by antibiotic spray.

3.0 STATISTICAL ANALYSIS

67 Male patients and 25 female patients having sciatica for more than one year were subjected to wet cupping therapy with an average of 3 session per patient. Patients were distributed in 3 age groups. 22 patients aged between 19-32 years, 33 Patients aged between 33 to 46 Years and 37 patient were aged between 47 to 60 years. Pain was accessed on Visual Analogue Scale (VAS). After completion of study, 85% relief in pain was observed in 9.8% of patients, 70% relief in pain was observed in 15.21% patients, 60% relief in pain experienced 5.43% patients, 50% relief in pain observed on 9.78% patients, 40% relief in pain observed in 9.78% patients, There was no any relief in pain in 32.6% patients after wet cupping therapy. Average relief in pain experienced by patients on Visual Analogue Scale after wet cupping therapy, a highly significant decline. [i.e. 4.88 ± 0.98 as compared to before therapy i.e. 10 ± 0.0 N=92, $P < 0.001$, highly significant.

4. DISCUSSION

Although there are many drugs available in Unani system of Medicine to treat sciatica, wet cupping therapy was found very effective in 68% of patients suffered from severe sciatic pain due to disc prolapse or herniation at the level of L₄/L₅ vertebrae. This might be due to artificial trauma along sciatic nerve results in stimulation

(*muharik* effect of wet cupping therapy), that might be caused by change in *kaifiyat* of sciatic nerve, results in proper functioning of nerve. Helpful to relief in pain due to pressure release by vacuum. The mobility was also much improved as compared to before cupping. No side effects were reported by patients after the treatment. There was no effect on blood counts after cupping therapy.

5. CONCLUSION

Wet cupping therapy was found to be highly effective in relieving the sciatic pain without any adverse effect. It may be recommended for patients suffering sciatic pain to avoid side effects by the continuous administration of NSAIDS and to avoid surgery.

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**AN INVESTIGATION INTO ROLE OF SOCIAL MEDIA AS A MARKETING INSTRUMENT -A
CONCEPTUAL ANALYSIS**

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ABSTRACT

Social media in business authorizes anyone to articulate and allot a view or an idea, somewhere all along the business's pathway to the marketplace. High-tech evolution is an ongoing process growing at a substantial speed with the incessant growth of the Internet, it resulted in intense revolutions of technology which remarkably changed a person's method of subsistence. Social Media is a course of action of gaining attention via social media sites. Digital communications cope with the key Facebook, Youtube, etc.,

Keywords: *Social Media, website, perceptions, purchase intention, marketing networks.*

INTRODUCTION

One of the chief drives in winning in social media practices is that it articulates companies anxious in the products and vintages appreciable results having no actualities about commodities. Social media marketing encompasses the exercise of social media to encourage consumers regarding corporate, assets, amenities that are of attraction to the customer. Social media marketing is marketing via online groups, social networks, etc. Advertisers can style their messages in diverse actions on the screen to attract the attention of the users, purchasers, etc. On the website, advertisers can bounce large information about products and sources which is of countless support to buyers. Devoid of time and area barricades in the simulated domain, social media can propose patrons instantaneous and perceptive substance.

Social Media, has different meanings for different people, for some, it's a buzzword employing no real-world benefits and an impulsive, complex learning curve. Social media marketing is an expression that describes marketing that is executed via social networks, such as online groups, networks, and numerous additional marketing implements to boost responsiveness among their budding consumers.

LITERATURE REVIEW

The researchers who have quantified their discernments over social media are as discussed below:

Thuraru (2010), explained that social media be able to be exploited to resolve customer-related complications for gratis, by this means enhancing purchaser amenity and excellence despite the fact of plummeting amenity outlays. **Cumin (2008)**, demonstrated that the users would practice social media platforms to endorse products via testimonies, to demeanor research and gather overall data on products or brands, completed a concluding acquisition decision grounded on the info they placid from social media sites.

Lazer and Kelly's (1973), held that social media marketing is involved through the submission of information, perceptions, practices, investigates significances of conclusions. **Chai, Potdar, and Chang (2007)**, investigated that corporates are concerned in the accomplishment of their probable customers and retentive of its existing clientele, social media is as supple and lively as corporate progression approach.

Constantinides & Fountain (2008), stated that social media convey novel challenges and chances to the marketers, permitting them to interrelate with their markets and study about and from them. **Barnes & Mattson (2009)**, stated that social media marketing is a reasonably new arena, and therefore, it is strenuous to discover studies that have measured the efficiency of social media marketing sequencer.

Hague, Khatibi, and Mohmud (2009) suggested enticing users through modes like (a) Internet settings; (b) Publicity offers (c) Product faces (d) knowledge: (e) Poise. **Kaplan and Heinlein (2009)**, stated a collection of grounded apps erect on philosophical, technical specifications which permit discussion of content uploaded by users.

Mangold & Faulds, (2009), recommended for conventional dealing and contemporary activities, users converse with the firms, exploiting a source center to research buying beforehand for exercising choices. **Solis (2009)**, indicated the novel market site to involve a cluster of customers who post their comments on websites.

OBJECTIVES OF THE STUDY:

1. To assess the stimulus of social media.
2. To examine the challenges of social media.
3. To assess the potentials of social media.

IMPORTANT FEATURES OF SOCIAL MEDIA :**1. Useful and Less-Expensive:**

Social media marketing is significant for marketers due to its least costly attribute and capability to influence a vast number of embattled onlookers in a smaller amount of endeavor.

2. Efficacious Branding:

Social media marketing is an instrument for marketers for branding. As per trends of Social media, clienteles select to link to the varieties.

3. Procurer Attainment:

The likelihood of triumph of clients is elevated on social media websites. It is estimated that to a greater than 50 % extent of the globe's population is active on social media platforms.

4. Interaction with Customer:

With social media, trades can interrelate with clienteles in a straight line. The marketers entice customers by winning them with methods like FAQs, Polls, etc. using technique discussion and prearrangement device.

5. Generate Higher Sales:

It plays an important role in generating sales to businesses as the number of customers visiting social media platforms is enormous these days.

CHARACTERISTICS OF SOCIAL MEDIA :**1. Credibility:**

Social media is regarding trustworthiness and authenticity. Marketers are required to endorse that communication to the customers is trustworthy and steadfast.

2. Communication:

Social media marketing engenders avenues of dialog where the purchaser is a fundamental fragment of the marketing branch. Purchaser thoughts are important and influence on promotion approach

3. Endorsement:

Purchaser and customer assessments are as significant as the marketer's prerogatives of the variety's attributes and paybacks. This gangs the phase for the brand name to encounter patrons prospects.

4. Scope:

It permits vendors to influence all-embracing onlookers with melodramatic outcomes in a considerably lesser period and at lesser costs.

5. Management:

Management is the principal encounter as the net permits the absolute creation to account content to be seen. All testaments, thoughts, customer involvements, and customer communications can drive quickly in little time.

ADVANTAGES OF SOCIAL MEDIA TO MARKETERS :**1. Enhanced Brand Acknowledgment :**

Vender attempts to grasp every distinct prospect to upsurge worth in the appreciations by the purchasers as it comprises of nets which are regarded as conduits for product's pronouncement and contentment.

2. Enhanced Trustworthiness :

The products affianced in social media conduits relish sophisticated trustworthiness from customers. Corporations need to harvest gains that bequeath when it derives to linking with audiences.

3. Potential Prospects :

The divvying of placements is an opening for clienteles to become customers in the coming future. There is admittance to the novel, deep-rooted and contemporary customers will empower to intermingle altogether.

4. Greater Adaptation :

Its upshots in sophisticated acclimatization weigh up as a result of its humanization component; the state of affairs that brands develop to be additionally humanized by interrelating in social media networks.

5. Developed Confidence:

Interaction with clienteles recurrently is a display of probity for added clienteles. When individuals are present on social platforms complement products and shot to social media. To a greater extent individuals converse on social media, the additionally treasured brand will be attractive to novel handlers.

6. Enhanced Inward Traffic:

The social media silhouette is a pathway commanding back to the site, and gladden syndicated on those silhouettes is a prospect for a new-fangled social sightseer. The additional eminence content is syndicated, higher would be the inward bound stream of traffic, higher traffic signifies higher centrals.

7. Reduced Outlays :

The advertising on social sites is comparatively inexpensive as associated with approaches of enticing clientele.

8. Enhanced Rankings :

The rich dividends can be reaped by regularly updating the blog, safeguard enhanced label labels and meta portrayals, and allocate associations directing posterior to the social site.

9. Splendid Involvements:

Social media is a communiqué network. A whole lot of client communication on social media is a chance to overtly validate customer service echelons and supplements association with clients.

10. Enhanced Perceptions:

It permits the attainment of valued info around what clienteles are concerned in and how consumers act by accessing social platforms.

CONCLUSION

This study reaffirms the power and intensity effect of it to withstand and hold the market situation. Corporate houses want to concentrate on evolving the accurate type of instruments to connect and endorse their products. Marketers can utilize social media to broaden the customer foundation and create products and advance products by the intellectual strategy of using social media platforms. Nowadays organizations are to a greater extent concerned for positioning and feedback to interconnect with the customers. The mass of the respondents squared sponsored ads, share ads, like/comment on pics, videos, blogs but be uncertain to contribute to social media drives. Social media marketing is an extremely influential instrument of marketing that is nevertheless to encounter its complete latent in the Indian market.

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RELATION BETWEEN LOCUS OF CONTROL, LIFE SATISFACTION AND EMOTIONAL INTELLIGENCE OF ADOLESCENT GIRLS

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ABSTRACT

The present study was undertaken with an aim to find the relationship between three personality parameters of adolescent girls viz. Locus of Control, Emotional Intelligence and Life Satisfaction. The data for the study was obtained by administering Rotter's Locus of Control Scale, Emotional Intelligence Scale by Anukool, Sanjyot and Upinder and Life Satisfaction scale by Alam and Srivastav. The Sample collected through random stratified sampling comprised of 400 adolescent girls from Aurangabad City. The results of the study revealed that there is a positive co relation between life satisfaction and internal Locus of control and also a positive correlation between emotional intelligence and internal locus of control. Further the results showed a positive correlation between life satisfaction and emotional intelligence of adolescent girls of Aurangabad City.

Keywords: Emotional Intelligence, Locus of Control, Life Satisfaction, Adolescent Girls Pearson's Co relation.

INTRODUCTION

Developing girls particularly the adolescents who are undergoing the process of growth are usually thirteen to nineteen years of age. During this period of development, biological, emotional or psychological conflicts are evident. The girls of today are learning to cope with changes while concerned with self image, self esteem, social expectations and academic achievement. Girls are also confused with career choices, romantic entanglement and responsibilities that are new experiences in which they make decisions or adjustment to attain their own identity or success. They have to make choices, be successful academically and manage life to attain a healthy identity. Identity refers to the sense of self or a consistent unique character over a period of time. The additional responsibilities and social expectations girls face may create conflicts for them to resolve while defining their own identities.

If adolescents are not given a chance to explore their new roles and cannot follow a future positive path, they may remain confused over their identity (Erickson, 1968). Girls need to be able to complete these tasks, find resolution to conflicts over adjustments and reach their unique identity. Resolving conflicts during this stage help girls to become how they will be, as unique individuals, progressing further into higher developmental stages. For girls to become independent their self-concept and self-esteem have to be strong to overcome conflict. Conflict may manifest in disciplined problems and an inability to focus on the present self esteem and self concept play an integral part in the process of girl's development.

In the present day women are handling dual responsibilities and moving forward in every field and therefore there is a great need to find and evaluate the important aspects of the women's personality and her social well being.

SIGNIFICANCE OF THE STUDY

A girl's personality revolves around her perception of world and most importantly her perception about her own self. Education is expected to bring in all round personality development in girls, which develop in her new vision and world view, helping her to be better adjusted to her needs as well as needs of her family and the community. In the next recent times there has been a change in attitude of girls in regard to the perception of their own status in the family. Such a positive perception is the outcome of the confidence shown by girls towards their own achievements and usefulness in their family.

In the modernizing society girls are counted upon to partake in the development programs at all levels. The present study aims at finding out the perception of girls about their own self, their basic psychological traits like locus of control, emotional intelligence and life satisfaction and how yhese can contribute a lot in making or marring of a girl's personality and multi-faceted role. Further assessment of these personality traits is important as this will help them to resolve their role conflicts and overcome the social and familial problems they face. At the same time while assessing the level of life satisfaction of girls we may throw open a few stark truths to the world but nevertheless it shall help the girls directly or indirectly to perceive their roles in the present day society.

LIMITATIONS OF THE STUDY

1. The present study was restricted to urban areas of Aurangabad division only.

2. The study was confined the girl students belonging to age group 16-18 years undergoing higher secondary education.
3. The tools used in the study were self reporting instruments and hence the accuracy of the data obtained is limited to the ability and willingness of the respondents to give truthful responses.

OBJECTIVES OF THE STUDY

- To assess the level of emotional intelligence, locus of control and life satisfaction of adolescent girls of Aurangabad
- To find the correlation between locus of control and emotional intelligence of adolescent girls of Aurangabad
- To find the correlation between locus of control and life satisfaction of adolescent girls of Aurangabad
- To find the correlation between emotional intelligence and life satisfaction of adolescent girls of Aurangabad

HYPOTHESES

1. There is a positive correlation between locus of control and emotional intelligence of adolescent girls of Aurangabad
2. There is a positive correlation between locus of control and life satisfaction of adolescent girls of Aurangabad
3. There is a positive correlation between emotional intelligence and life satisfaction of adolescent girls of Aurangabad

METHODOLOGY

The descriptive survey method was employed for the purpose of study as this is the most suitable method for collecting factual data from the representative sample. Also through this method an attempt has been made to discover relationship between existing non-manipulated variables i.e. locus of control, emotional intelligence and life satisfaction.

SAMPLE

The total sample consisted of 400 girl's students selected randomly from all junior colleges of Aurangabad City. The colleges were selected on the basis of familiarity and good rapport of the educational institution and a heterogeneous group of girls. The data was collected through random stratified sampling technique. The respondents included in the present study are of the age group of 16-18 years, pursuing education at higher secondary level.

DESCRIPTION OF VARIABLES UNDER STUDY

Locus of Control

A locus of control orientation is a belief about whether the outcomes of our actions are contingent in what we do (Internal control orientation) or on events outside our personal control (External Control orientation). Internality and externality represent two ends of a continuum and not a typology (Rotter, 1975) Individuals with a strong internal locus of control believe that events result primarily from their own behavior and actions. Those with a low internal locus of control believe that powerful others, fate or chance primarily determine events. Internals tend to attribute outcomes of events to their own control. Externals attribute outcomes of events to external circumstances and tend to feel they have less control over their fate.

Emotional Intelligence

Emotional intelligence is the ability to recognize and understand emotions in yourself and others and your ability to use this awareness to manage your behavior and relationship. Emotional Intelligence is the something in each of us that is a bit tangible. It affects how we manage behavior, navigate social complexities and make personal decisions that achieve positive results.

Life satisfaction

Life satisfaction is a subjective assessment of the quality one's life. Satisfaction with one's life implies a contentment with or acceptance of one's life circumstances or the fulfillment of one's wants and needs for one's life as a whole.

It is generally referred to as an assessment of the overall conditions of existence as derived from a comparison of one's aspirations to one's actual achievements. Judgment of life satisfaction has a large cognitive component.

Research Tools

1. To assess the locus of control: Rotters locus of control scale developed by Dr. Anand Kumar and Dr. S.N. Srivastava was used. The scale measures internal as well as external locus of control. It is a self-administering scale which can be administered either individually or in group. It has a reliability of 0.85
2. For finding out Emotional intelligence a standardized Emotional Intelligence Scale developed by Anukool Hyde, Sanjyot Pethe and Upinder Dhar was used. The validity of the scale is 0.93 and reliability is 0.88.
3. The Life Satisfaction Scale developed by Q.G Alam and Ramji Srivastava was used to assess the level of life satisfaction. It is a diagnostic scale which has validity and reliability of 0.84

Statistical Analysis

Initially the data of each test was scrutinized by applying descriptive statistics. The arithmetic means and standard deviation for all the three variables were computed and tabulated. Subsequently the Pearson's correlation coefficient was calculated between locus of control and emotional intelligence, locus of Control and life satisfaction and emotional intelligence and life satisfaction and the value tested for significance at both 0.01 and 0.05 level of significance.

RESULT AND DISCUSSIONS:

• Table Showing correlation between all variables.

Variables	Value of persons Correlation	Interpretation
Locus of Control and Emotional intelligence	0.009 Sig 0.05 levels	Low positive for externalism and high positive for internalism
Locus of Control and Life satisfaction	0.024 Sig 0.05 level	Low positive for externalism and high positive for internalism
Emotional Intelligence and Life Satisfaction	0.0216 Sig 0.01 level	Positive Correlation

• Table showing correlation between Locus of Control and Emotional Ipntelligence.

		Locus of control
Emotional Intelligence	Person correlation	.009
	Sig(z- tailed)	0.05
	N	400

It is seen from the above table that the magnitude of Pearson's correlation coefficient between emotional intelligence and locus of control is 0.009 which shows low correlation. This indicates the inverse relationship between two variables. Since the scales obtained are indicating externalism on the scale thus low correlation with external locus of control is indicative of high correlation with internalism. Thus it may be interpreted that the emotional intelligence highly correlated with internal and locus of control, higher the emotional intelligence, lesser will be the external locus of control. Higher the emotional intelligence greater will be the internal locus of control.

Our findings can be supported with reference to an exploratory study conducted by Singh Y.K (2008), on social work professional's emotional intelligence, Locus of Control and role efficacy. Statically significant positive relationship was found between emotional intelligence and internal locus of control.

Thus we may interpret that as there is increment in the amount of emotional intelligence of girls there is a corresponding increment in the belief that they are themselves the major or sole cause of whatever success and failures they have in their lives and vice versa. Significant relationship of emotional intelligence with externality (others) and externality (Chance) dimensions of locus of control can be explained as of, there is a decrement in the amount of emotional intelligence possessed by the girls they start believing that all the families and successes they have in their lives are because of the factors that are associated with the significant others with whom they work or some chance factors and vice versa.

• **Table Showing correlation between Locus of Control and Life Satisfaction.**

		Life satisfaction
Locus of control	Person correlation	.024
	Sig(Z- tailed)	0.05
	N	400

It is seen from the above table that the magnitude of Pearson's correlation coefficient between locus of control and satisfaction is .024 which shows low correlation. This indicates the inverse relationship between two variables since the scores obtained are indicating externalism on the scale. Thus low correlation with external locus of control indicates that there is high correlation with internal locus of control. Thus it can be interpreted that the life satisfaction is highly correlated with internal locus of control. Higher the life satisfaction lesser will be external locus of control, higher the life satisfaction greater will be the internal locus of control.

Kulshreshtha V. and Sen C. in their study on subjective well being in relation to emotional intelligence and locus of control among executives reported that there was a significant positive correlation between emotional intelligence and subjective well being and concluded that the persons having high emotional intelligence have skill to identify and regulate the emotions of self and others, to activate emotions at the right time and place to the right degree, to apply these processes adoptively in social interaction, (Baron & Baron 2000) and therefore they have significantly more positive effect and less negative effect. Results further revealed that executives with high emotional intelligence reported significantly high life satisfaction on all the three dimensions. The present findings are in harmony with Yates findings whose results related to locus of control showed the significant negative correlation between subjective well being and locus of control. People high on internal Locus of control are more active in attempting to manipulate their environment, while externals are passive in manipulating their environments.

• **Table Showing correlation between Emotional Intelligence and Life Satisfaction.**

		Emotional Intelligence
Life satisfaction	Person correlation	.0216
	Sig(Z- tailed)	0.01
	N	400

It is seen from the above table that the magnitude of Pearson's correlation coefficient between emotional intelligence and life satisfaction is 0.216 which shows positive correlation. This indicates that the higher emotional intelligence would lead to a higher level of life satisfactions.

These findings are supported by a similar study by Palmer, Donaldson and Stough (2002) who examined the predictive validity of components of perceived emotional intelligence to predict life satisfaction and found that only the emotional clarity accounted for variance in life satisfaction supporting the hypothesis that emotional intelligence construct components explain part of the life satisfaction variance that could not be attributed to personality traits.

A recent study carried out by Edwards and Berrocal F (2005) about the relationship between perceived emotional intelligence and life satisfaction found supporting evidence that emotional clarity adds significant variance to the predication of life satisfaction beyond transient mood states and personality traits. The results have provided empirical evidence for contribution of emotional clarity to life satisfaction.

Jose Maria (2006) explored the relationship between emotional intelligence and life satisfaction among university teachers and pointed out that emotional intelligence makes a substantial contribution to life satisfaction

CONCLUSIONS

Based on the above interpretation and discussion of results, the following conclusions were drawn.

1. There is a positive correlation between emotional intelligence and internal locus of control of adolescent girls of Aurangabad city.
2. There is a positive correlation between life satisfaction and internal locus of control of adolescent girls of Aurangabad city.
3. There is a positive correlation between life satisfaction and emotional intelligence of adolescent girls of Aurangabad city.

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SEXUAL ANXIETY OF FEMALES IN RELATION TO THEIR RESIDENTIAL AREA AND CASTE**Ranjana Singh^a, Dr. Meera Kumari^b and Dr. R. D. Roy^c**^{a,b}Department of Psychology, D.A.V. P.G. College, Siwan^cP.G. Department of Psychology, J.P.U., Chapra**ABSTRACT**

We addressed the sexual anxiety of females in relation to their residential area and caste in this article. A significant relationship exists between education and sexual anxiety among women. There is also a meaningful connection between sex education and sexual anxiety in women. Also, sexual anxiety depends on the residential area and there caste. It is rightly said that it would educate women in the household and the family. In view of this, rural areas where the literacy rate among women is poor are actively aimed at improving the status of women through education. In this paper, a model for verifying the relationship between women's sexual anxiety and their residential area and caste has been explained.

Keywords: Sexual anxiety, Women education, Sex education, Caste.

INTRODUCTION

Education is the most significant element in the nation's prosperity and the people who work there. The empowerment of women refers to the willingness of women to exercise their right to freedom and to benefit from wealth, property, income and time, and their capacity to reduce risk and increase their economic status and well-being. This results in developing the identity of an entity. In other words, around the educational lanes, the path to social development shifts. Education is one of the most effective ways of encouraging women to engage fully in the growth process with the awareness, expertise, and self-confidence required. The learning of women and girls does not only have a profound effect on their progress but also their families and communities.

Traditionally, little information about sexual topics has been offered to teens in many communities, with the exploration of these subjects being considered taboo. Sometimes this was put off until just before the marriage of a child. However, in the late 19th-century radical education revolution contributed to the implementation of "social hygiene" in North American school curriculums and the rise of classroom-based sex education. Sexual anxiety depends on some important terms like education, region, etc. These are uncertain terms. Thus fuzzy systems will represent the systems correctly. Rydström[27-32] et. al. discussed about domestic violence in contemporary Vietnam, Violence Against Women. Franklin [15] et. al. told about changing Gender Roles in Vietnam. V.Y. Lee [33] has been shown the effect of exercise on vaccine-related pain, anxiety and fear during HPV vaccinations in adolescents in 2018. Hester, R.D. discussed on lack of access to mental health services contributing to the high suicide rates among veterans in 2017.

Fuzzy logic treats knowledge that is imprecise and ambiguous. The first presentation of Fuzzy logic, algorithm and decision making by L.A.Zadeh[1,2,3]. After the automatic stream engine control, Mamdani [4] applied fuzzy logic. In several industries, such as automated management, banks, hospitals and academia, it has been used. Elley et.al.[6] applied fuzzy logic to student assessment in laboratory implementation results. Dekeseredy[5] suggested the use of fuzzy logic in the teacher's performance analysis in an educational institution.

PRELIMINARIES

Membership function: A membership function is a function that determines how a membership value between 0 and 1 is mapped to each point in the input space. Figure 1 has shown an example of a membership function. Also, Figure 1 has shown an example of a triangular membership function.

Fuzzy logic: One of the branches of the fuzzy set theory is fuzzy logic. It is distinct from standard logic because there are two values for an element in the set: 1(true) and 0(false), which mean that either the element belongs fully to the set or not. These real-world ambiguities and fuzziness can be operated with fuzzy logic. To save time and to save resources, many home appliances are updated every day using fuzzy logic.

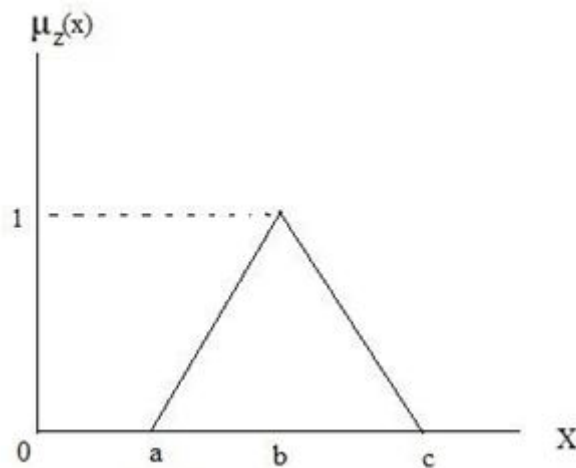


Figure 1: Triangular membership function

Linguistic variables: In the implementation of fuzzy logic, linguistic variables play a significant part. In a language, linguistic variables are variables whose values are terms. "Height of a man" is a linguistic variable because the values of this variable are very low height, low height, tall height, very tall height. Figure 2 has shown an example of a linguistic variable.

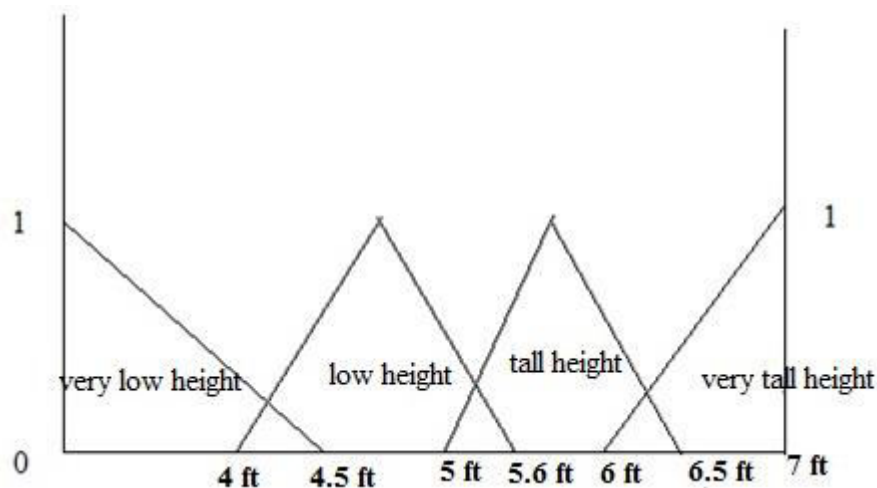


Figure 2 Example of linguistic variables

Fuzzy Inference System: The method of constructing a mapping of fuzzy logic from an input data set to output is referred to as the fuzzy inference method. There are four components of the Fuzzy inference system: fuzzification, fuzzy rule foundation, fuzzy inference, defuzzification. Figure 3 has shown the fuzzy inference system.

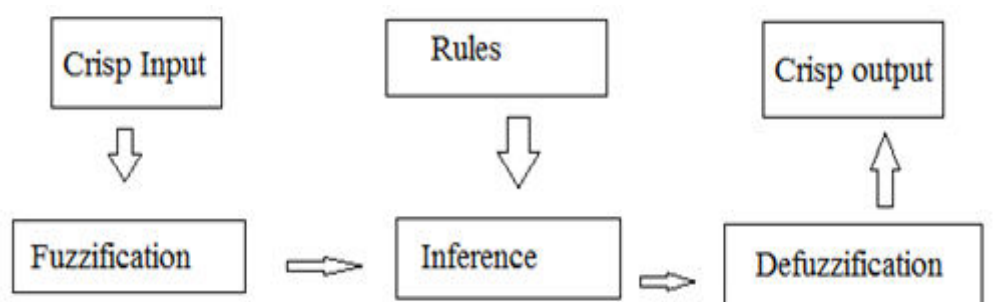


Figure 3: Fuzzy inference system

Causes of sexual anxiety:

Here, we discussed the sexual anxiety of females in relation to their residential area and caste. There is a significant relationship between education and female sexual anxiety. The S.Ds and t ratio overall sexual anxiety has been shown in the table below

SHOWING MEANS, S.Ds AND 't' RATIO OF OVERALL SEXUAL ANXIETY SCORE
(RURAL AND URBAN GROUPS)

Group	N	Means	S. Ds	f	't' ratio	Level of significance
Rural	100	38.10	7.211	198	4.301	0.01
Urban	100	33.74	7.126			

Also, the means, S. Ds and 't' ratio of overall sexual anxiety has been shown in the table below

SHOWING MEANS, S.Ds AND 't' RATIO OF OVERALL SEXUAL ANXIETY SCORE
(URBAN- S.C., B.C., AND F.C. SUBGROUPS)

Subgroups	N	Means	S.Ds.	df	't' ratio	Level of significance
U-SC	30	36.767	7.425	68	1.488	NS
U-BC	40	34.20	6.746			
U-SC	30	36.767	7.425	58	3.939	0.01
U-FC	30	30.10	5.547			
U-BC	40	34.20	6.746	68	2.788	0.01
U-FC	30	30.10	5.547			

But, sexual anxiety does not depend only on residential area and cast. It is depends on some parameters like

1. Family condition
2. Family education
3. Living place (Rural/ Urban)
4. Family culture
5. Education qualification.
6. Cast

So, sexual anxiety of females in relation to their residential area and caste depends on some critical variables. In this article, we demonstrate a mathematical model by Fuzzy logic. Here we calculate the value of sexual anxiety by some parameters.

Results:Here, we calculate the value of sexual anxiety by some parameters like cast, residential area and family culture. So, here are three inputs, and one output is the value of sexual anxiety. Also, every parameter is taken as low, mid and high. Suppose, a parameter "Family culture" consider as "bad family culture", "normal family culture" and "good family culture". Figure 5 has shown a fuzzy rule base for the calculation of sexual anxiety. Figure 4 demonstrated that if the inputs parameters are low, then the value of sexual anxiety is high. Here, the input parameters value consider as Cast value is 0.1, Residential area value is 0.1, and Family culture value is 0.1 then the output value is 0.863. The results are shown in Figures 5 that if the inputs parameters are high, then the value of sexual anxiety is low. Here, the input parameters value consider as Cast value is 0.9, Residential area value is 0.9, and Family culture value is 0.9 then the output value is 0.137.

Also, Figure 7 shown that two inputs parameters are high, and one input parameter are low, then the value of sexual anxiety is medium. Here, the input parameters value consider as Cast value is 0.5, Family culture value is 0.1, and Residential area is 0.9, then the output value is 0.5. Figure 8 has shown the 3D surface view of the value of sexual anxiety.

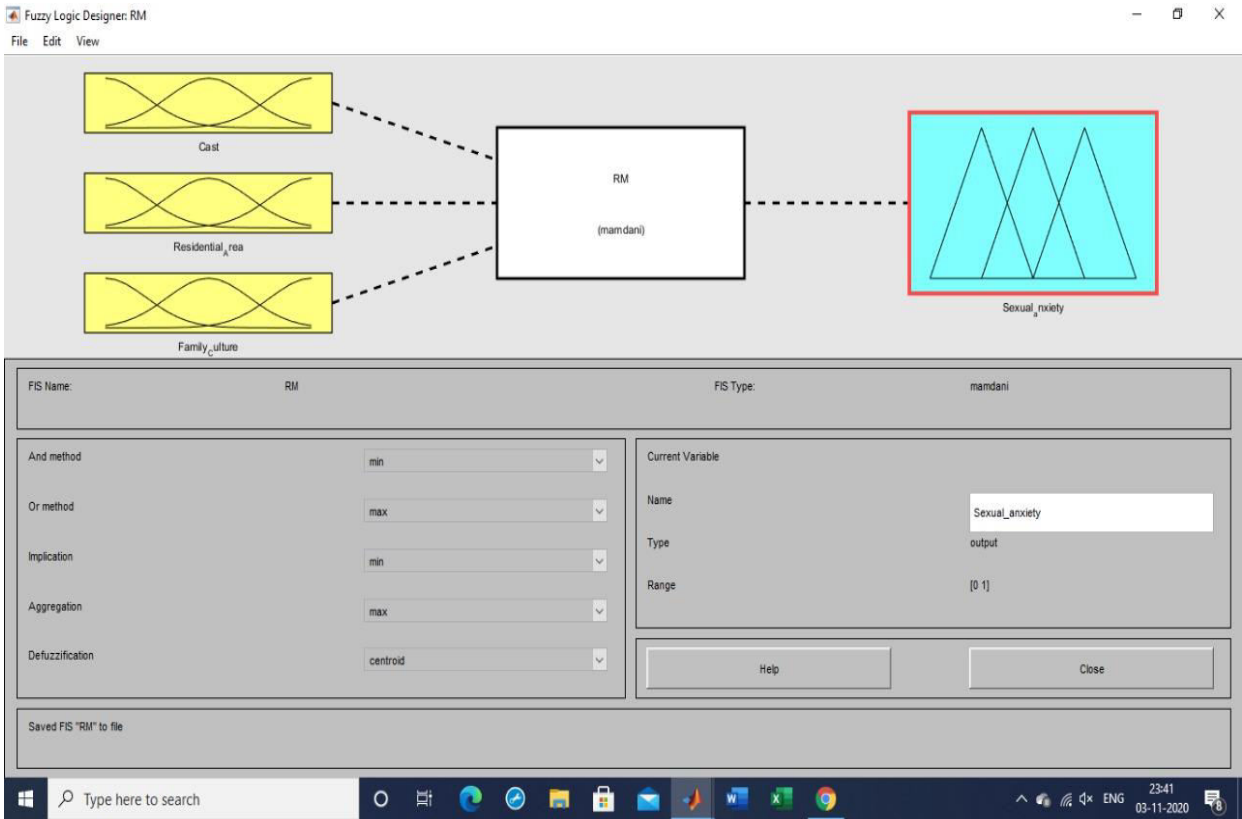


Figure 4: Fuzzy rule base for the calculation of sexual anxiety

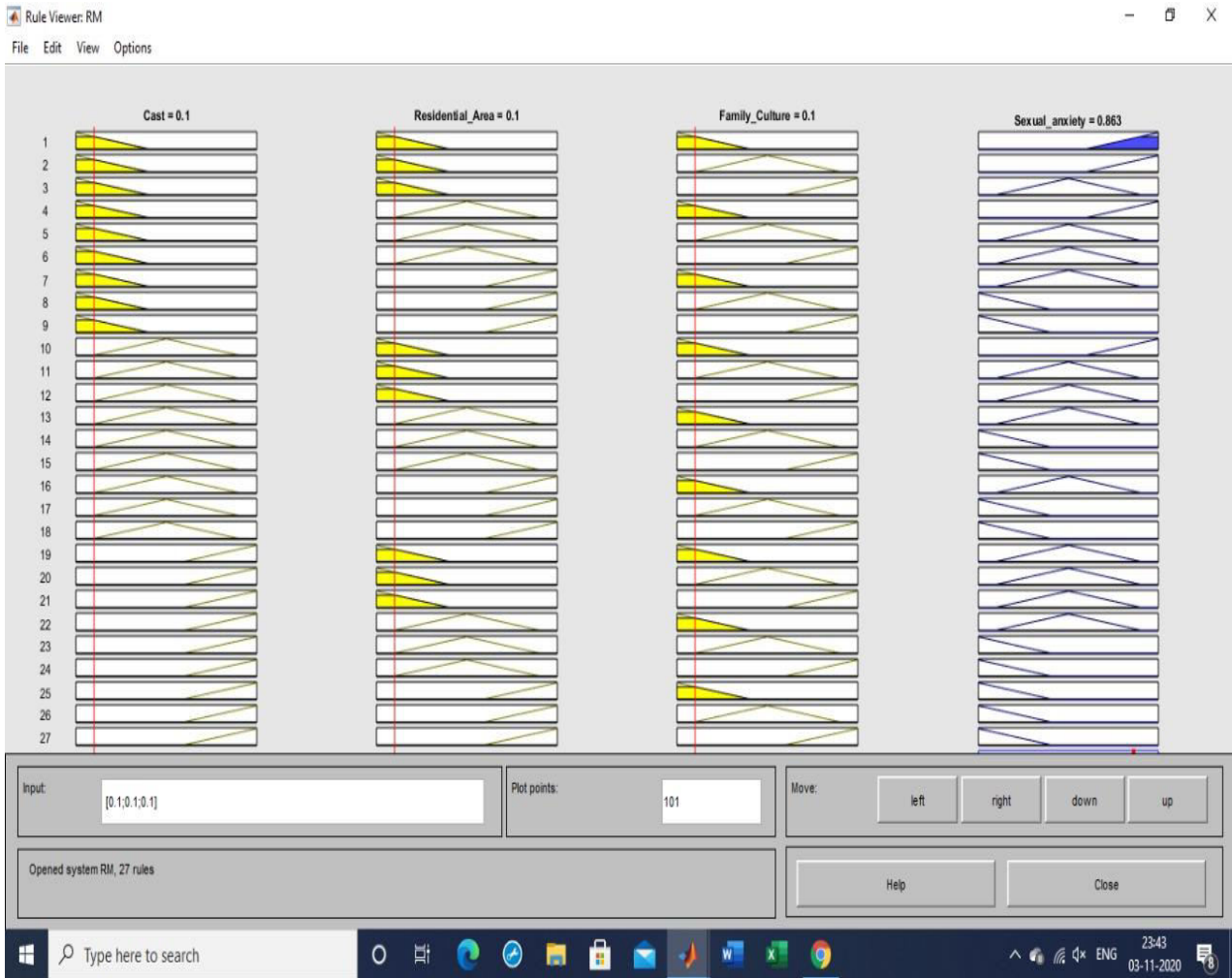


Figure 5: All inputs parameters are low, and the value of sexual anxiety is high

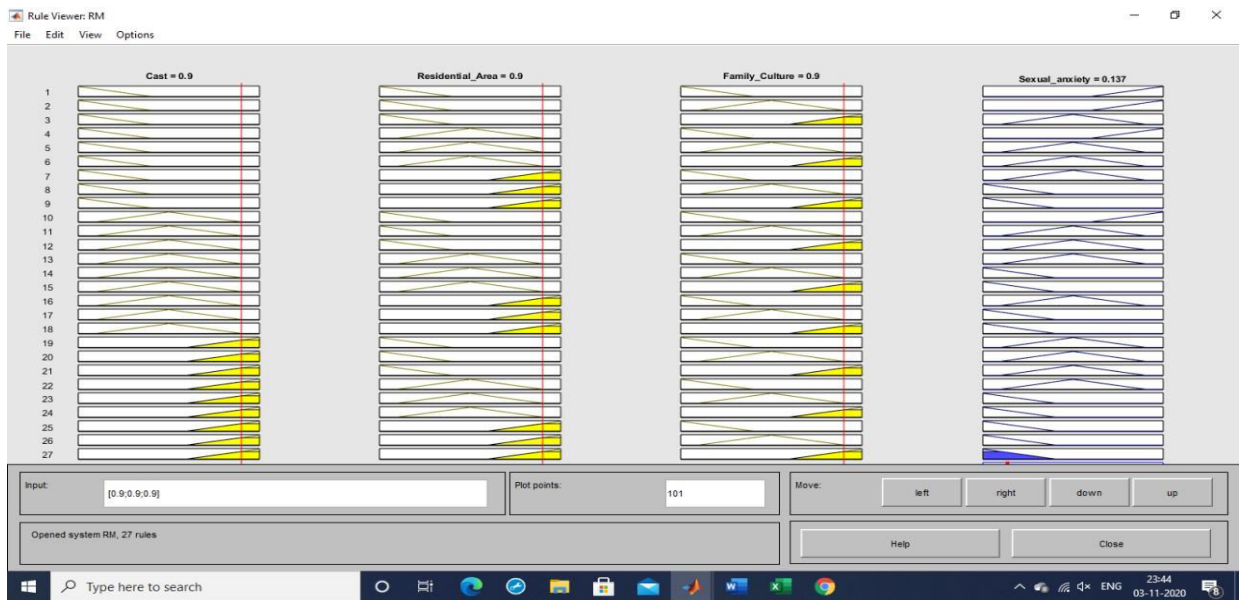


Figure 6: All inputs parameters are high, and the value of sexual anxiety is low

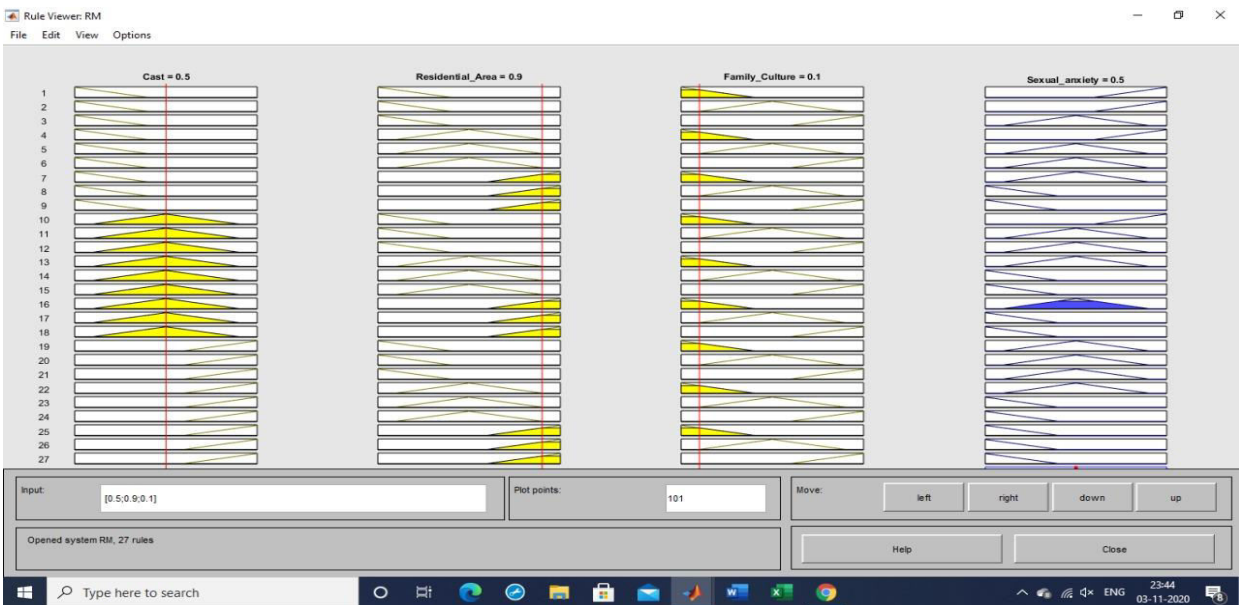


Figure 7: Two inputs parameters are high, and one input parameter is low, and the value of sexual anxiety is medium

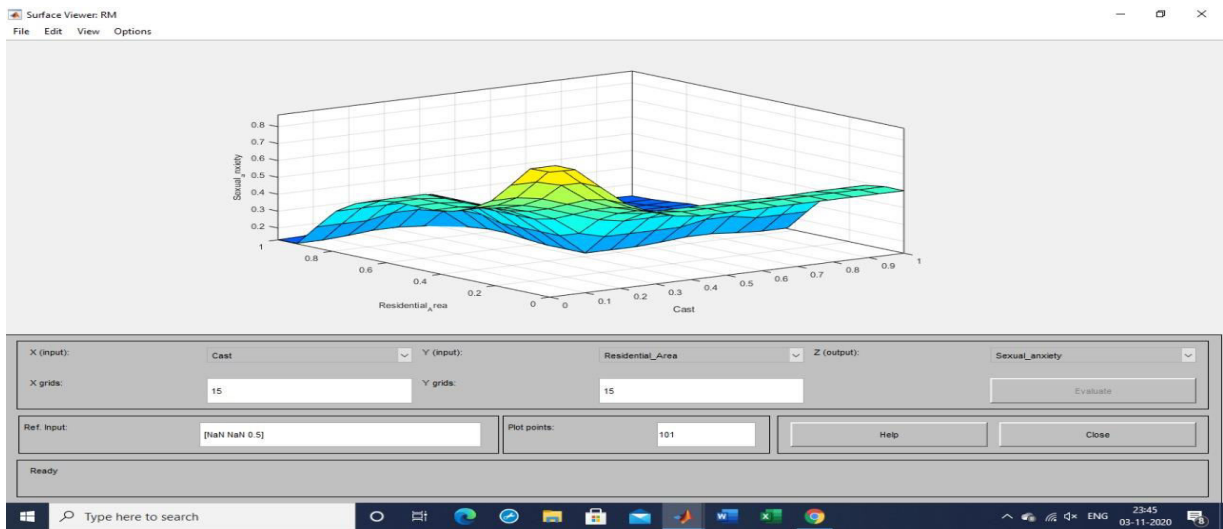


Figure 8: 3D surface view of the value of sexual anxiety

Analysis and conclusion:

The result is summarized as follows

Input linguistic variables			Output
Cast	Residential Area	Family Culture	Sexual Anxiety
0.1	0.1	0.1	0.863
0.9	0.9	0.9	0.137
0.5	0.9	0.1	0.5

The result shows that there are significant effects on sexual anxiety for the inputs of the cast, residential area and family culture. Now middle cast and low family culture imply moderate sexual anxiety. In several fields, fuzzy logic has applications in decision-making and measurement processes. In this article, a suitable fuzzy logic inference model for causes of sexual anxiety is explored, and realistic conclusions are calculated. Expertise in performance measurement is used in this article. Researchers can create any evaluation-based model with the help of this paper's idea. Not only does sexual anxiety rely on schooling. Other parameters depend on it, and this model has proven to show this.

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TAXNOMICAL DISCRIPTION OF PIPUNCULIDAE FROM INDO-NEPAL AREA (PADDY FIELD) OF CHAMPARAN DISTRICT BIHAR

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ABSTRACT

The pipunculids obelongs to the family pipunculidae and of the order diptera with a worldwide distribution. It is a sister group of the flower flies (syrphidae and platypezidae).

These flies are also called "Big headed flies " due to their large spherical or hemispherical and extremely mobile head. Big headed flies of great economic importance (Biocontrol agents) parasites of Rhynchota (Jossidae and Fulgoridae) which are injurious to crops .These flies are tried for the biological control of paddy pest like leaf hopper, grass hoppers etc. These are very rare. All together 9 specimens were collected from Indo - Nepal border area of champaran district. In which some species are the new one (Edorylas euuniformisb SP.nov.).

Keywords: Bio control Agents, Endoparasite, Economic Importance Pollinator.

INTRODUCTION

The pipunculidae is a small but very well distinct family of the oder Diptera and super family Syrphidae with a worldwide distribution. The members of this family can be distinguished by their large, spherical or hemispherical head which is extremely mobile and composed almost entirely of compound eyes. These flies are therefore also called " Big headed flies". Individual flies vary in body length from 1.5mm to 5mm.

The adult feed on nector and pollen grains and have considerable value as pollinators. These insects are very rare and enequitive hovers. They live generally in shade of herbs,shurbs, in grasses, garden on the non-windy sunny days in hilly places.

The life history is also interesting as they are endoparasite of various families of oder homptera including Cicadellidae. Delphacididae & Fulgoridae. The eggs are laid by its gravid female piercing in the abdomen of the host. The head of the larval parasite fills the greater part of the abdomen of the later when they pipunculidae larva quits it host it usually escape at the junction of metathorax and abdomen and fall on the ground burring itself beneath the soil or among rubbish etc. Where they hide themselves and turn to smoth black puparia which ultemately give rise to the adult after detachment of the plate of puparium.

MATERIALS AND METHOD

Following materials were used for the collection and preservation of the specimens.

- 1) Sweeping net.
- 2) Bottle containing cotton soaked with chloroform (killing bottle).
- 3) White paper.
- 4) Spreading board.
- 5) Twister.
- 6) Specimen tubes.

These flies are generally caught by sweeping randomly flowers,garden,grass field,herbs,shurbs in sunshine and non-windy day.

Insects swepted are put into the killing bottle along with the net for some time. As soon as the insects were killed, they were removed from the killing bottle and all the swepted insects were put on the white paper and if pipunculus was present then safely taken out with the help of fine twister and put into the specimen bottle.

As these insects are very rare hardly 3-4 hours sweep may get 1-2 and sometime none.

Pipunculus collected were pired through, the right side above the middle of the thorax. The pinned insect are properly arrange in the insects box so their body parts such as antennae,legs,head ,wings and genitalia can be properly studied. These were properly labelled. The insect boxes were kept cleaned. Ordinary naphthalene balles or poisonous liquid (Kereozotte Q) was used as repellent in insect boxes. Self-made triple action poisoning liquid (Petrol+Nepthalene Powder+Carbolic Acid) also used. Then they will be identified under Binocular research microscope.

IMPORTANT TAXONOMIC CHARACTERS

Head - Head nearly globose and quite large formed almost completely of compound eyes, it is slightly smaller in female, but in male the eyes are more approximate at the top. The shape of the head is variable, it is hemispherical in the genus chalarus and almost spherical in other genera. The colour of the eyes are variable from red, brown, dark brown to black. Ocellar bristles are present in the subfamily chalarinae.

Antennae is composed of three segments. First two joints are very short 3rd more or less elongate, oval or rounded (pipunculus) generally broad at the base, or rounded (varrallia, chalarus).

Thorax: - Distinctly smaller than head, Dorsum is usually bare in pipunculus or with strong bristles (inchalarinae) or with Microscopic Pubescence as in Tomosvaryella.

Abdomen: - Normally cylindrical longer than thorax generally more or less curved, 5 segmented in male, 6 segmented in female, genitalia in male large, conspicuous affording good specific characters or in female bulbous at base and pointed at the open curved under the venter.

Legs: - Moderate in length varying in colour from pure yellow to pure black or intermediate. The trochanter is quite variable in shape and constitute as important taxonomic character. The tibia is gently curved with many rows of short bristles. All the tarsal segments possess many rows of long fine hair. Tarsal claws are well developed. The spine like empodium and a pair of round lobbed large pulvilli fit under the terminal segment.

Wings: - wings are very large and narrow generally longer than the body. They vary from brown to hyaline, however most species have only slight tinge. The sub costa and first longitudinal vein (R1) are of moderate length. The radial sector is two branch. The anterior branch (R2+3) designed as second longitudinal vein and the posterior or branch (R4+5), the third vein. The true position of R4 is not clearly understood whether it is fused with R3 or with basal portion of R5. The cross veins are r-m (between R4+5 and M1+2), M-cu (between M3+4 & cu) and cross vein m (between M1+2 and M3+4). The fourth vein (M1+2) is divided into four sections. First section from base to branch of media, second from branch of media up to r-m cross vein, third section from r-m to m-cross vein, and fourth section from m-cross vein to wing margins. This vein of great taxonomic importance as the comparative length of 2nd and 3rd sections, which depends upon the position of r-m cross vein in relation to the discal cell, is a good diagnostic character. The presence or absence of an appendage on the last section of vein is an important generic character.

TAXONOMIC DESCRIPTION**Eudorylas euuniformis SP. nov.****Female- Large Sized**

Head - 1.25 x as broad as thorax, eyes reddish brown with area of contiguity about 15 facets long. Ocellar triangle black, ocelli brown, upper frontal triangle 4 facets long black, lower frontal triangle 16 facets long, curved with silvery white pubescence, face black with silvery white pubescence. Proboscis small yellow. Occiput swollen black with white dust, small hairs on posterior rim.

Antenna - brown silvery, 1st segment small brown, 2nd segment cup shaped silvery brown with 3 dorsal black bristles, 3rd antennal segment silvery pubescent, apex acuminate, arista black about 1.25x as 3rd antennal segment. (Fig-B)

Thorax - black with brown dust, 1.25x as long as broad, Metanotum pleurae black with white dust, humeral plates yellow. Halteres brown with long stalk.

Wing - hyaline with pale brown stigma filling half of 3rd costal section, 3rd costal section almost equal in length to 4th, 3rd and 4th combined 1.25X as long as 5th r-m a little before 1/3rd of discal cell, last section of vein M1+2 slightly curved (convex). (Fig-A)

Legs - black, coxae, trochanters black, femora black in the middle and yellowish brown at distal and proximal ends, tibia brownish yellow, tarsi yellow, last tarsomere brown, claw pale white with black tips, 2x as long as last tarsomere, pulvilli yellow as long as last tarsomere.


Abdomen - black with brown dust, 1st abdominal segment with 5 stout black bristles on either side ovipositor typical with black globose base, 0.75x as long as piercer, piercer specific of wine colour with small handle, broad base, tappers and slightly curved upward in sharp point reaching to 3rd abdominal segment (Fig-C).

Length, Body - 6mm

Wing - 6.5mm

Remarks_- The species comes close to *eudorylas uniformis* (Brunetti) in the shape of the head, thorax and wing venation, but differ in following characters.

- size - large
- 2nd segment of antenna
- cup shaped with 3 dorsal black bristles
- 3rd antennal segment totally silver pubescent
- wing hyaline with pale brown stigma filling only half of 3rd costal segment and last section of vein M1+2 is slightly convex.
- ovipositor typical globose with a small fused handle at the base of piercer.

Specimen examined- 1,  Holotype

Hatauda (Nepal) -----3000 ft.

Collector-- Miss Rahmat Yasmeen.

Etymology -- Named due to its closeness to *eudorylas uniformis* (Brunetti) (Fig--)

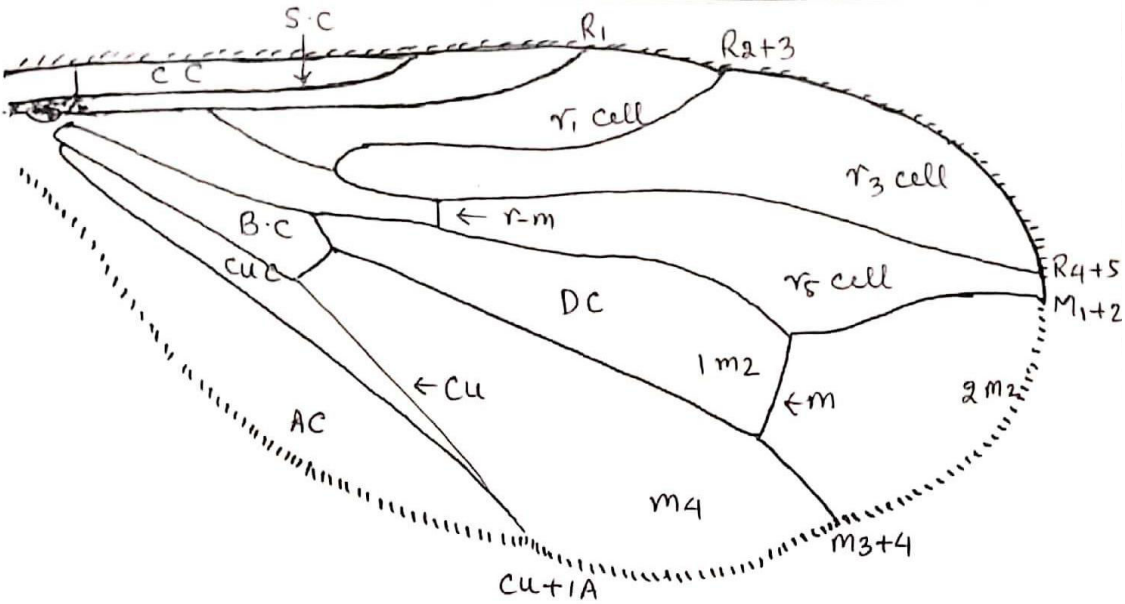


Fig- WING A

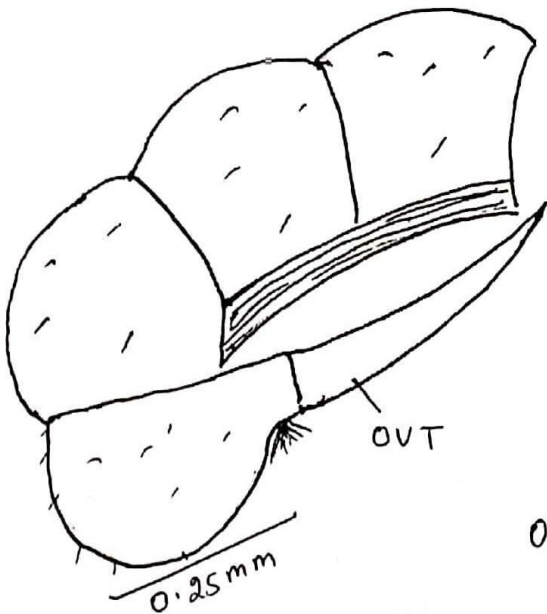


Fig : Female Ovipositor

C

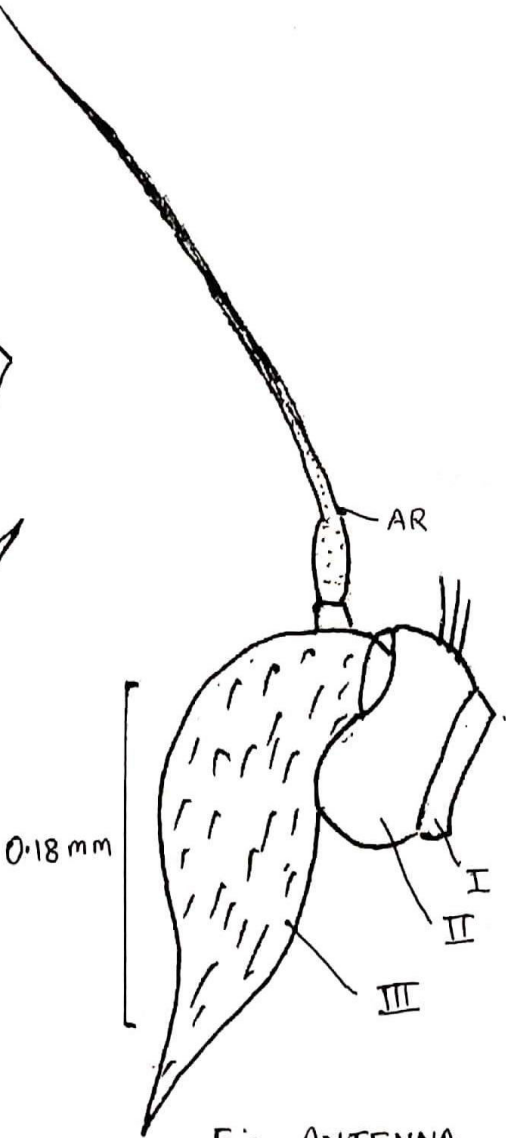


Fig- ANTENNA

B

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AMBEDKAR -HISTORIOGRAPHY AND METHODOLOGY**Karnika Dubey**

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ABSTRACT

Dr. B R Ambedkar was a global icon with a strong degree of constitutional understanding and legal knowledge. He researched many of today's progressive constitutions and crafted the Indian Constitution, the world's standard constitution. In his series of lectures and seeking remedies for them in constitutional endeavours, he discussed his attempts to irradiate many social issues and discriminated against on the grounds of colour, gender, ethnicity, language and geographical position of caste class. His contribution to social reform and growth was relentless and restless to provide the oppressed parts of society with fairness and equality. In India no systematic activity in social work has long been initiated and has been accerated since legalising Ambedkar's attempts to secure the oppressed sectors. This text seeks to explain the position played in empowering the poor and margined parts of society by Dr. B R Ambedkar as a social activist and science worker. For this reason, descriptive analysis methods and secondary data sources are used. This article describes how Ambedkar was motivated to involve in Journalism.

Keywords: Ambedkar, Caste, Concept of Dalit.

INTRODUCTION

As per B. B. "Society is still made up of sections, R. Ambedkar. Your foundation can vary. It may be physical, intellectual or social, but a person in a society is still a class member[1]. So community is people groups dependent on their money. Marginalised people are another face of the same coin too. In the process of empowering disadvantaged sectors, social work curriculum and career assume further responsibilities. Hand-by-hand experience and field work will lead to the health of different parts of society. Highly educated, practical and devoted social workers, committed to enhancing the socio-economic condition of disadvantaged people and the quality of life. Prior to this, Dr. B R Ambedkar constitutes the numerous clauses on India's constitution which are enforced for the good of these parts within the context of separate strategies, services and rules.

HISTORY AND MOTIVATION OF JOURNALISM:

The domain of newspapers became Ambedkar in 1920. On 31 January 1920, he began his first publication, Mooknayak. It was three years before it was shut down. Then, Bahishkrut Bharat (1927-1929), Janata (1930-186) and PrabuddhaBhaarat (1956), the founders of another three newspapers. He engaged directly in the editorial direction of Mooknayak and Bahishkrut Bharat in the first two journals. From 1930 onward, he entrusted the job to Devrao Naik, B. R. Kadrekar, G.N. Sahastrabuddhe, R. D. Bhandare, and B.C. for the leading colleagues in his work. Cambodia. Interestingly enough the Dalits were not Naik, Kadrekar and Sahastrabuddhe.

The active career of Ambedkar as a reporter was not a long one. However he was in charge of defining the contours of Marathi journalism profoundly. And his critics remembered his insightful expression in his newspapers. His lucid style of writing was equally important to make an impression at the time, with a wise approach and his command over language.

He may have acquired an argued form of Marathi writing from his experience editing Mooknayak. In the beginning Ratnakar Ganveer, one of Ambedkar's earliest writers, pointed out that he had trouble articulating in Marathi because of Ambedkar's English schooling. He would write the publishers in English and then translate them to Marathi in order to deal with the situation. In his publishing houses and opinion he made a considerable effort to study and to appreciate the various facets of Marathi literature. The Mahad agitations of 1927 demonstrated his solid, yet composed writing style.

His deep conviction that journalists does not cover the masses blindly reveals one of the most interesting facets of Ambedkar's journalism. It should instead help to build political ideas. He argued that the newspapers should lead the way by supplying people with examples. He took actions knowingly that greatly affected his journalism undertaking, but it cost him a fortune. There was not enough funding for Ambedkar's newspapers – the same reason why Bahishkrut-Bharat and Mooknayak ultimately shut down. The perpetuity of the situation was partially due to his hard stance on the matter of advertisements. He attacked newspapers in one of its editorials in Bahishkrut Bharat, advocating irresponsible ads that preserved and continued injustice and ritualism. Many prominent nationalist journals, including Bombay Chronicle and Kesari, published regularly Brahmanic religious literature advertisements, events and events that defended brahmanism and patriarchy. He pointed out

that he wanted to publish no advertising rather than "socially unethical and vulgar ads." Established on 31 January 1920, Mooknayak was a two-night Bombay newspaper on Saturday. In the working class region of Parel, the Mooknayak office was located. The title of the journal simply means the chief of the Voiceless – inspired by Bhakti-poet Tukaram's Marathi quatrain. The initial funding was given to Mooknayak by Chatrapati Shahu, native of the princely state of Kolhapur and one of the leading civil servants of West India at that time. Ambedkar never became the official editor of the Mooknayak, he was its de facto editor during his stay in India. Pandurang Bhatkar became the first official editor. Ambedkar had taken a break from his doctoral studies and reached India in 1918. In 1920, he left India to finish his studies. Dnyandeo D. Gholap replaced Bhatkar. The first "untouchable" Gholap was nominated for a member of the legislature of Mumbai in 1921 won a memorable award. The actions of Mooknayak from London were closely watched by Ambedkar.

Mooknayak had to face severe financial and management challenges from its beginnings. Mooknayak, in Ambedkar's absence, was supported generously by his good friend Parsi, a well-to-do merchant, Naval Bhathena. On several times he saved Mooknayak. He persuaded leading industrialists from Bombay such as Godrej to publish in the magazine. However with time progressing, Ambedkar's supervision of Mooknayak practises became more and more challenging. In 1923, because of his personal difference with Gholap, he dissolved his affiliation with Mooknayak. Ambedkar learned a big lesson in his conflict with Gholap concerning newspaper management that he used in later years when he gained full control of his newspapers.

The Bahishkrut Bharat had a comparatively stable free life span compared to Mooknayak. It was released in Bombay quince days ago. During the Mahad Satyagraha on 3 April 1927, Bahishkrut Bharat was created. The Ambedkar-led Bahishkrut Hitkarni Sabha was eventually turned into the mouthpiece. In 1929 it was closed due to financial difficulties. Nonetheless it began at Mahad in 1927 as a result of strong mass turbulences.

In the 1920s Mooknayak and Bahishkrut Bharat took a bold stance on numerous sensitive religious, social and political topics.

Actually, Bahishkrut Bharat means 'India withdrawn.' At the public meeting held in Bombay, chaired by Ambedkar, the title was suggested and ratified. The Dalit activists of Konkan and Bombay who took part in the Mahad agitations obtained initial support. Each topic of his newspaper was directly involved and he writes the studies, commentaries and editorials. No new employees is recruited by him formally. He once found that because of a lack of funds his job at Bahishkrut Bharat was to publish, report and edit the paper at the same time.

The concerns of a caste segregated society were frequently articulated by criticism of the Hindu faith, its scriptures and society in the writings of the Mooknayak and Bahishkrut Bharat. The papers criticised the Congress and Hindu nationalists of the right strongly for their indifference to the caste problem.

In Mooknayak Ambedkar argued that a national consciousness could not be established by the social distinctions arrogantly neglected. He likened the Hindu business to a multi-story tower without stairs to the next level. The caste-afflicted Hindu community represented the tower here and every floor was a single caste. He argued that an organisation that prohibits people from messing up with another bunch is harmful to national unity. This will only spread indifference, hierarchy and aggression by such a culture and would not leave much space for true national reconciliation.

For the Dalit movement, the twenties were profoundly transforming. In this decade, the main characteristics of Dalit mass politics were the interpretation of the concerns of Dalit into a powerful political and organisational vocabulary. The 1927 Mahad movement unfolded in Western India the rise of assertive mass politics. Ambedkar started to suggest, after violence, that the Dalits should be identified separately from the Hindu community during the Mahad agitation. He observed that because of Dalits' constant anonymity of entry to common public spaces and their constant subjugation to high caste abuse, the Hindus "untouchable" and upper caste have had little social cohesion. He claimed in another Bahishkrut publishing house in Bharat that Hindu society did not understand clear social expectations with mix-ups and fellowships. The lack of social affinity contributed to caste violence, he claimed.

For Bahishkrut Bharat and later newspapers such as Janata and Prabuddha Bharat, this issue of violence has been an important subject. They reported various news storeys and testimonies about abuse in West India against the Dalits. In the late 1920s, Bahishkrut Bharat played a crucial role in mobilising sentiment against caste oppression. There is various evidence that it is important to see the publication in the Dalit gatherings of editorials published by Ambedkar in Bahishkrut Bharat. He has clearly shown his abilities as an editor and

successful communicator. Ambedkar's emphasis on systemic violence was critical to unite Dalits in West India in order to identify the plight of Dalits.

In 1927 the interfaith marriage between a Hindu girl and a Muslim was a big problem in the Marathi public domain. This girl was nothing but the granddaughter of the famous academic R.G. Bhandarkar. Bhandarkar. Marathi newspapers, particularly those published by Pune, strongly opposed her marriage. Ambedkar wrote in the *Bahishkrut Bharat* an exciting editorial endorsing marriage in response to the opposition. He concluded that our community should encourage interreligious marriages as a way to re-establish trust between Hindus and Muslims. While he condemned opponents of interreligious marriage, he argued that marriage was a personal matter in which third parties had no part to play.

The Hindu-Muslim dispute in India in particular the Bombay presidency, had already changed the essence of politics during the 1920's. Under V.D. administration. In the 1920s, Savarkar, was founded as the notion of Hindu nationalism. The discussions in the then Marathi newspapers on Shuddhi and Sangathan revitalised the debates. In the sense of a divided climate several large Marathi newspapers have backed a call for Muslims to fight, including some nationalist journals. Until the 1930's it was critical but more inclined to change Ambedkar's stance on Hinduism. But in 1929, 5,000 Jalgaon Dalits jointly threatened to renounce Hinduism, sparking a major conversion controversy. Ambedkar supported the Jalgaon Dalits in *Bahishkrut Bharat* and called upon them to follow Islam. He believed that Islam advocated and exercised tolerance, promoting the acceptance of Dalits. He began a series of papers on various facets of Islam in the *Bahishkrut Bharat*. Mahatma Gandhi also rose in the 1920s. In this decade, Ambedkar's understanding of Gandhi was distinct than in later decades since they had to contend politically with each other. At the context of the Round Table Conference the famous encounter between the two took place. Even if Ambedkar was wary of Gandhi, he was ambitious in his policies, even in the 1920's. In *Mooknayak* and *Bahishkrut*, Gandhi is frequently listed. Ambedkar's *Mooknayak* publishers criticised Gandhi's non-cooperation agitation but lauded Gandhi for his bravery in speaking out against Brahmin's orthodoxy. Gandhi's leadership in Congress was regarded with some hope by *Mooknayak* publishers. The emphasis of Gandhi on removing untouchability rekindled the promise of constitutional reform. Ambedkar's view of Gandhi became more and more critical with the beginning of Dalit mass politics in 1927. Bharat vehemently opposed Gandhi's views on varna regimes and his patronising approach to the untouchables in Ambedkar's remarks at *Bahishkrut*. Around the same time, he had his integrity and austerity lauded. Gandhi. Ambedkar maintained that Gandhi should apply his charisma in resolving the problem of caste and unchangeable when he wrote on Gandhi in *Bahishkrut Bharat*. In the early 1930s Ambedkar became a national leader. In his ties with Gandhi and the Congress, the decade of the 1930s witnessed the creation of new dimensions. In the 1920s, this factor was entirely absent. Ambedkar was thus short, but significant in his capacity as editor. His editorship of *Mooknayak* and *Bahishkrut Bharat* played a key role in defining the latest mass-activist policies. Not only did his claims influence the mobilisation of Dalits, but they also added substantially to his leadership.

AMBEDKAR'S JOURNALISM AND ITS SIGNIFICANCE TODAY

The incisive editorial statements of Ambedkar in *Mooknayak*, *Bahishkrut Bharat* and *Samta* can be seen as indicative of his struggle with the Indian social structure. Ambedkar was not happily becoming a neutral spectator. He was an interventionist and tried to change the status quo. Though he intensively probed the contradictions of faith and caste and varna structure, he often closely scrutinised the social framework under which they worked. That is why his assessment of the caste-varna method is so reliable and trustworthy. It is valuable because it takes into account the whole ambience under which the caste system operates and addresses all relevant problems. Ambedkar's writings are as important and inspirational today as they were in his days. Ambedkar's journalism tells us that we can sincerely aim to make society conscious of the exploitative existence of the caste, varna, age, gender and regional distinctions and attempt to liberate it from the prejudices they create. Simultaneously, we should also sensitise community towards Dalit problems like the likes of forwarding Press, Budhan, Samyak Bharat, Dalit Dastak, Adivasi Satta and Yuddharat Aam Aadmi are doing today.

The credit for bringing the idea of Dalit literature in Hindi goes to Rajendra Yadav, just as the credit for laying the base of Chayavaad in Hindi poetry goes to Indu (1909) (1909). Madhuri (1921) popularised Chayavaad. Similarly, Nayi Kavita (editors Jagdish Gupta, Ramswaroop Chaturvedi and Vijaydevnarayan Sahi), released in 1954, is credited with playing the main role in the creation of the Nayi Kavita movement. The credit for the birth of the Nayi Kahani campaign goes to magazines Kahani and Nayi Kahani and of Samanantar Kahani to Sarika. On the same lines, it is Rajendra Yadav who deserves the credit for taking women's debate centre stage. He started editing Hans in 1986 and many a Dalit writer got a reputation by publishing in it. It is Forward Press

after Hans has clarified the idea of Bahujan in a comprehensive and detailed manner in every magazine. The New Delhi publication started in 2009 with Forward Press. It managed to publish in print until June 2016, when it was distributed online. The two-language magazine focused on Phule and Ambedkar concepts. Among Bahujans, the printing magazine was famous. The intellectuals in numerous Indian languages, who advocated social justice, have been given a shared voice. Forward Press has played an integral part in establishing the 'theoretical basis of the debate' of the OBC in the sense of sociology and political science and in developing the idea of OBC literature with editor-in-chief Ivan Kostka and editor Pramod Ranjan. Justice News has since launched a website, close to forwarding Press. The People's Media Activism and Study Centre was set up and a version of Dalit Media Watch was released in 2007 by a collective of Dalit scholars, senior journalists and social activists. Now the Justice News was called. His newsletter covered Dalits massacres widely throughout the region. The outlets are numerous newspapers, and the centre gathers reliable details. The newsletter is distributed regularly in Hindi and English and is read in India and abroad by lakhs of readers. The news alerts have been issued in addition to State governments from the National Scheduled Castes Board, the National Scheduled Tribes Commission and the National Human Rights Commission.

These Bahujan newspapers have of course, failed to overlook India's shameful events. They have the duty to resist a pattern which destroys the sensibilities of human beings.

B.R. AMBEDKAR AND THE PROBLEM OF HIS EUROCENTRISM

Following a near reading of his well-won yet unreported speech "Annihilation of Caste." This paper aims at explaining core elements from his book What Congress and Gandhi did to Untouchables, and its address Criteria for the good work of democracy. The thought of Ambedkar. Ses attributes are most marked in his comparisons to Indian culture, his identification with values and his desired future. The paper attempts to reassess the overall petty connotation of eurocentrism in the recent comment and indicates that the academic habit is invaluable in the social and political aspects of Ambedkar and its subsequent efforts to overcoming caste. The paper is a reflection of the European reference points of his thought.

Etymologically, the term annihilation is taken from the middle French annihilation of the 1630s, or specifically from the mediaeval Latin annihilationism and is the noun of intervention by the participants of the past from annihilate. To comprehend his idea of the overcoming caste, Ambedkar chose this particular phrase, which makes it all the more disturbing, considering that the concept he mentioned is not long elaborated. And the option is definitely not only because of its history but because of its political creativity. What did he mean by caste destruction? In studying this topic, I hope to show that Ambedkar participated in the creation of a resolution of this issue which should give us a break from an essential and deeply Eurocentric imagination. Partly because eurocentrism is seen as an unforgiving moral weakness in very recent speeches but also because it has been realised that its capabilities are deficient in an opportunity to better understand non-European situations. On the contrary, it is precisely the eurocentrism of the thinking of Ambedkar that I want to point out that it helped him to make such detailed criticism of Indian social hierarchy's operations and consequences.

It is a concern that has always puzzled me why there were no social movements in India. There's only one answer I can give, and because of this miserable Chaturvarnya scheme, the lower Hindus classes were totally disabled for direct action. You couldn't hold weapons, and you couldn't revolt without arms. They were just rabbits, or were condemned to rabbits, and could never turn their rabbits into weapons. They had no bayonets, but everyone who preferred was free to sit on them. They did not obtain any education because of Chaturvarnya. The means of their redemption they did not think out or realise. They were sentenced to be modest and not to know the means of salvation, and they were reconciled with their everlasting servitude, which they embraced as their inevitable destiny. It is clear that the strength in Europe, not even the spoliation of the poor, has not weakened from corruption. But in Europe, the powerful never designed to shamefully render the poor vulnerable against exploitation, as was the case among the Hindus in India. The social war raged much more intensely than ever in India between the powerful and the poor in Europe. But the weak citizens of Europe had their physical arms, their political weapon, and their spiritual armour in their equality in military service. In school. The poor in Europe have never withheld these three arms for liberation. However, Chaturvarnya refused all these weapons to the masses of India.

The signs of Ambedkar against the above-mentioned characteristics of European society serve as a foil that brings greater importance to his interpretation of Chaturvanya. His interpretation of caste culture in India is inevitably mediated by his antithesis in Europe. Clearly, Ambedkar was not burdened with the postcolonial fear of competition with the past of this region; instead, these theoretical steps proved central to his overarching challenge of establishing a critical understanding of how caste drastically influenced Indian society's future dynamism and independence.

Ambedkar is nearly suspicious of potential caste degradation and, subsequently, of the Hindus community, even though he conceives logical forms. He clarifies that while denouncing the religion of rules, it doesn't indicate a need for a religion per se. 'But I agree with Burke that 'real religion is the pillar of civilisation and the foundation for and sanction by all legitimate Civil Government.' Ambedkar favours a religion of values and outlines a set of amendments – all based on Hindu religion standards – that will establish a modern doctrinal basis compatible with 'Free, Equitable and Brotherhood, in short, Democracy.' It indicates for him that the past is totally divorced, that the notions and ideals of life are fundamentally transformed: 'it means a completely new approach to people and things. Conversion means. new life.' It means transition.. While this was not exactly the case, Ambedkar genuinely advocated for the Europeanization of Indian culture. In reality, it may have been claimed.

Eurocentric opponents argue that comparing European and non-Western cultures, culture and ideas commit aggression to an adequate and accurate definition of the same. The claim also suggests that this is unacceptable to Europe as a normative ideal that is viewed in the absence or defiance of the features of non-Western cultures. Moreover, Eurocentric visions of the planet are argued to be intrinsically suspicious and questionable because of their near affinities with imperial contexts. As I suggested, Ambedkar seems happily oblivious to such questions when his caste is annihilated. Instead, Europe works to establish the critical point against which the rules of the caste are apprehended as social evils in the context of the annihilation of caste. However, Ambedkar seems to be absolutely deliberate in his judgement, as a critic of eurocentrism also claims to be active.

In my opinion, the considerate nature of the research responsibilities of Ambedkar gives its readers and those who are concerned with the eurocentric dilemma a provocative misunderstanding. Namely, how is it that one committed to the abolition of caste in the form of colonial India makes sense to affirm European ideals? Ambedkar's thought about Europe seems to be a reminder to Eurocentric opponents that his criticisms tend to be unfounded if not insignificant in the case of the project of transcending caste. One might also argue that condemnation of Euro-centrism can only be implied protection of castes when the desired goal is to make the Indian culture and its values genuine and autonomous. If the egocentricity of Ambedkar is central and not merely accidental to its perception of the casteist loss, the thought of Ambedkar on independence from colonial rule is close.

We have seen so far that Ambedkar's thoughts on caste overcoming and the values from which he has drawn inspiration influence in European thought have been inspired. I switch now to what Congress and Gandhi did to the Untouchables, and in particular to the chapter titled 'The Foreigner' for a study,' which he probably did more forcefully, in order to explain how Europe functioned in these ways, too. What Congress and Gandhi did to the Untouchables, which had been originally issued in 1945, was a lengthy treatise that repeatedly tried to break away from the popular view that was gained in terms of the Dalits of India properly serving the Congress during its first provincial 1936/7 elections. According to Ambedkar, his disaggregated study of the outcomes of the elections in this book "proves beyond doubt that congress has captured all the seats reserved for the Scheduled Castes, and that the Independent Labor Party has failed, it is a wicked lie." In compliance with the Government of India Act of 1935, the Congress tried to show how the joint election used it to effectively muzzle, contain autonomous impulses among Scheduled Caste voters and to ensure the Congress party's artificial representation.

CONCLUSION

Dr. Ambedkar was a true democrat and the stronger his contribution to protecting the neediest. He demonstrated that democracy needs the marginalised communities like Dalits to be writers of their own fate and not rely on philanthropy or the kindness of the affluent or the goodness of the devoted. He was the creator, through institutions which he and no other individual managed, of the concept that the deposed must advance based on their claims to rights. Dalits have equal rights, fundamental human rights and will not rely on other people's gifts, leadership or patronage. Ambedkar was truly motivated towards ethical journalism.

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IMPLICATIONS OF ANCIENT STRATEGIES ON ADVANCEMENT OF MODERN MANAGEMENT: BENEFITS AND DRAWBACKS.

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ABSTRACT

The creation of a military aristocracy centered a warlord-king, a ruler with the economic, ideological, and coercive power to mobilize the entire society for war – was a crucial step in the movement to cross the military threshold. Rulers for whom warfare was a means of ideological legitimization, personal aggrandizement, and increasing wealth were rulers who would be more likely to bring cities into war. The alliance of warlord-kings with priests was a key ingredient in the crossing of the military threshold. Priests, speaking in the name of the gods, could legitimize or even command the military endeavors of kings, while plunder from victory in battle would be shared with the gods by donations to the priest-controlled temple institutions.

Keywords: Ancient strategies, modern management, alliance and aggrandizement.

INTRODUCTION

Important decisions and actions shape the existence of both individuals and human organizations. The causes for such decisions and actions are often complex. Usually they are labeled as being strategic in nature or called a strategy. This phenomenon called strategy may have a profound effect on the wellbeing and even survival of those concerned. Therefore, to both understand it and acquire the necessary skills in using or doing strategy may be critical, for once they have been done, and they are usually difficult to undo or reverse. Because strategic decisions and actions can have a major impact on the existence of individuals and all human groups, many feel it is mandatory to study this phenomenon.

IMPLEMENTATION OF VARIOUS STRATEGIES TO CONTROL WARFARE AND BUSINESSES

Precisely because of the many and different views on strategy there is still a justification, a rationale or even an obligation to go on question an effort to get a better understanding of this important phenomenon in human nature. A holistic approach or investigation of the origin and nature of this phenomenon from the long gone past to the present may still help in the search of a more unified or useful meaning of the phenomenon called strategy (Kaptijn 2012). Such a quest on this means to end thinking may be based on two basic questions. According to Alsanad et al. (2014), the first is the question of importance of strategy in man's existence. The second considers the existence, emergent (materialization) and evolvement of strategy in history. This includes a broad overview of the field of strategy and the many different perspectives that are a journey from the past to the present in studying the phenomenon called strategy.

Specific strategies are implemented in maintenance of warfare and business, which is treated as a most practical strategy for business and warfare. Culture, politics and business are analyzed properly with the involvement of this strategy. Organization can maintain their strategic goal with the help of this strategy. The planning and conduct of campaigns are justified with the help of military strategy of business and warfare. It is important to maintain disposition of forces and deception of the enemy with the help of his strategy. Planning and conduct of campaigns are maintained with the help of military strategy. Strategic control is treated as a key function of an organization. Strategic control and strategy implementation is interrelated. Marketing warfare strategies are implemented to maintain commerce and market warfare. Vast knowledge based stretching is controlled by marketing warfare strategy. Proper market segment is identified by dynamic and unpredictable nature of marketing warfare strategy.

MAINTENANCE OF WARFARE AND BUSINESS WITH PROPER STRATEGY

The phenomenon called strategy can be traced back in the texts of early military thinkers. Schmidt et al. (2015) stated that, the art of war and The Peloponnesian War are identified from around 500 B.C. The Art of War was Sun Tzu's work and The Peloponnesian War was Thucydides's work. Later writings like the work of Carl von Clausewitz's On War, from 1832 are also of significance. Scholars on strategy and strategic thinking and historians have studied empire builders like Alexander the Great that lived around 400 B.C and Ghinggis (Genghis) Khan that lived from approximately 1189 to 1227 A.D (Kuşakci and Busatlic 2012).

The phenomenon called strategy covers a diverse number of topics and plays an important role in both business and economics. This includes subjects like decision making theory, organization theory, management theory, theory of the firm, the resource-based-view, transaction-cost theory or economics in general and many other issues or dimensions (Lisch 2013).

.This concerns strategies for the creation of the economic value in firms to quote Manuel Becerra (2009, introduction) "...to show how firms can create value for customers and, at the same time, capture economic profits for their owners through business, corporate, international, and social strategies." The economist Oliver E. Williamson observed in 1991 (p. 90) "What is missing in business strategy, but is desperately needed, is a core theory."

Strategy is thus associated with motivational factors in business and economics, like purpose (or mission), values, vision, value creation, politics, economic factors, welfare and various other issues considered of high importance for both the economy or individual business organizations.

Demonstration of Warfare and Strategy.

INFORMATION ABOUT CRADLE OF CIVILIZATION

Archeological findings show that in the so-called cradle of civilization or Mesopotamia (the region of modern-day Iraq, with portions of Turkey, Iran, and Syria), villages were fortified, destroyed and then rebuilt with even stronger fortifications. Hamblin points out that all the new warlike royal dynasties had their origins in prehistoric periods (p. 24):

All of these developments – social, economic, political, technological, and religious – had their origins in the prehistoric Neolithic and Chalcolithic period. By the time writing first appears in Egypt and Mesopotamia, both of those societies had already crossed the military threshold.

Implementation of warfare to maintain social factors

It was Carl von Clausewitz (1780–1831), a Prussian general and military theorist, who said, "Strategy is the economy of force," which is why he is often referred to as the first strategist. A look back at history, however, reveals that many military leaders before him, such as Caesar, Sun Tzu, and Machiavelli, designed and formulated militarily motivated strategies...And each of these military strategies, some of which date back to antiquity, holds true for management by analogy (Järventie-Thesleff and Tienari 2012).

After all, resource concentration, surprise, innovation, organization and communication, the coordination of objectives and resources, and the consideration of one's own strengths are watchwords for the decision makers of today in their everyday business in the market, competitive, and corporate arenas. Thus, the understanding of strategy has not changed, only the venue is a different one for managers.

One of the earliest and well-known texts known on the phenomenon on called strategy is Sun's Tzu classic work *The Art of War*. This classic military, political and economical text on strategy was written in ancient China around 500 – 400 B.C. The text must be analyzed in the context of that time when a number of kingdoms relied on military strength to secure their existence. Strategy in SunTzu's time was a matter of survival. His work may look simplistic to the amateur but behind the surface lies deep knowledge or wisdom on human nature. Military institutions (organizations) in ancient China formulated their strategy so that they were able to respond to emerging threats and grab opportunities against rival kingdoms. However, Sun Tzu's text is still used today for a reason. It opens and gives us a view into the mind of the strategist. *The Art of War* is used today to teach strategic thinking in the military, political, economic and business context. It is used in teaching strategy by universities and in organizations like firms. Strategy may thus be of vital importance in everyday life, business competition and war (Wright 2014).

War is a matter of vital importance to the State; the province of life and death; the road to survival or ruin. It is mandatory that it be thoroughly studied. Sorin-George and Catalin (2015) stated that, if the word war is replaced with competition and the word state with firm (organization), then by analogy the relevance of this statement to (life and death of) each firm or corporation in our modern business world is obvious. Or the phrase would be like this:

Competition is a matter of vital importance to the Firm; the province of life and death; the road to survival or ruin. It is mandatory that it be thoroughly studied. This pattern of thinking can go further and replace the same words with, the words.

DEMONSTRATION OF MILITARY MIND SET IN EAST ASIA

There are, however, several ancient works from which East Asians generally draw their business philosophies. These books are widely disseminated and read in East Asia, but get little or no attention in the United States. They include the better known "The Art of War" and "The Book of Five Rings", as well as "The Three Kingdoms" and "Thirty—six Stratagems". This article provides synopses of these works and analyzes their most significant themes. Most importantly, it discusses their influence on the East Asian's approach to business

cooperation and competition, and to the formulation, reformulation, and implementation of business strategies. Tung's arguments are perhaps similar in character to Kotler's, Berger's and Bickhoff's regarding the universal nature of phenomenon called strategy, which was referred to earlier (Sheh 2013).

Importance of Holistic and Dialectic approach

Sun Tzu's work is explored further in the paper "Strategic leadership: Sunzi Art of War" in the book *Leadership and Management in China, Philosophies, Theories and Practices* (2008) by the authors Sun, Chen and Zhang. The authors observe (pp. 143, 156): we elaborate Sunzi's strategic situationalism into

- a. Creating positional advantage in the environment
- b. Creating organizational advantage within the organization
- c. Building morale within the troops
- d. Leveraging and adapting to situations.

MAINTENANCE OF WHOLE PROCESS

In the book *The Strategic Advantage: Sun Zi & Western Approaches to War* (1997) published in China (edited by Cao Shan) is one more validation on contemporary relevance of SunTzu's work on the phenomenon called strategy. The authors observe (p.9):

The work approaches the macroscopic question of "laying plans before waging a war" from the level of strategy. In short, the work focuses on the whole. By the end of the 20th century, with the introduction of missile and nuclear technologies into the military sphere, and the rapid development of other sophisticated weaponry and high science and technologies in general, changes in war conditions and progress in military science has far surpassed the imagination of people in SunZi's time. McConaghy et al. (2012) stated that, never the less, attention to and application of *The Art of War* in the West has been raised to a new level, both in scope and in depth.

DEMONSTRATION OF BUSINESS AND STRATEGY

The phenomenon called strategy concerns both the micro- and macroeconomics perspectives to organizations and nation states. Strategic decision-making and acting occurs at both micro and macro levels. According to Hertati et al. (2012), as societies became industrialized with monetary systems, markets and firms then economics and management (including strategy) gathered momentum. However, modern thinking on the phenomenon called strategy in the Management sciences is confined to a narrow timeframe in human history. Joshi (2013) stated that, some scholars in the academic field of strategic management point to dates like 1911 when the Harvard Business School started a course called Business Policy or to Alfred Dupont Chandler's work *Strategy and structure: chapters in the history of the industrial enterprise* from 1962. Other commentators like JohnMcDonald(1950) *Out of many texts, Business Policy Text and cases* (1982) gives one of the most valuable accounts of how advanced the field of strategy had become in its early stages. It takes into account many of the fundamental perspectives and problems that the field is still struggling to resolve.

THE EARLY PERIOD OF BUSINESS (1938-1962)

Contribution of Chester I. Barnard's on strategic management

Barnard(1938)introduceshistheory"ofthestrategicfactor"to"theunderstandingof organization and the executive functions as well as, perhaps, individual purposive conduct" (p. 202) or the processes of strategic decision-making and acting or for "effective decisions", (p. 204). Barnard observes (pp. 42, 43, 86 and 200-231):

The necessity of having a purpose is axiomatic, implicit in the words "system," "coordination," "cooperation." It is something that is clearly evident in many observed systems of cooperation, although it is often not formulated in words, and sometimes cannot be so formulated. In such cases what is observed the direction or effect of the activities, from which purpose may be inferred. A formal system of cooperation requires an objective, a purpose, an aim. Such an objective is itself a product of cooperation and expresses a cooperative discrimination of factors upon which action is to be taken by the cooperative system. It is important to note the complete distinction between the aim of a cooperative effort and that of an individual. It is an objective of the group efforts, from the results of which satisfactions accrue to the members of the group. In most cases, as we shall see, there is no danger of confusion of personal with cooperative aim - the objective obviously could not be personal. When the purpose of a system of cooperation is attained, we say that the cooperation was effective (Blanks 2013).

The strategic factor is, then, the center of the environment of decision. It is the point at which choice applies. To do or not to do this, that is the question. The strategic factor is, then, the center of the environment of decision. It is the point at which choice applies. According to Hristov (2015), to do or not to do this, that is the question. All formal organizations (and individuals) thus have objectives, purposes or aims, and therefore a strategy or strategies to attain their purpose (or purposes). Strategy or strategies, at every given point in time (See figure 6) are a result or outcome of continuous interactions between:

- a. The purpose, (or purposes) of an organization or for an individual. The purpose (or purposes) is based on; human needs desires or other emotions.
- b. Strategic decisions. Strategic (or effective) decision-making requires discrimination or choosing among a stream of “strategic factors” (the evaluation or discrimination among possibilities). Factors can be a limitation or offer new possibilities in view of the purpose (or purposes), requiring adaption, change or termination.
- c. Actions taken. Actions involve the implementation of a strategy or a stream of strategic actions. They do affect both the external environment and the internal environment. Actions can affect both decision-making and purpose (or purposes), requiring adaption, change or termination, and
- d. Results of actions. Results of (real or) actual actions that are taken. They do affect both the external environment and the internal environment. Thus they can affect strategic decision-making, strategic actions and the purpose (or purposes) requiring adaption, change or termination.

Therefore, as Barnard points out it is self-evident that every organization has a purpose and/or purposes, and consequently a strategy or strategies that can be both implicit and/or explicit. Like an organization, the each individual has an implicit and/or explicit purpose or purposes as well. What is “correct” to an individual depends on his purpose (p. 10).

For an individual or members (and/or stakeholders) of an organization; “The attempt to limit the conditions of choice, so that is practicable to exercise the capacity of will, is called making or arriving at a ‘purpose’” (p. 14). Thus, the purpose emerges out of some form of an important decision-making process (or processes). Various internal and external forces affect all formal organizations (as well as individuals) as Barnard notes on cooperative systems (p. 46):

There are no cooperative systems in which physical, logical, personal, and social elements or factors are not present. Strategy for an individual or an organization thus exists in general terms because of some purpose (or purposes) among members and/or stakeholders (Prier 2012).

Maintenance of dynamic capabilities and strategic management by Chester I. Barnard

David J. Teece, (2009) argues in his book *Dynamic Capabilities and Strategic Management* (2009) that Chester I. Barnard (1938) did ignore the importance of the strategic functions that managers perform in dynamic environments. Teece notes (pp. 69, 70):

The particular functions of management that Barnard recognizes include control, supervision, and administration (Barnard, 1938: 6), which are operational activities that relate to the business of keeping an organization functioning. Although these (managerial) functions must be performed, they ignore the importance of the strategic functions that managers perform in dynamic environments. Today, many of the firm’s assets are intangibles, and flexibility, entrepreneurship, and adjustment and adaptation to competition and changing consumer needs are paramount.

Barnard's remarkable discussion of internal organization thus asserts or develops the following:

1. Organization form—that is, formal organization—matters;
2. informal organization has both instrumental and humanizing purposes;
3. bounds on rationality are acknowledged;

CONCLUSION

Based on this paper it is concluded that information about the mind-set behind East Asian business dealings, should be collected. This mind-set influences the East Asians’ overall approaches toward business, including the way they define competition and cooperation. Consequently, it affects the way they formulate and execute business strategies. The Art of War is a military work with an emphasis on morality. It is concise and comprehensive, and full of symbols and implications. It is typical of Chinese classical military thought

characterized by logical reasoning, which is concluded in this paper. The control of the changeable strategic factors, that is, the exercise of control at the right time, right place, right amount, and right form so that purpose is properly redefined and accomplished.

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SPIRITUAL DEPRIVATION AND A SURGE OF VIOLENCE, DEATH AND DESTRUCTION: AN ANALYSIS OF W.B YEATS'S POEMS :“THE SECOND COMING “AND “A PRAYER FOR MY DAUGHTER”

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ABSTRACT

This article deals with the modern world and the influence of literature which shaped the world during the 20th century. W. B Yeats' two outstanding popular poems known as The Second Coming (1919) and A Prayer for My Daughter (1921) on exploration by research in this study are tied together by their close connections in respect of their yarn and texture. In the twentieth society the poem of Yeats "The Second Coming" (1919) and "A Prayer for My Daughter" outlined the destructive world of the post-World War I and the behaviour and attitudes of the modern man are outlined. The works of W.B Yeats are analyzed in depth critically. Therefore, the poems describes the unfaithfulness, the hypocrisy of the common man in the modern world. Ultimately, this paper consists of observations in which the researcher claims that the two poems are closely related to the life of the common man who is not harmonious, so that people are irrational about the human tragedy, and that is why Yeats thinks the time has come for Christ's second coming to tell them his sordid and ludicrous existence. To make it real significance for this article analytical and exploratory descriptive method were employed. Yeats believed that the world was on the threshold of an apocalyptic revelation, as history reached the end of the outer gyre (to speak roughly) and began moving along the inner gyre. The researcher concludes to bring home the idea that the cross-section of Yeats' poetry, especially in the selected poems for this study signify the spiritual deprivation and a surge of violence, death and destruction.

Keywords: Prayer, Death, Hatred, Anxiety, Frustration

The Second Coming was first published in *The Dial* in November 1920. The poem uses strong religious symbolism to indicate the decline of European culture and visualize the collective death forecast of Western culture or of the whole of humanity. It is based on the conviction that, according to the Bible, civilization is approaching a turning point in the second millennium of the second coming of Jesus Christ. The poem was supposedly written in a way following the First World War and strongly influenced by the French, German and Russian revolutions of 1917.

"Turning and turning in the widening gyre

The falcon cannot hear the falconer;

Things fall apart; the centre cannot hold;

Mere anarchy is loosed upon the world... "

The poem begins with a media-like, vision-like description of what is happening at (timeless) points of poetic narration, as can be seen. The first passage of the poem is not a series of chaotic, ominous pictures which say that nothing has changed dramatically and that the world is breaking into pieces. The first line of the poem, which is also used in the *Sailing to Byzantium* and several Yeats poems. As Yeats explains, gyre means two conical spirals, one of which is located inside the other.

William Butler Yeats *Prayer for My Daughter* begins with a picture of the infant in a cage sleeping. A storm rages out of his house with great fury. The mind of Yeats is very ugly and worried about how to protect his child against the tide of difficult times. The poet continues to walk and to pray for the young child and is revered. His daughter's future is quite boring and troubling. This problem concerns a dad's parental responsibility. Anne Butler Yeats, first child of the poet and only one month after his apocalyptic vision of violence and anarchy, was born on 26 February 1919, the second time that William Butler Yeats finished his career. He wrote "A Prayer for My Daughter" 4 months later, expanding his belief that one would come back. The speaker wants her mainly because it does not want his daughter to be too beautiful. The poem is about the tumultuous modern world. It shows a dad in an uncertain political situation consumed with apprehension of his daughter's future. The dad is tense about how he can protect his girl, because she's very pretty, from a raging storm outside. The speaker hopes that her bridegroom will take her away from hate and innocence in an accustomed ceremonial house when she grows up to be sweet-natured. He prays for her, therefore, and offers guidance on living on earth effectively. Modern fathers may also give quotes from this poem to their daughters

for special occasions. So he prevents his daughter, literally or ironically, from pursuing the path of Maud Gonne, who refuses his love and marries someone who does not like his father, to spread the love.

The Second Coming

The poem was finished by the Austro-Hungarian, German and Russian empires, the revolution in Germany and Russian, in January 1919 in an atmosphere of great European political upheaval. The "Second Coming" has been well-received as one of the most evocative visionary lyric poems of the twentieth-century, widely praised for its technical excellence and extensive symbolic resonance (Abdul-Razzaq, 2008). Europe's developments most likely have contributed to the speculation 'Mere anarchy is loosed upon the world' but, as the poem was not written for 22 months, it emerged as a reaction to Ireland's War of Independence in the fall of November 1920. The book Michael Robartes and the Dancer (1921) are included. Yeats's magic philosophy and history studies were profoundly concerned with historical trends. He also studied and practiced the occult and kept contact with the spirits regularly. Such "spirit communicators" helped him to establish a cyclical theory of history transition, which is represented by *A Vision* (1925). Geometric types were used to convey abstract concepts, one of which was the notion of gyres or cones that represents time zones. It refers to a single gyre or an inverted cone, but two interpenetrating gyres extend and contract along a single axis form the entire depiction of the gyres. Those are the competing, ever-changing forces that decide the character of an entity or the society of a particular historical level. In historical and individual times, the dominant influence moves from one round to its opposite history, he thought, can be achieved every 2000 years. This happens particularly significantly. This is why 'twenty years of stony sleep' was described, which followed the Christendom period, now fading, and is now becoming a new anti-thetical age. *The second coming* is the prediction in its Christian interpretation of Christ's second coming; it may also be referred in the occult and magical philosophy of Jesus to the second birth of the Avatar or to the great antithetical spirit, that Yeats and his wife thought would surely re-incarnate as their child born in the near future. The child was actually a girl, who smashed this theory. With the hideous "rough beast" of the Anti-Christ, the legendary personal enemy of Christ and His kingdom will appear before the end of the earth, "Slaves towards Bethlehem to be born" is suggestive. See the Book of Revelation on portents to the end of the world (Chapter 13). Mazarro declares that Blackmur has given enough "explication" on the falcon in "The Second Coming" and it has been given two implications: the circular flight of the falcon is likened to the turning of gyre which is a symbol in Yeats's poem to mean intellectual people, or it could be a symbol of the chaos and relate to the sphinx mentioned in the poem, (Mazarro: 1957/1958, 0).

The poem reflects Yeats' belief in historical transition and his genuine fear of a collapse of society and its replacement by anti-civilization or a period of anarchy. This was partially caused by his disgust and anger at the developments in Europe around this time (1919) politics and history. Yet, as we have shown, he was often fascinated with historical trends and was interested in the supernatural, with icons, ports, charts and spirit communicators, and established a cyclical shifting theory, which was graphically depicted as the symbol of the gyre. This poem explores the chaos of historical transition, but the immense perspective the poet takes is especially exciting. Time is not measured for years or decades, but for thousands of years and it is this immense and thrilling viewpoint.

In the first stanza here, Yeats explores the break-up of civilisation in metaphorical language. The falcon, that trained bird of prey, 'cannot hear the falconer' and is reverting to its wild state. The falconer has also been interpreted as a representation of Christ, so the image has been read as representing the movement of civilisation away from Christ. This dissipation is happening within the framework of its allotted time span, at a point within the gyre representing the present. Yeats is bringing a critical philosophical viewpoint to bear on the social and political structures. He suggests that there is failure at the very heart of society, presumably in human beings themselves: 'Things fall apart; the centre cannot hold'. Instead of clear-sighted vision and forward progress, there is this confusing circular movement, an out-of-control centrifugal force that threatens to send everything spinning away in disorder. In this chaos, human beings are changing, becoming ignoble and destroying innocence: 'The ceremony of innocence is drowned'. People have no convictions at all or are irrationally and passionately committed to causes; they have become either cynics or fanatics:

The best lack all conviction, while the worst

Are full of passionate intensity.

The first stanza embodies this very tension in its structure. Consider how the ideas are set up as opposites: falcon – falconer; centre – fall apart; indifference – intensity; innocence – anarchy. This polar oppositional tension is seen in the terrifying image of the 'blood dimmed tide ... loosed ... innocence is drowned'. This sinister image has connotations of the great flood and its destruction of the world, but might also suggest a ruthless cleansing

or purging. The repetition of 'loosed upon' and 'loosed' might suggest a savage wild animal, or at the very least the dogs of war. The circular imagery creates a sense of continuous swirling movement. Look at the repetition of the ominous little cluster of letters, the *-ing*: 'Turning', 'turning', 'widening'. There is a sense of a world out of control, of inevitable disaster. It is the force of the imagery that carries the ideas in this stanza. Consider the falconry image. This was the pastime of kings and lords, so the image carries associations of an aristocratic life, civilised living, and affluence. We know how much Yeats valued civilised living. Falconry was a 'noble' pastime, requiring skill and patience. Now this trained bird of prey is reverting to its wild state – a metaphor for the destruction of civilised living. It would also carry religious overtones and signal the breakdown of ordered religious systems. The falcon has also been interpreted as symbolic of the active or intellectual mind, so the breakdown of intellectual order might be signalled as well. Either way, the image suggests dissolution in a number of different spheres and levels. The second graphic image, of the 'blood-dimmed tide', has already been explored for its layers of suggestiveness. Its general impacts powerful, both visually and intellectually: innocence is drowned in a sea of blood. This is the ultimate nihilism, a world without justice, reason or order. Note Yeats's emphasis on the 'ceremony 'of innocence. The rituals of civilised living will also be destroyed, of course. The final image of the stanza, though somewhat ill defined, is apolitical one, suggesting that fanatical people now have all the influence and are in power. The general impact of the imagery is one of frightening and irrational disorder and break-up in life and society.

In the second stanza Yeats begins by casting around for a reason for the breakdown of civilisation, and the possibility of a second coming, together with the end of the world, suggests itself as the only one great enough to cause this: 'Surely the Second Coming is at hand'. But it turns out not to be the Second Coming of Christ as foretold in the Gospels, but rather the emergence of the Anti-Christ that Yeats imagines, an Anti-Christ who embodies the absolute reverse of the Christian era, which is now drawing to its end in the gyre of time. This 'rough beast', a nightmare symbol of the coming times, signals the end of this era, with its values and order. Again, the image of this 'rough beast' carries all the ideas about the new era. It is a 'vast image', overwhelming and troubling. It is a horrific hybrid of human and animal, suggesting unnatural times, such as foretold in the Book of Revelations. Its blank gaze suggests no intelligent sight or understanding; indeed, it is as 'pitiless as the sun', incapable of empathy or feeling. The qualities it conjures up are gracelessness and brutishness: 'moving its slow thighs ... Slouches towards Bethlehem to be born'. The final paradox is explained by the fact that its era has already begun, overlapping with the demise of the Christian era, so it is moving into position to initiate the new age or to be born. The paradox further emphasises the antithetical nature of the coming age: how totally contradictory or opposite it is. There is something blasphemously shocking in the idea of the beast being born at Bethlehem. The nugget of insight gained by the poet out of this horrific vision concerns the nature of time and changing eras. Here lies that eras have come and gone before and that the advent of the Christian era must have been as troubling to the previous age:

... now I know

That twenty centuries of stony sleep

Were vexed to nightmare by a rocking cradle

Thus, the poem *The Second Coming* provides a disturbing insight into Christian morality, suggesting that people don't believe this to be the stable and reliable force. The poem makes clear that Jesus comes to earth from the beginning to rescue the dignified in the book of Revelation. The Bible states that as mankind enters the last days, this is expected to happen: an age of total war, famine, devastation and hate. The poem indicates that the end times are already occurring because mankind has lost its common sense — and maybe it was just an illusion. In the first stanza, the speaker explains the uncertainty, ambiguity and failure of morality that "things" have caused to "fallen off." In the other stanza, the poet notes plainly that it is a Christian morality that is unfinished. When this broad-scale devastation is mentioned, the poem questions if Christian morality is built solely on poor bases — maybe society has never been really good, but always claimed to have been so. This moral sense is bumped into the picture of the first stroke: Good and poor ("best" and "worst") is no longer the stable definitions they were once, replaced by pure anarchy. Humanity has drunk into blood — the "blooded tide," which suggests that morale always was a "ceremony," a performance which evokes an illusion of the "innocence" of humanity. Moreover, the poem suggests that no one — not even Jesus — can fix this terrible reality. The Biblical Book of Revelation predicts a sort of final assessment whereby, basing its moral and religious virtues, persons essentially receive what they deserve. It points out that Jesus will save those worthy to be saved. But "The Second Coming" does not offer such convenience. Instead, in the first line of the second stanza, the poem suggests that after the turmoil of the first stanza ("surely some revelation is at hand"), a moment of divine intervention has to be finished. And "some revelation" is close, as it turns out. But this latest

discovery does not make it worse, rather than bring the world back to peace: a latest horrific animal heads into the world for Bethlehem, the birthplace of Jesus. If Christ was the pioneer of the spiritual revolution, this current beautiful emperor is a figurehead in the modern world of 'anarchy,' which lacks the strength and the 'worst' of the 'best people' [probably the most decent people] to survive. In other words, in the face of violence and devastation created by human beings, the poem portrays Christian morality and prophecy as being frail, and even proven false. This new creature's "blank gaze" shows further how desperate the situation is. It might be a "man's head," but it does not have a moral sense – rather, it is "compassionate." It comes to preside over "the blood-black tide" and "drowned innocence," not a world of goodness, charity and justice. His sphinx-like presence is often deliberately in contrast with Christian imagery, which indicates even a break from Christian morality. Meanwhile, what Yeats believed to be the "*Spiritus Mundi*" mentioned in the poem is the collective unconscious world from which the poet was able to draw insight. The beast's dream thus implies the transition to "anarchy" in the universe as the collective mind of humanity lets morality go. This is a deeply ambiguous poem called "The Second Coming". In fact, prior to its publication, Yeats updated some cultural references in the poem. Yet it's no mistake that this is a pessimistic vision of the future of society, which portrays morality as a kind of collective dream that has become a nightmare.

A Prayer for My Daughter

A Prayer for my Daughter by W. B. Yeats demonstrates the poet's concern and anxiety over the future wellbeing and prospects of his daughter Anne. He has written the poem in 1919, shortly after her birth and World War II. So, the ongoing unsettling feel is visible in the background and the poet's mind. The poem appeared for the first time in his poetry collection, *Michael Robartes and the Dancer* in 1921. The poem '*A Prayer for My Daughter*' was written in the lyric form containing ten eight-line stanzas. The stanza form is the same as employed by him in 'In memory of Major Robert Gregory'. Each stanza follows a regular rhyme scheme of "AABBCDDC". The poem follows a metrical structure that alternates between "iambic pentameter" and "trochaic pentameter". The poem is structured as a poet's appeal to God and to his daughter on how he wants her to be like, as she grows up.

Yeats' poem *A Prayer for My Daughter* portrays the theme of love and anxiety of a father, who has been blessed with a daughter. It also presents the poet's hopes for his daughter and his expectation of her becoming a very beautiful woman, blessed with the attributes of a virtuous soul. The setting of the poem is uncertain for the poem is conceived in the mind of the poet. The speaker is the poet himself talking to his daughter. The poem is conversational and didactic in tone with varying emotions of gloom, uncertainty, hope, and fear.

A Prayer for My Daughter opens with the image of the child sleeping in a cradle half hidden by its hood. The child sleeps innocently amidst the "howling storm" outside, but Yeats couldn't settle down due to the storm inside. The storm howling symbolizes destruction mentioned by the poet in his 'The Second Coming'. The wind bred in Atlantic has no obstacles except the estate of Lady Gregory, referring to the poet's patroness, and a bare hill. The direct impact of the wind, meaning to the force of the outside world, especially on his daughter, worries the poet. Because of this great gloom he walked and prayed for his daughter to be protected from the physical storm outside and the political storm brewing across Ireland. In the second stanza of '*A Prayer for My Daughter*', Yeats worries about the future are further explained. He hears the sea screaming upon the tower, under the bridge and elms above the flooded stream. The onomatopoeia word "Scream" and the "flooded 2/6 stream" symbolize the poet's overwhelming anxiety for his daughter. Also, it refers to the great flood in the Bible. Due to his haunting fear, he imagines the future coming out of sea and dances to the frenzied drum, referring to war and bloodshed. In the last line, the poet employs paradox "murderous innocence" to contrast the world and his daughter, which also recalls the images of "blood-dimmed tide" in 'The Second Coming'. In the third stanza of '*A Prayer for My Daughter*', Yeats prays for his daughter to be gifted with beauty. At the same time, he doesn't want her beauty to distraught or makes her dependent on her beauty for everything. Further, he doesn't want her to become proud or vain that she spends all day staring at the mirror and fails to have natural companionships. The poet implies, too much beauty to be a dangerous one, that he wants her to be beautiful enough to secure a husband. In stanza four of '*A Prayer for My Daughter*', Yeats substantiates his view on how excessive beauty has always been a source of trouble and destruction. He turns to Helen in Greek mythology, considered to be the most beautiful woman on earth, brought the doom upon her, and many others. The image of Helen evokes another figure Aphrodite, who rose out of the spray. The union of Aphrodite with Hephaestus bandy-legged Smith brings to mind the Maud Gonne-McBride episode. It makes the poet wonder if the beautiful women eat something stupid for salad, that they make a stupid decision which brings misery forever. "The rich Horn of Plenty" is suggestive of courtesy, aristocracy, and ceremony, that is lost by those women who make stupid decisions. In stanza five of '*A Prayer for My Daughter*', the poet continues with what he wants his daughter to possess more than mere beauty. He wants his daughter to learn to be compassionate and kind. Many

times, men who believed to love and loved by the beautiful women faced disappointment compared to those found love in the modest yet compassionate women. Moreover, he says modest and courteous people attract hearts than those with beauty, referring to his own marriage. Ultimately, he makes it clear that he wants his daughter to be an agreeable young woman than an arrogant beauty. In stanza six of 'A Prayer for My Daughter', Yeats continues to talk about his hopes and expectations for his daughter. As she grew up, he wants her to be happy and content. He wants her to become "a flourishing hidden tree" and her thoughts like a "linnet" referring to its innocence and cheerfulness. Like a linnet, he wants her to be satisfied in herself, and infect others with her happiness. Further, he wants her to live like a "laurel" rooted in a particular place. The poet reveals his wish on his daughter being rooted in the tradition.

Yeats continues to talk about self-contentment women in stanza seven of 'A prayer for my daughter'. He believes that kind, self-contained, traditionally rooted women are incorruptible. The poet considers hatred to be the cause of all evil and prays that her to be left off that evil. Further, he believes that a soul free from hatred will preserve its innocence and hatred. Just as the storm outside can't tear leaves from sturdy trees, turmoil and war can't break a strong woman. In stanza eight of 'A prayer for my daughter', the poet implores his daughter to shun passion and wild feelings that he considered as the weakness of beautiful women. She must be temperate because people who love deeply, could hate deeply too. Hate destroys people and makes them do cruel things, especially intellectual hatred which is worst of all kinds. The poet reflects upon his emotional state when Maud Gonne rejected him to marry John MacBride. He wants his daughter to experience neither the disappointment nor hatred. The ninth stanza continues to describe the impact of hatred and the benefit of staying away from hatred. Once hatred is driven out, the soul could recover its innocence. Then the soul would be free to explore and find that it is "self-delighting", "Self-appeasing" and "self-affrighting". According to the poet, the ideal woman makes everyone happy and comfortable, despite all storms of misfortunes that come in her way. She is a stronghold for people around her and her will would be that of heavens, for she has a clear mind. In the last stanza of 'A Prayer for my Daughter', the poet expresses his final wish. He prays that his daughter to be married to a good husband who takes her to a home with aristocratic values and traditions. There, he believes that neither arrogance nor hatred of common folks could be found, but morality and purity. Further, the poet does not want her to live a decadent life. He concludes by stating that his daughter would be rooted in spiritual values like a 'laurel tree'. So W.B. Yeats "A Prayer for my Daughter": The ironies of the paternal standpoint. It can be said that it will be not a waste of time. This work will show the reader a great memory of a father the ironies of his life who rejected by his beloved and then at the middle age his first daughter come where he wishes for his paternal standpoint that his daughter will grow up with happiness as well as a beautiful mind.

Therefore, W. B. Yeats is striving to present the modern human problems of the twentieth century as two delicate modern human beings. Yeats' poem "The Second Coming" may be related indirectly to Eliot's poem "Sweeney Erects" since in the past only Eliot seems to be considered a question that could be seen as personal, but in the 20th century it's generally disloyal and his conduct is like a machine and his sense of morality has been lost. The delineation of the modern world of Yeats, it may be said, begins from here as he sees that life is meaningless, people adhere to a materialistic existence and, in addition, their beliefs are rooted in their own good fortune; the majority believe that they are living in a godless world and have no confidence and trust in God as Creator and Almighty Power because they do not realize and are even stunned by the modern world. This encourages the poet to write the poem and give value to an abstract and the spiritual dimension of life because he believes that it is easy for anyone to engage with the trivial worldly affairs. The poet even attempts to scare them from their culmination because he believes that only fear will change them. Yeats' purpose is giving a solution to human problems. In other words, the world's trajectory along the gyre of science, democracy, and heterogeneity is now coming apart, like the frantically widening flight-path of the falcon that has lost contact with the falconer; the next age will take its character not from the gyre of science, democracy, and speed, but from the contrary inner gyre—which, presumably, opposes mysticism, primal power, and slowness to the science and democracy of the outer gyre. The researcher concludes saying that the cross-section of Yeats' poetry is taken for a prayer for order and grace in a battered civilization written with anxiety over for the future's wellbeing. These influences caused his poetry to become darker, edgier, and more concise signifying spiritual deprivation and a surge of violence, death and destruction.

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“ANALYSING THE ROLE OF TOURISM DEVELOPMENT CORPORATIONS IN ACHIEVING THE GOALS OF SUSTAINABLE TOURISM DEVELOPMENT THROUGH LOCAL GOVERNANCE: A CASE STUDY OF TOURISM DEVELOPMENT AUTHORITIES (KASHMIR DIVISION)”

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ABSTRACT

The tourism development authorities play a significant role in influencing and implementation of the policies and plans formulated by the state government. The tourism development authorities in the state of Jammu and Kashmir are responsible for policy and plan implementation by way of creating tourism infrastructure in tune with the plans and policies. Thus it is obligation on part of these institutions to prevent any disorderly development with regard to formulation of tourism policy and its implementation in their respective areas. Realising sustainability in local governance thinking and implementation is highly successful in striking the balance between three core dimensions of tourism sustainability (economic, social & environment). Therefore, in the light of existing literature, this paper is an attempt to evaluate the role of tourism development authorities in Kashmir Division in envisioning the local governance viability for successful development so as to achieve the core benefits of sustainability. Further, an attempt has been made to assess the extent to which the tourism development authorities in Kashmir Division has succeeded in translating the principals of sustainable development into practice by adopting sustainable centric mechanism in the formulation and implementation of their plans. The paper concludes with certain recommendations based on the findings of the study in order to bridge the gaps in the existing system so as to continuously aim at maintaining sustainable practices throughout the tourism development.

Keywords: Tourism Development Authorities, Sustainable Planning, Evaluation, Partnership, Regulations.

The earth's natural resources are under tremendous pressure from ever increasing population and urban expansion with the advent of industrialisation and globalisation. This situation has forced the countries both developed as well as developing countries to think and devise a mechanism which will facilitate to make the available resources viable for both present as well as future generation. The tourism industry is one the important sector of world economy and is intensively dependent on the natural resources whether tangible (physical resources) or intangible (cultural heritage). So it has become highly important for the tourism institutions responsible for effective utilisation of resources in order to have a practical solution where tourism resource can be sustained for long term benefits. In this regard, many attempts have been made to put forth theories and practices which will help in sustaining the resources for tourism. Similarly, *WECD, in 1987 refers sustainable tourism development as that meets the needs of present without compromising the ability of the future generations to meet their own needs.* The concept of sustainability has been widely viewed as holding considerable promise as a vehicle for addressing the problems of negative tourism impacts and maintaining its long viability. In tourism there are multitude of definitions for sustainability and sustainable development (Butler, 1999; Page and Dowling, 2002). The United Nations World Tourism Organization (2001) prefers the following definitions of sustainable tourism development: *“Sustainable tourism development meets the needs of present tourists and host regions while protecting and enhancing opportunities for the future. It envisaged as leading to management of all resources in such a way that economic, social and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity and life support systems”.*

The three core elements of sustainable tourism development are economic, environment, and social attributes of a host destination. (Swarbrooke, 2000). The environmental elements are natural, infrastructural, agricultural, flora and fauna attributes of host region (Swarbrooke, 2000). The economic element comprises of money invested in local community for the development of tourism infrastructure, services and facilities and the profits generated by the business community of an area. The social element takes all those actives in consideration which are result of interactions between tourists and host community. It is prerogative on part of local tourism development authorities to consider all the three equal but boarder elements of sustainability for any successful tourism development. (Swarbrooke, 2000).

The United Nations Commission for Sustainable Development (UNCSD) in the year 1999 added governance element to the group of three core elements of sustainable development. The UNCSD referred governance sustainability as a responsibility of governing institutions of a country or a state towards sustainable tourism

development by way of incorporating sustainable principles into planning process. Practically the local authorities at the destination level follow the planning framework set by the state government which in turn has direct implication on the policy formulation and achieving sustainable development across the regions on the basis of outcomes. (Newman & Clark, 2009). Hence it becomes imperative to conduct research to ascertain the role of local authorities at destination level whose actions at the local level can affect viability of sustainable development in destinations. It will otherwise become utmost impossible for the government to realize the goals of sustainability not only at local level but collectively at the state level. The plans set by state government becomes redundant mostly due to failure by the grass root to respond or initiate actions as per the plans set by the government due to lack of motivation, professional approach, regulation, participatory involvement, training, and education (Bramewell & Lane, 2000). Ruhanen, L. 2009, argue that the local tourism authorities need to collaborate and coordinate with related agencies at destination level to implement plans properly steered by the state government. The state's continuing influence can occur, for example, through subtle government steering of the priorities for action of the new agencies and partnerships. Evaluation goals of tourism development in a destination area can be achieved through partnership with stakeholders of tourism, acting as evaluation and coordinating agency for sustainable development and introducing rules & regulations accordingly will stimulate sustainable development.

RATIONALE OF THE STUDY

The review highlights the role of local tourism development authorities for achieving goals of sustainability (i.e. economic, social, environmental and governance). It is imperative at the destination level that the local authorities must strike a balance among the instruments of sustainable tourism development through translating plans into actions. Each dimension demands a thoughtful consideration of investigators while taking studies on 'sustainable tourism development'. There are several scholarly works where researchers have devoted energies to study these variables at the national/state levels but very less attention has been given to study these variables at the grass root level of the tourism at destination level. In the light of above literature, it is clear that actions taken at the local level should be evaluated in terms sustainable tourism development dimensions so as to realise the objectives of sustainability in state plans. Therefore, the requirements for any successful and sustainable tourism is to integrate and evaluate these four broader dimensions/variables of sustainability.

OBJECTIVES OF THE STUDY

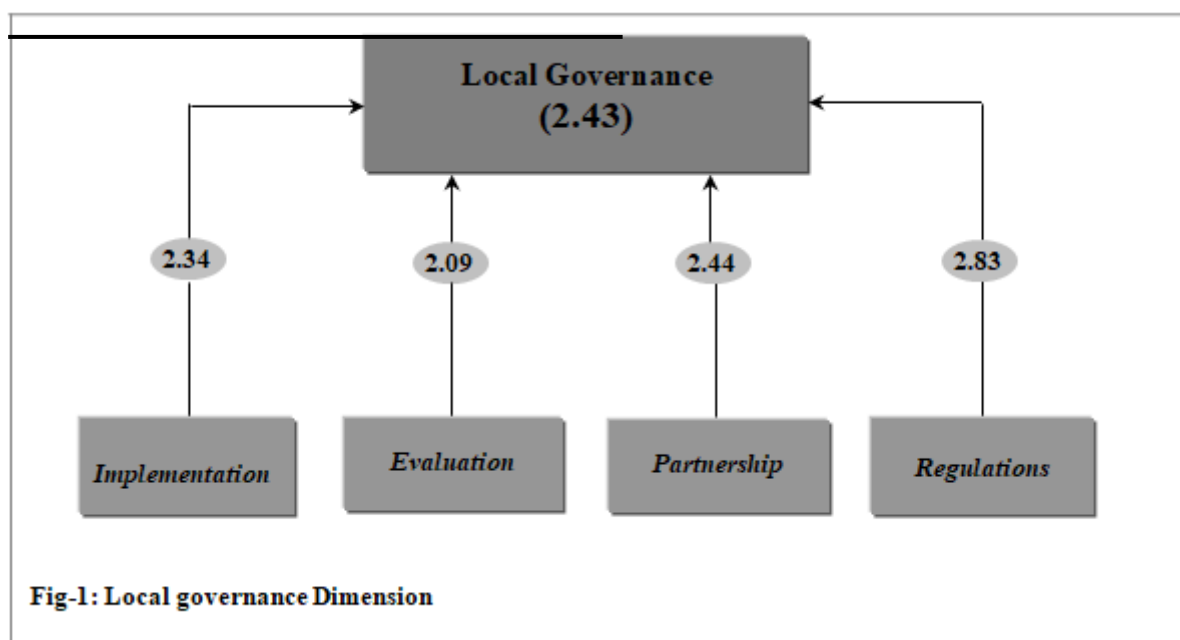
- To study the significance of local governance in sustainable tourism development.
- To analyse the role of tourism development authorities in Kashmir in achieving the goals of sustainable development through local governance.
- To suggest the measures for making the functioning of tourism development authorities more viable in sustainable development process of destinations.

METHODOLOGY

The area study consists of three prime destinations (Gulmarg, Pahalgam, Sonamarg) in the Kashmir Division of Jammu and Kashmir state. A total 300 questionnaires were distributed among various respondents and out of which 267 were useable with an overall percentage of 89%. Stratified sampling technique was used to collect the primary data keeping in consideration unique and different categories of respondents in the sampling population. The subsequent section discuss the analysis and interpretation of data collected from the various stakeholders. There were three categories of respondents directly or indirectly having the role in Kashmir tourism, which includes host population, local tourism entrepreneurs and officials from local tourism development authorities. Five Point Likert scale was used and response to each item was scored in such a method that response indicating most favourable was given highest score and vice versa (strongly disagree = 1, strongly agree = 5). The total reliability of the questionnaire measured as a whole was 0.67 well below the prescribed cut-off point (Nunnally, 1978).

RESULTS

(Aronsson, 2000), is of the opinion that it is at the destination level where most of the negative effects of tourism are felt and local authorities can overcome these effects on host community.



(Source: Survey data collected for the present study)

Fig.-1 describes the information about the insight of various stakeholders with regard to the incorporation of a mechanism by tourism development authorities of three prime destinations in Kashmir Division leading to the achievement of local governance with regard to sustainability. It is evident from the data below that mechanism adopted by the authorities need a significant overhaul (a mean score of 2.39 or a percentage mean score of < 50%). There appears a significant gap between actual mechanism required and the mechanism being adopted and carried out for tourism development in these three destinations (figure-1).

To measure the local governance variable, the sub-variables under study are sustainable planning, Evaluation, partnership and regulation. Institutions represent organizations within a system of rules governing interaction among members. The local governance variable calls for planning with sustainable approach, Evaluation of progress, partnership with various stakeholders during the development and implementation of regulations to check any violation.

The local governance variable received an overall mean score of 2.58 with a standard deviation of 0.250 (table-1), falling within the moderate range (> 50%). The four sub-variables used to measure local governance are implementation, evaluation, partnership and regulations. The detailed analytical results of these sub-dimensions of local governance variable are followed by the table.

Table-1: Local governance as perceived by respondents

Local governance Sustainability	Mean Score	Std. Deviation	%age of Mean Score	Range	Rank
<i>Implementation</i>	2.34	0.793	46.80	Poor	<u>2nd</u>
<i>Evaluation</i>	2.09	0.212	41.80	Moderate	<u>3rd</u>
<i>Partnership</i>	2.44	0.332	48.80	Moderate	<u>4th</u>
<i>Regulations</i>	2.83	0.849	56.60	Moderate	<u>1st</u>
Local governance Overall mean score	2.43	0.250	48.50	-	-

(Source: Survey data collected for the present study)

1. Implementation

Tourism is an activity which is largely dependent on natural, social and economic resources of host destination. Therefore, it highly important to consider all the elements during the developmental process not only for the present generation but for future generation as well. The implementation of tourism planning hence demands for integrated and holistic approach from the authorities rather giving priority to one dimension over the other. The tourism attractions/products need not only to be diversified but there should be enough scope in the planning to consider the conservation given the varied fabric of host areas.

Table-2: Implementation as perceived by respondents

Implementation	Mean Score	Std. Deviation	%age of Mean Score	Range	Rank
<i>The tourism plans focus on maximising economic gains to the local population.</i>	2.52	0.987	50.40	Moderate	3 rd
<i>Tourism development leads to the conservation of environment.</i>	2.17	0.194	43.40	Poor	4 th
<i>Tourism is developed with an aim to attract quality tourist.</i>	2.09	0.913	41.80	Poor	5 th
<i>Tourism development addresses the social, economic, and environmental concerns.</i>	2.02	0.975	40.40	Poor	6 th
<i>The locals have easy access to the recreational facilities.</i>	2.69	0.989	53.80	Moderate	1 st
<i>Tourism development takes due care of diversification of tourism activities at destination level.</i>	2.56	1.016	51.20	Moderate	2 nd
Implementation Overall mean score	2.34	0.793	46.80	-	-

(Source: Survey data collected for the present study)

Implementation, being one of the important elements of local governance received a mean score of 2.34 with a standard deviation of 0.793 (table-2). It can be summarized from the above fact that majority of the respondents were of the opinion that tourism activities in the destination are not implemented according to set plans by the state government.

The total of the six statements were employed to measure it and an item wise analysis of these items depicts that all the six items have scored at an average. This indicates the fact that there is further scope of improvement in implementation aspects of tourism plans on sustainable basis.

2. Evaluation

Evaluating progress is a continuous process and its success largely depends on the surveying and evaluation process. The evaluation can prove highly beneficial for promoting sustainability as it can limit the adverse effects and maximise the benefits (Loermans, 1995). The sound management of tourism requires mapping of any negative deviation from actual goals set during the implementation process so that adjustment to the policies and plans can be made well in time. The evaluation on regular basis facilitate authorities to understand any negative change in socio-environmental conditions of host destinations and accordingly permit for an adaptive management approach which is more supple than harsh regulations. Since tourism is similar to any other economic activities, therefore on-going evaluation by way of using effective data collection and analysis techniques is essential to help solve problems, make efficient use of the resources and better implementation of policies and plans.

Table-3: Evaluation as perceived by respondents

Evaluation	Mean Score	Std. Deviation	%age of Mean Score	Range	Rank
<i>Feedback is regularly taken from the concerned stakeholders.</i>	1.93	0.531	38.60	Poor	5 th
<i>Overcrowding of tourist sites is regularly monitored.</i>	2.26	0.984	45.20	Poor	3 rd

<i>The service provided by tourism business firms regularly monitored.</i>	2.78	0.654	55.60	Moderate	1 st
<i>The impacts of tourism in tribal and wildlife areas is continuously measured and evaluated.</i>	1.78	0.367	35.60	Poor	2 nd
<i>Environmental management tools are used at regular intervals during infrastructural developments.</i>	2.06	0.483	41.20	Poor	4 th
<i>Feedback from residents is taken during tourism development.</i>	1.75	0.648	35.00	Poor	6 th
Evaluation Overall mean score	2.09	0.212	41.80	-	-

(Source: Survey data collected for the present study)

The 'Evaluation' being significant component of local governance measured an overall mean score of 2.09 with a standard deviation of 0.212 (table-3) and almost at the left of the 5-point scale. Further, item wise analysis shows that the mean score of five out of six statements are skewed towards the left of 5-point scale. Nevertheless, there is lot of scope of improving the mechanism of evaluation during the development of tourism activities at destination level.

3. Partnership

The Partnership is a sub-dimension of local governance sustainability which aims to know the extent of expression of the need for communication, information and experience exchange between the local authorities and other participants in tourism development process.

The respondents perceived that the sub-dimension of 'Partnership' need to be encouraged in the tourism management process, which is quite evident from the moderate mean score of 2.44 (< 50%), with a standard deviation of 0.332 (table-3). The data indicates that the concerned authorities have failed to make partnership with the residents, tourism service providers, and other related agencies to implement the plans effectively to achieve sustainable goals. Probing further into the statements, two out of five statements scored moderate with % age mean score of 65.60 and 54.60 respectively (table 4).

Table-4: Partnership as perceived by respondents

Partnership	Mean Score	Std. Deviation	%age of Mean Score	Range	Rank
<i>Local tourism authorities involve residents in developmental process.</i>	2.08	1.093	41.60	Poor	4 th
<i>The promotional shows are organised in collaboration with local business operators.</i>	3.28	0.297	65.60	Moderate	1 st
<i>The infrastructural works of other public institutions are in tune with sustainable practices.</i>	2.28	0.056	45.60	Poor	3 rd
<i>The developmental work in a tourist area is carried out in partnership with other related public institutions.</i>	2.73	0.923	54.60	Moderate	2 nd
<i>Professionals and researchers are collaborated for mitigating negative impacts of tourism development.</i>	1.83	1.027	36.60	Poor	5 th
Partnership Overall mean score	2.44	0.332	48.80	-	-

(Source: Survey data collected by the scholar for the present study)

4. Regulations

Regulations is applied by governments when they believe them to be important. But at the same time, regulations need to be realistic, vibrant and practicable in terms of compliance and capable of being enforced. A sound approach for any institution to frame regulations is that it should permit and support the sustainable management of tourism and should provide right to act. It is mandatory for regulation to be flawless and applicable supported by suitable licensing. The licensing should be based on minimum standards but important seeking to raise the sustainability performance of tourism operations of private business units.

Table-5: Regulation as perceived by respondents

Regulations	Mean Score	Std. Deviation	%age of Mean Score	Range	Rank
<i>The development of tourism infrastructure is regulated by sustainable laws.</i>	2.56	1.053	51.20	Moderate	6 th
<i>Tourism operators are bound to function in accordance to sustainable principles.</i>	2.81	0.974	56.20	Moderate	4 th
<i>Tourism laws ensure visitor's health and safety.</i>	3.24	0.574	64.80	High	2 nd
<i>Strong mechanism is in place to check any misconduct and exploitation of hosts by the tourist.</i>	3.15	1.024	63.00	High	3 rd
<i>Tourism laws ensure environmental protection.</i>	2.63	1.013	52.60	Moderate	5 th
<i>Tourism directorate ensures protection of employee rights working in both public and private sector.</i>	2.12	1.026	42.40	Poor	7 th
<i>Tourism Directorate has strong mechanism for issuing licences to tourism operators.</i>	3.27	1.031	65.40	High	1 st
Regulations Overall mean score	2.83	0.849	56.60	-	-

(Source: Survey data collected for the present study)

The 'regulations' variable scored mean score of 2.83 (> 50 %) with a standard deviation of 0.849 (table-4). While making item wise analysis, the three items each employed to measure the dimension are skewed to the right and centre of 5-point scale respectively, depicting the fact that directorate of tourism have been somewhat successful in introducing a sustainable friendly regulation for guiding tourism development.

FINDINGS

Local governance from the perspective of sustainability faces many challenges in the tourism development of Kashmir region. The location of Kashmir Division in Himalayan mountain region has bestowed it with unique socio-cultural and environmental characteristics and hence makes it highly sensitive to any human intervention. Therefore, any development carried in this region should realise three core pillars of sustainability (economic, environment and Social). The above result indicate that a wide gap exists between the plans formulated by the state government and plans implementation by the tourism development authorities of various tourism destinations. The concerned authorities have failed to understand the need for an effective local governance framework. The tourism development is to be coordinated, monitored, efficiently supervised, and integrated into the overall scope of economic, environmental, and social development. There also exists a wide gap in the coordination of various agencies involved in the development of tourism so as to address its fragmented nature. The inputs from the key stakeholders are considered for effective and efficient implementation of plans throughout the process of its development. It is fairly disappointing to say that the local authorities at destination level have been inactive to incorporate the practice of research in the tourism development. Very little or no surveys are conducted to investigate the preferences and perception of both tourists and locals nor are the experts involved during the ensure sustainable tourism development. There have been almost negligible efforts to measure the issues like profitability of tourism at the destination level and its impacts on the society, and environment. The local authorities are only conducting surveys to assess the number of tourists visiting to their destination during various seasons of the year. The development and diversification of tourism activity is not considered during the development process. Both existing and new tourist attractions developed across tourist areas are the outcome of sluggish implementation of plans set by the state government.

RECOMMENDATIONS

The following recommendations are suggested to strengthen the local governance sustainability in the process of sustaining the tourism industry in the state of Jammu & Kashmir.

Presently the plans and decisions taken by the state authorities for tourism development are lacking proper implementation. The plans formulated are not backed by an effective implementation process to achieve sustainable goals. Therefore, the demand at the upfront is to devise a mechanism for formulation of framework to be adopted by the concerned local authorities for effective and efficient implementation of plans at the grass

root level. The guidelines adopted should be in a position to apply principles of sustainable development to conventional mass tourism rather inventing or re-labelling the various side-shoots of mass tourism. While doing so there need to be maximum scope for identifying areas of responsibilities and powers for its proper implementation. The approach of development should be market orientated and at the same time should preserve and safeguard natural, built and social resources of the destination. There should be greater scope for coordinating government activities related to overall tourism development. The development should allow maximum public participation for supporting the needs of visitors, residents, and those involved in tourism related business. In this connection, appropriate policy, an organized administrative structure, proper-regulations, and above all its effective implementation is a pre-requisite. To support the sustainable tourism practice, the government and other enterprises need to take below mentioned initiatives like creating awareness and sensitizing masses about tourism by providing proper training and education. There is great need for devising a mechanism which will enable researchers from various educational and intellectual backgrounds to coordinate and work together with local tourism development. To address this issue of fragmented nature of tourism industry, interdisciplinary approach at the local level should be adopted for sustainable tourism practices. There is also need to overcome the lack of interest, unprofessional, and ad hoc approach that act major deterrent to the development of tourism at the local level. The approach need to be focused, integrated and result oriented not only by way of effective implementation but also through regular evaluation and follow-up in order to correct any deviations. The plans that best fits the local community should be devised and implemented.

The solution to previously mentioned problems can be many and varied. All these problems can only be solved when authorities take appropriate decisions and measures in the light of above mentioned recommendations and see to it that these decisions are properly implemented. Further, the follow up actions are more vital than taking mere decision. Finally, if the various stakeholders are firm, it may not be that much difficult to improve the scenario of tourism industry at the local level so as to attain the objectives of sustainability within the frame work of local governance.

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HYPER SOUND AMPLIFICATION OF ACOUSTIC PHONONS IN 3D WEYL SEMIMETAL TAAS WITH DEGENERATE ENERGY DISPERSION

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ABSTRACT

Hypersound amplification/attenuation of acoustic phonons in 3-dimensional (3D) Weyl Semimetal was analyzed theoretically with degenerate energy dispersion. By considering the electron-phonon interaction, we have found the condition for acoustic phonon amplification or attenuation to be obtained, namely $V_d > V_s$ or $V_d < V_s$, where V_d is electron drift velocity and V_s is sound velocity. The dependence of amplification co-efficient on phonon frequency and drift velocity was studied resulting Cerenkov phonon condition analogous to semiconductors and 3D Dirac Semimetals.

1. INTRODUCTION

A solid state crystal whose low energy excitations are Weyl fermions that carry electrical charge even at room temperature belongs to group of Weyl semimetals [1-3]. In a Weyl semimetal, the chiralities associated with Weyl nodes or fermi points can be understood as topological charges leading to monopoles and anti-monopoles of Berry curvature in momentum space which serve as the topological invariant of phase [1]. Comparable to Dirac Fermions in Graphene or on the surface of topological insulators, Weyl fermions in a Weyl semimetal are the most robust electrons and do not depend on symmetries except the translation symmetry of the crystal lattice. Hence, the Weyl fermions in a Weyl semimetal possess a high degree of mobility. Due to non-trivial topology, a We electrons and do not depend on symmetries except the translation symmetry of the crystal lattice. Hence, the Weyl fermions in a Weyl semimetal possess a high degree of mobility. Due to non-trivial topology, a Weyl semimetal is expected to demonstrate fermi arc electron states on its surfaces [1,4].

Using Boltzmann Transport equation in the presence of dc electric field, an acoustic wave gain energy from charge carriers in a material producing amplification of acoustic waves when the drift velocity exceeds the sound velocity[5-6]. The first experimental observations of Weyl fermion semimetal and topological fermi arcs in an inversion symmetry-breaking single crystal material Tantalum Arsenide (TaAs) were made [4]. Both Weyl fermions and Fermi arc surface states were observed using direct electronic imaging using ARPES which established its topological character for the first time. This discovery was built upon theoretical predictions [7,8]. In TaAs there is an experimental observations and theoretical predictions of fermi arcs formed by its surface states using angle-resolved photo emission spectroscopy [9]. The size dependence of lattice thermal conductivity and corresponding thermoelectric properties are investigated in TaAs [10]. TaAs show weak demagnetization with magnetic susceptibility. This magnetic properties indicates that the intrinsic fermi level in TaAs is not located at Weyl nodes in agreement with theoretical predictions [11]. Theoretical study of amplification in 3D Dirac Semimetal Cd_3As_2 reveals that, the amplification is found to increase with increase in V_d and maximum amplification shifting to higher phonon frequency for longer carrier concentration [12].

In this article, we analyzed theoretically the amplification or attenuation of acoustic phonons in 3D Weyl Semimetal TaAs through electron-phonon interaction mechanism. During the interaction there is an exchange of energy and momentum between electrons and acoustic phonons which lead to amplification or attenuation of acoustic phonons. In an electron-phonon interaction, acoustic phonons give up not only energy but also momentum to the electrons. This net gain momentum of electrons in the direction of propagation and this change in momentum leads to dc force acting on the electrons which can be viewed as acoustoelectric effect. This acoustoelectric effect has been reported earlier in metals [13], low-dimensional semiconductors [14-18], in GNR [19-21] and very recently in 3D Dirac semimetal [12,22]. According to Cerenkov condition, when $V_d > V_s$, the number of phonons would gradually grow exponentially leads to amplification or when $V_d < V_s$, it leads to attenuation (absorption) of acoustic phonons [17]. This Cerenkov condition of acoustic phonons in proven to be very useful tool for breakdown of quantum hall effect [23], the generation of coherent phonon polariton radiation [24], high gain in coherent acoustic oscillator in semiconductors [25] and amplification of ultrasonic waves in GaN [26]. Further, the amplification or attenuation of acoustic phonons can be used to provide phenomenon such as high electron mobility, Terahertz hypersonic sources for the phonon laser of SASER [27-28]. There is an experimental evidence for surface acoustic wave amplification in graphene [29], also theoretical evidence for possibility of attaining Cerenkov acoustic phonon emission in graphene [30-31] and analysis for amplification of acoustic phonons in confined quantum well structures and electric method

for coherent phonon generation in GaAlAs quantum well heterostructure [32]. It is observed experimentally that when $V_d = 0$, there will be no amplification or attenuation of acoustic phonons [30]. This experimental work motivates the theory that can lead to the attainment of SASER in 3D Dirac semimetals for use of non-destructive testing of acoustic scanning system and microstructure and also for the generation of high frequency elastic oscillations in phonon spectrometer.

2. Theory:

By assuming in short-wave region $ql \gg 1$ (where q is acoustic wave number and l is electron mean free path, the probability transition due to electron-phonon interaction using Golden rule is given by [18]

$$\frac{dN_q}{dt} = \frac{2\pi}{\hbar} g \sum_{k, k'} |M(q)|^2 \{ (N_q + 1) f(E_k + \hbar\omega_q) [1 - f(E_k)] - N_q f(E_k) [1 - f(E_k + \hbar\omega_q)] \} \delta(E_{k+q} - E_k - \hbar\omega_q) \quad (1)$$

where $g = g_s g_v$ with g_s is spin degeneracy and g_v is valley degeneracy. N_q represents the number of phonons with a wave vector q and $(N_q + 1)$ accounts for the presence of N_q phonons in the system when additional phonon is emitted. $f(E_k) [1 - f(E_k + \hbar\omega_q)]$ represent the probability that initial state k is occupied and final state $k' = k + q$ is empty whilst the factor $N_q f(E_k) [1 - f(E_k + \hbar\omega_q)]$ is that of the Boson and Fermion statistics. $|M(q)|^2$ is the electron-phonon matrix element, $\hbar\omega_q$ is acoustic phonons energy characterized by phonon frequency ω_q .

The unperturbed drifted electron distribution function described by electron temperature T_e is given by

$$f_k = \left[\exp \left\{ -\frac{1}{k_B T_e} (\varepsilon(k - mV_d) - \chi) \right\} \right]^{-1} \quad (2)$$

with k being the electron momentum and χ is the chemical potential and k_B is Boltzmann constant. In equation (1), converting summation over k, k' into integrals and by assuming that $N_q \gg 1$, yields

$$\frac{dN_q}{dt} = \alpha_q N_q$$

where

$$\alpha_q = \frac{AD^2 \hbar q}{(2\pi)^3 \hbar V_F \rho V_s} \int_0^\infty k dk \int_0^\infty k' dk' \int_0^{2\pi} d\varphi \int_0^{2\pi} \left\{ [f(E_k) - f(E_k + \hbar\omega_q)] \delta(E_k - (E_k + \hbar\omega_q) - \frac{1}{\hbar V_F} (\hbar\omega_q - V_d \cdot \hbar q)) \right\} d\theta \quad (3)$$

Where A and ρ is respectively area and density of Weyl semimetal, D is acoustic deformation potential. At low temperature, $k_B T_e \ll 1$, the distribution function becomes $f(k) = \exp \left(-\frac{\varepsilon(k)}{k_B T_e} \right)$. Then equation (3) can be expressed as

$$\alpha_q = \frac{AD^2 \hbar q}{2\pi \hbar V_F \rho V_s} \int_0^\infty k dk \left(k - \frac{1}{\hbar V_F} (\hbar\omega_q - V_d \cdot \hbar q) \right) \left[\exp \left(-\frac{\hbar V_F k}{k_B T_e} \right) - \exp \left(-\frac{\hbar V_F}{k_B T_e} \left(k - (\hbar\omega_q - V_d \cdot \hbar q) \right) \right) \right] \quad (4)$$

Using standard integrals, equation (4) can be expressed as

$$\alpha_q = \alpha_0 \left\{ 2 - \frac{\hbar\omega_q}{k_B T_e} \left(1 - \frac{V_d}{V_s} \right) \right\} \left[1 - \exp \left(-\frac{\hbar\omega_q}{k_B T_e} \left(1 - \frac{V_d}{V_s} \right) \right) \right] \quad (5)$$

$$\text{where } \alpha_0 = \frac{AD^2 (k_B T_s)^3 q}{2\pi \hbar^3 V_F^3 \rho V_s} \quad (6)$$

3. Cerenkov condition (Phonon amplification)

By recalling that, when $E_k < E_{k+q}$, yields $f(E_k) > f(E_k + \hbar \omega_q)$ then the amplification co-efficient α_q is greater than zero for $(\omega_q - V_d q) > 0$ and less than zero for $(\omega_q - V_d q) < 0$. During amplification the number of acoustic phonons would gradually grow exponentially. Therefore the criterion for the onset of phonon instability (amplification) is just the “Cerenkov Condition” $(\omega_q - V_d q) < 0$ or $V_d > V_s$ [18].

4. RESULTS AND DISCUSSION:

The final expression (5) is analysed numerically for TaAs at $T_s = 10.0$ K using the parameters $g=4$, $D=5.0$ eV, $V_s = 2.0 \times 10^3$ m/s, $V_F = 10^5$ m/s, $\rho = 10 \times 10^3$ Kg/m³.

The electric field can be calculated using $E = \frac{V_d}{\mu}$. At low temperature (~ 10 K) the electron mobility in TaAs is, $\mu = 1.8 \times 10^5$ cm²/Vs. [33] gives the electric field, $E = 1.22$ V/cm. Figure 1 shows the variation of $\frac{\alpha_q}{\alpha_0}$ with applied electric field E at $V_d = 1.1 V_s$. It is observed that. At lower electric field ($E < 1.0$ V/cm), $\frac{\alpha_q}{\alpha_0}$ absorption of acoustic phonons is almost constant. At $E > 1.0$ V/cm, the amplification of acoustic phonons decreases.

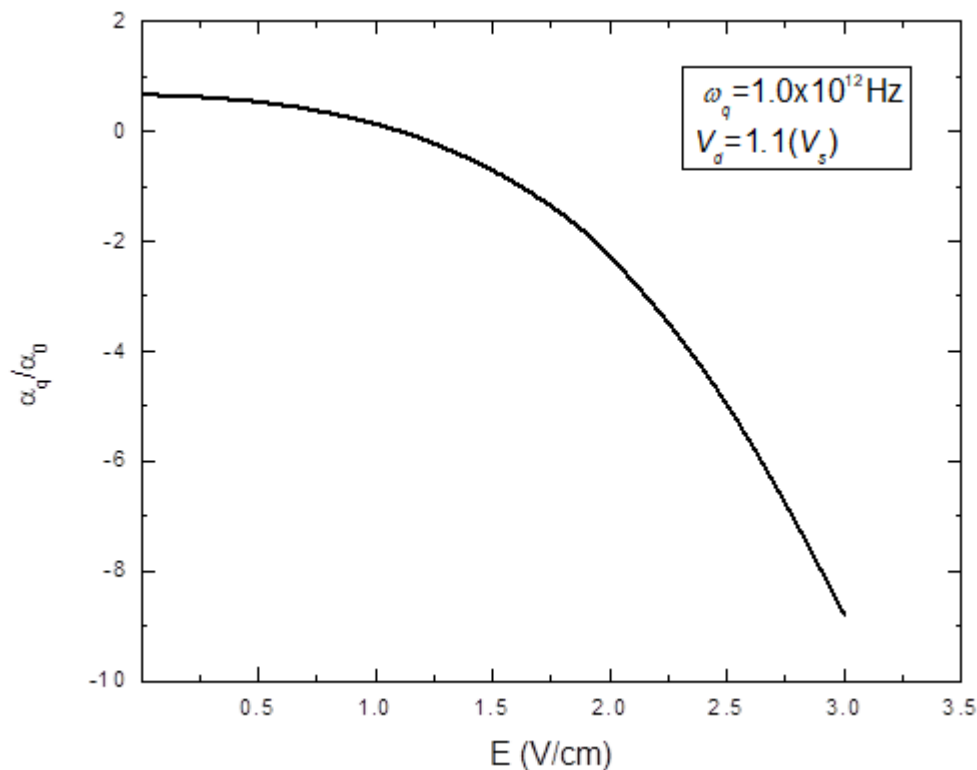


Figure 1: Variation of $\frac{\alpha_q}{\alpha_0}$ as a function of electric field at $\omega_q = 1$ THz and $V_d = 1.1 V_s$

In Figure 2, the dependence of $\frac{\alpha_q}{\alpha_0}$ on $\frac{V_d}{V_s}$ is analysed for different phonon frequency ω_q . From the graph, when $V_d > V_s$ gives rise to an amplification of acoustic phonons, the same amplification process also occurs in case of quantum well wires [18] and in Graphene [34]. However, for $V_d < V_s$, an absorption of acoustic phonons was observed. Figures 2a and 2b shows the 3D representation of amplification of phonons for $\omega_q = 0.1$ THz and 1.0 THz respectively. In Figure 2a, maximum amplification $\frac{\alpha_q}{\alpha_0} = -0.165$ takes place at $V_d = 2.0 V_s$ but maximum amplification $\frac{\alpha_q}{\alpha_0} = -3.17$ takes place at same V_d shown in Figure 2b.

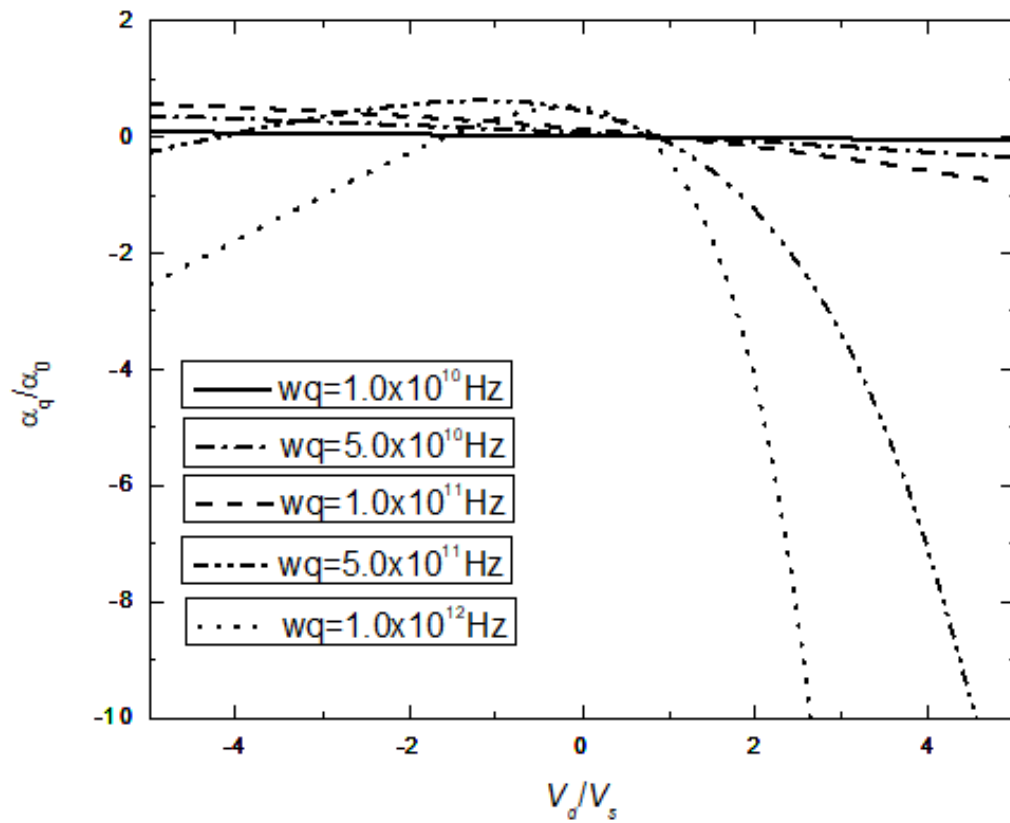


Figure 2: Variation of $\frac{\alpha_q}{\alpha_0}$ against $\frac{V_d}{V_s}$ for different ω_q .

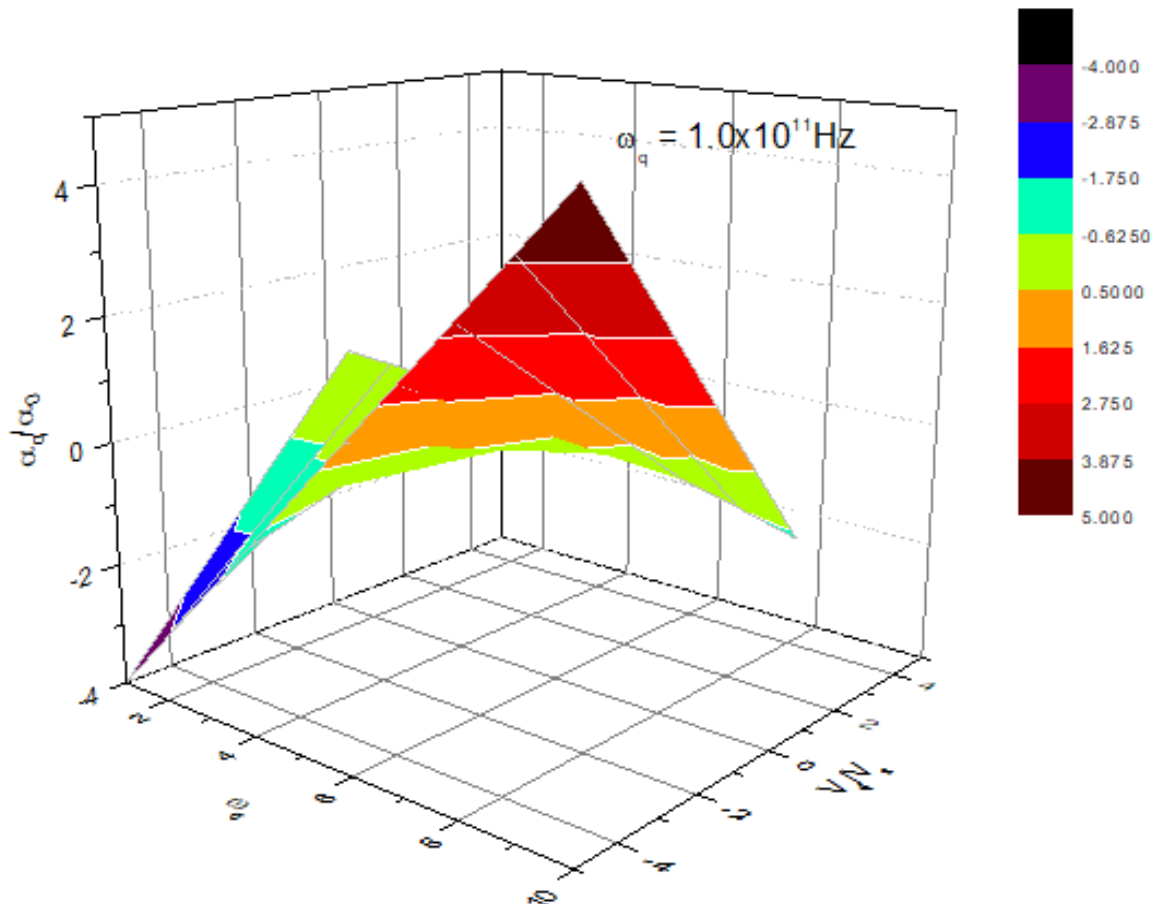


Figure 2a: 3D graph for variation of $\frac{\alpha_q}{\alpha_0}$ with $\frac{V_d}{V_s}$ for $\omega_q = 0.1$ THz.

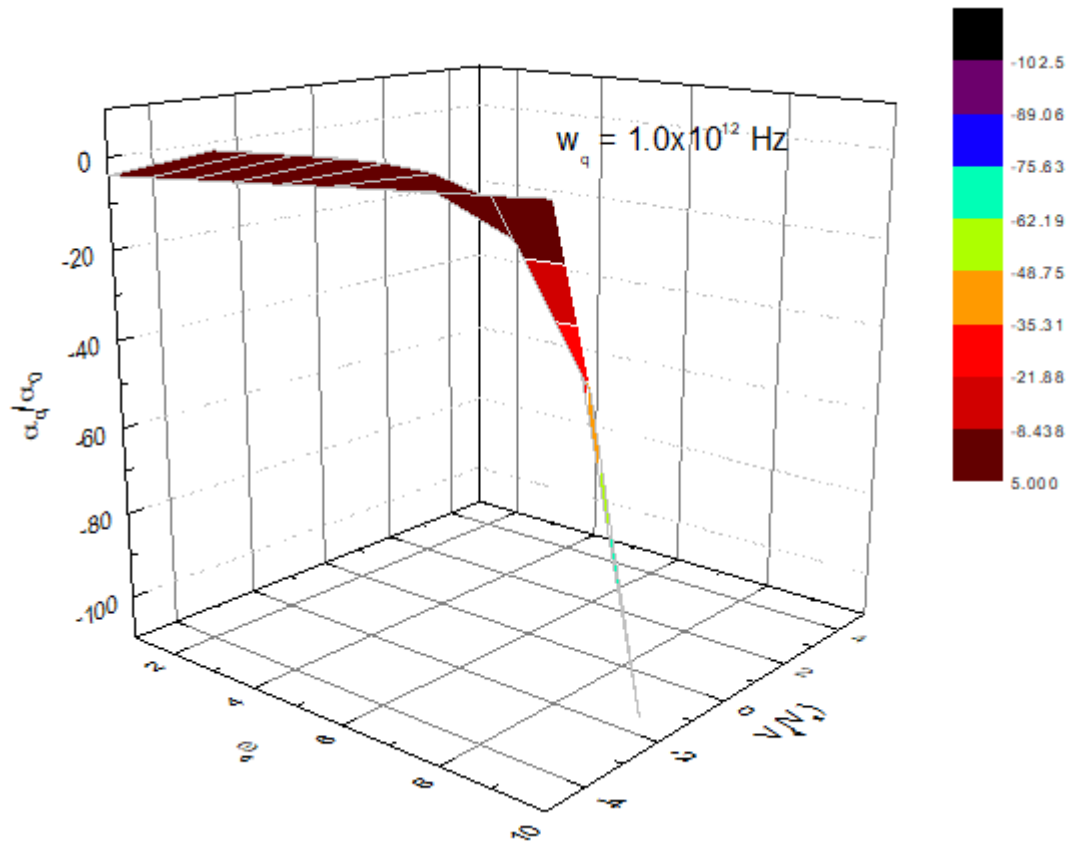


Figure 2b: 3D graph for variation of $\frac{\alpha_q}{\alpha_0}$ with $\frac{V_d}{V_s}$ for $\omega_q = 1.0$ THz.

In Figure 3, the graph for the dependence of $\frac{\alpha_q}{\alpha_0}$ on ω_q is plotted for different values of V_d . When $V_d < V_s$, we can observe the absorption of phonons and when $V_d > V_s$, amplification of phonons can be observed. To enhance the observed amplification or absorption, we plot 3D graph for $\frac{V_d}{V_s} = 0.9$ and 1.1 in Figures 3a and 3b.

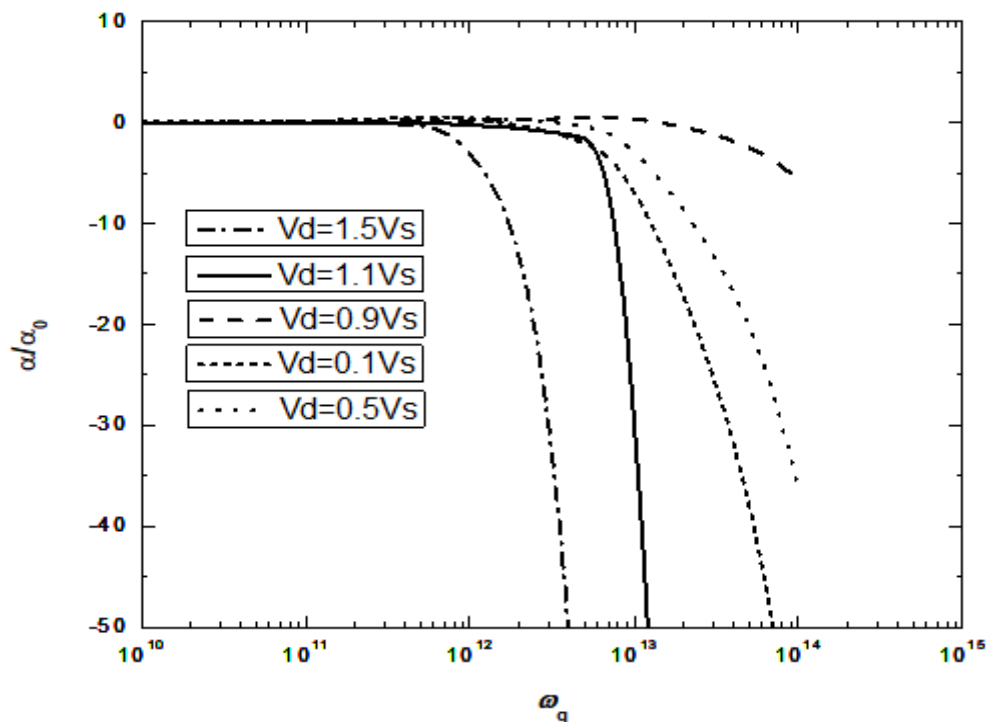


Figure 3: Variation of amplification co-efficient against ω_q for different V_d .

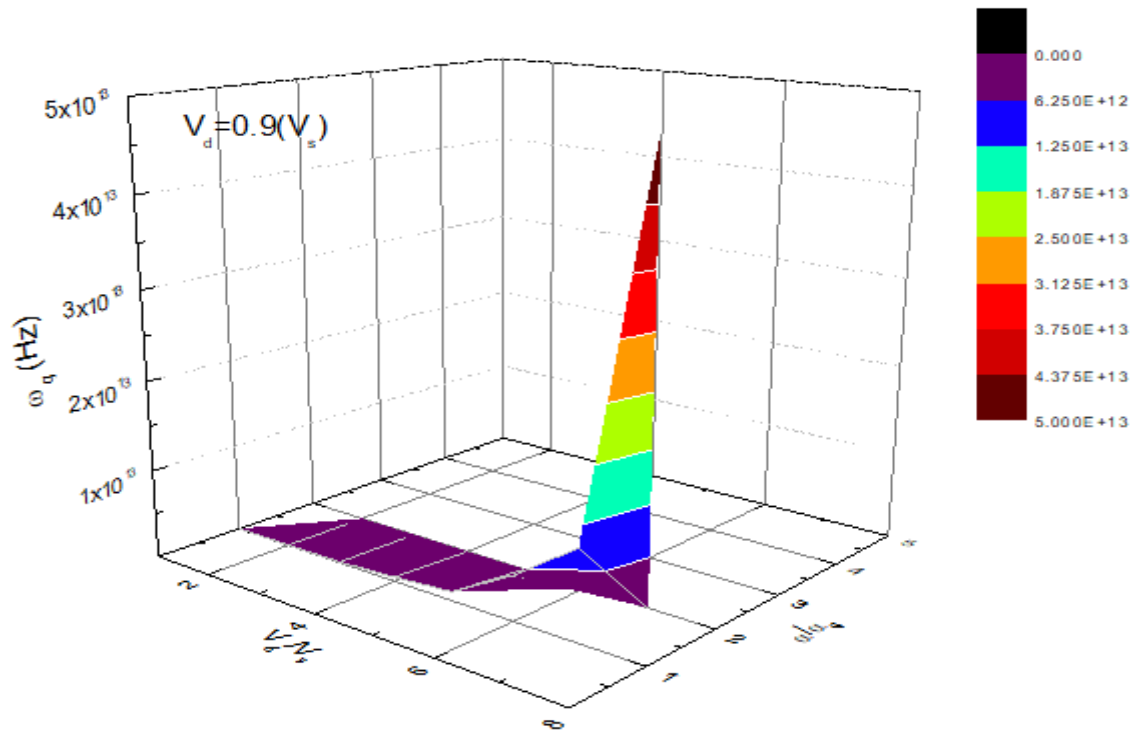


Figure 3a: 3D graph for variation of $\frac{\alpha_q}{\alpha_0}$ with ω_q for $V_d = 0.9V_s$.

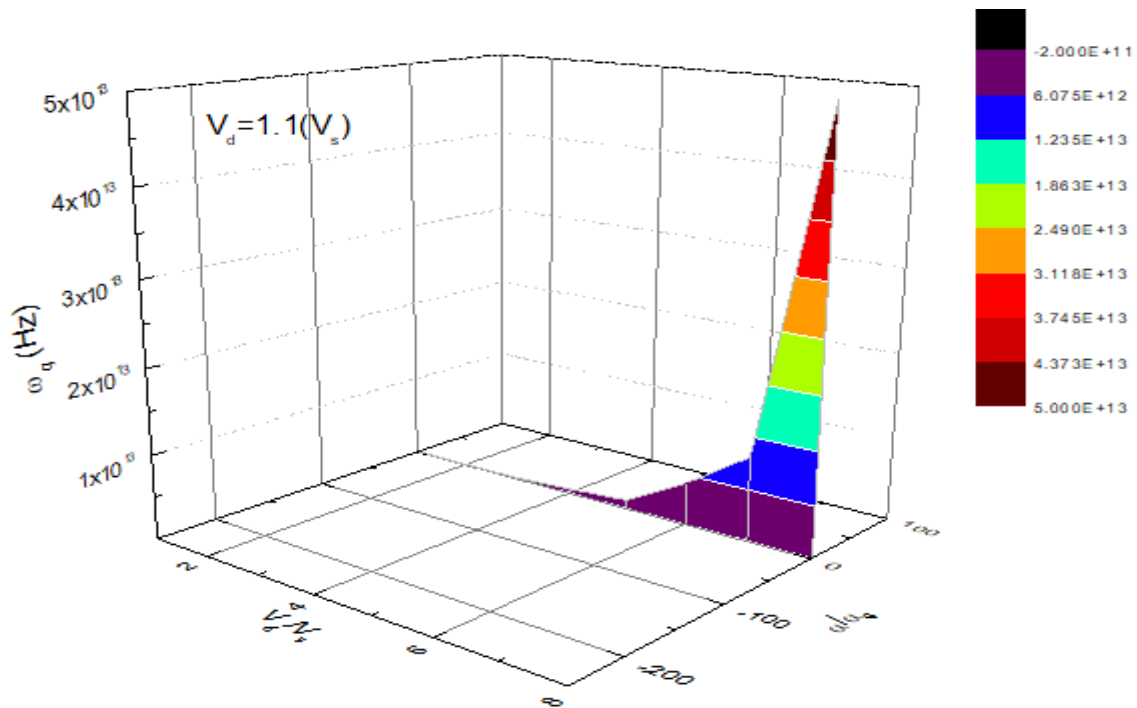


Figure 3b: 3D graph for variation of $\frac{\alpha_q}{\alpha_0}$ with ω_q for $V_d = 1.1V_s$.

CONCLUSION

We theoretically analyzed the theory of amplification/attenuation of acoustic phonons in 3D Weyl Semimetal TaAs by considering the case of electron-acoustic phonon interaction at low temperature with degenerate energy dispersion. With the assumption of shifted Fermi-Dirac distribution function, we studied amplification co-efficient as a function of applied electric field, frequency and drift velocity. We observe that amplification can take place when $V_d > V_s$. With this work hypersound studies in TaAs enlighten a much better source of terahertz phonon frequencies than that of homogeneous low dimensional semiconductors and graphene.

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CLASS CONFLICT IN MULK RAJ ANAND'S *UNTOUCHABLE* AND ARAVIND ADIGA'S *THE WHITE TIGER*

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ABSTRACT

This study tries find the comparison between Bakha and Balram Halwai the protagonists of the novels "Untouchable" and "The White Tiger" by Mulk Raj Anand and Aravind Adiga respectively. It locates both the characters in their respective times and their existence and individuality in their social setup. It also tries to focus on the class struggle/conflict. This paper analyses the class structures of the society which exploits the under-privileged at different levels.

Keywords: Marginality, Quest, Existence, Class Conflict/Struggle, Individuality

Literature reflects society and intensely analyze its structures, due to the influence of Marxism in the nineteenth century writers jotted down the realistic portrayals, and literature became a part protest and propaganda as well. In *The Wretched of the Earth* (1961), Franz Fanon debates that violence is needed to initiate the restructuring of language, rhetoric, and the structure of culture as well as administration to achieve true political and individual autonomy. Fanon's views can be recounted to both Adiga's *The White Tiger* and Mulk Raj Anand's *Untouchable*, as both of these writers' insertion of violence within postcolonial communities uplifts and hoists the tension between individualism and collectivism.

Mulk Raj Anand is such writer who gained immense popularity and prestige in publishing his debut novel *Untouchable* (1935) the novel concerned with the sufferings of the people particularly the downtrodden or marginalized class. Class is a human construction derive from man's yearning for the possession of power. The novel covers the event of a single day in the life of the low caste boy Bakha 'a dexterous workman! (Anand 7-8), through extensive use of stream of consciousness. Bakha's mind and inner being revealed through flashbacks and forwards.

Bakha the protagonist of the novel suffers because he is outcaste by birth. He is exposed to one humiliating incident after another in course of the day. Anand himself says, "the (hero is) a rare human being, whom I had known from my childhood and adored as a hero because he was physically like a god, played all the games superbly, and could recite whole cantos from the epic poem *Heer Ranjha* of Waris Shah. Even on the level of commonsense reality, I was aware of his tragedy" (qtd. in Berry 49). Through him, the novelist portrayed the hypocrisy of the upper class and exposes double standard. The protagonist is universal figure symbolizes oppression, protest, exploitation. The writer says, "I glimpsed the truth that the tragedy of my hero lay in the fact that he was never allowed to attain anything near the potential of his qualities of manhood" (qtd. in Berry 49).

Anand through his subaltern hero makes an attempt to subvert the conventional hierarchical order and challenges the power structures. He is being slapped by a upper class, that hurt him mentally more than physical. Through his soliloquies his consciousness questions, "Why was all this fuss? Why was I so humble? I could have struck him... But why couldn't I say something? The slap on my face! Let me come across him one day... The cruel crowd! All of them abused, abused, abused. Why are we always abused? (43) Bakha is voice of voiceless, he is being given identity and speech which was denied by the elites in the caste ridden society. B.R Agarwal says, "the novelist succeeds in penetrating deeply into the protagonist's consciousness and delineates the inner working of his mind with empathy (8).

Aravind Adiga (1974), the Indian writers in English, published his debut novel *The White Tiger* (2008) and got recognition throughout the globe by winning the Man Booker Prize for literature for this novel. In this novel the protagonist Balram Halwai is born in an economically backward family and he has to overcome a lot of struggle before settling in life. Balram Halwai, the son of poor rickshaw puller. He is the strong voice of underprivileged in which the subalterns, landless laborers, unemployed youths, poor auto drivers, servants, prostitutes, beggars and unprivileged figures. Balram breaks the shackles of class through class consciousness, Martin Glaberman commented that, "it is not necessary to change the consciousness of the working class to make a revolution; it is necessary to make a revolution to change the consciousness of the working class.

Aravind Adiga deals with the issues like caste, class, religion and gender in order to present his multicultural thinking in Indian context. While describing the Indian social system his language becomes more satirical and

ironic. He castigates the Indian social system for the suppression of the basic liberal principles like recognition, respect, love and cooperation. He criticizes the attitude of the so called high profile people for the domination over and exploitation of the weaker sections of the Indian society. He advises the recognition of each section of Indian society for peaceful and cooperative living of all people.

In *The White Tiger*, the writer portrays the isolation of individuals as way to focus on the divide between communities. Through the flashbacks readers are introduced to the nameless. The novel portrays proletarian and bourgeois ways of life represented by Bhalram and Ashok Sharma respectively, in a way it is interaction between these opposite forces which constitute the interest of the novel. The who narrative runs through the binaries of master-servant, employer-employee, haves and have nots interconnections. The binary nature of Indian Culture could be traced mainly because of the difference in money power. The class conflict runs through the narrative.

Arvind Adiga tried to portray the India in both the ways, India of light and India of darkness. The country for the people of poor and rich. Darkness is frightening and animal like, school of Balram is nightmare. "Me, and thousands of others in this country like me, are half-baked, because we were never allowed to complete our schooling." (Adiga 10)

Adiga goes deep into the so called modern India, and has become critique of the elite power structures, government provides mobile phones and cheap call rates for the poor instead of pure drinking water and education. "India is two countries into one, India of Light and an India of Darkness. Ocean brings light to my county. Every place on the map of India near the ocean is well off but the river brings darkness to India" (Adiga 14). People who try to come out from the darkness fail to take refuge in the light. The poor are not given the chance and they do not challenge to grab the chance from their exploiters. Ana Cristina Mendes writes in her article;

The India of Light is that of wealth, technology and knowledge, while the India of Darkness (where the majority of Indians live) is that of misery, destitution and illiteracy. The novel describes how its protagonist/narrator Balram Halwai manages to claw his way into the Light of Delhi and Bangalore, out of the Darkness of Laxmangarh, a small remote village in the poor state of Bihar, in eastern India. (Mendes 277)

Adiga captures the unspoken voice of people from 'darkens'. People from the dark India are seen scattered in the new technological cities. "You can tell by their thin bodies, filthy faces, by the animal like way they live under the huge bridges and over passes, making fires, and washing and taking lice out of their hair while the cars roar past them." (Adiga 120). Adiga's attitude is same as V.S Naipaul's *An Area of Darkness* where writer exposed the Indian society.

Balram comprehends all these ruthless and vicious realities; he perceives everything around with a keen eye. His protest in imitating his master, Ashok, he imitates his choices, his color choice, his way of shopping. Instead he wears the things that his master likes to wear in order to look like him, which is only a sign of his aspiration to become a master in the coming years. Balram comes out as the angry young man of India who shouts at the elites and politicians, who are responsible for millions of poor people.

CONCLUSION

Balram Halwai, like Mulk Raj Anand's Bakha and Munoo realizes that slavery, exploitation of the poor at the hands of the elite class is a perpetual fact. Both the protagonists belong to the underclass, they are representatives and the voice of downtrodden, they try to liberate themselves and the millions attached to them. They seem to be Dickensian protagonists like Pip et al. There are bildungsroman touch with these narratives, the protagonists develop from childhood to maturity, and there is mental and physical growth in the characters. Both Balram and Bakha are shaped by the social and cultural contexts. During the course of time both are influenced by corrupt social setup. The writers made their protagonists fight with dominant and ruling class.

In the world of globalization it is still difficult to define the existence of a downtrodden individual in the country. We find Anand's Bakha in a disguised form in Balram in modern world. The social setup has not changed. *The White Tiger* portrays a discordant, blatant present day modern nation filled with a sarcastically bitter economic, social, and political satire. In an ironical tone, Adiga attacks the all-inclusive global economic system which is market-oriented. He presents the reality beneath the logic of neo-liberal approach. These approaches have created a gap between the rich and poor. Through irony and black humor Adiga has brought real condition of the social structure in India and of an individual.

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THE ART AND CRAFT OF E. M FORSTER

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Forster's novels are his dreams, his imaginary worlds created with set rules of artistic craft, and he offers them a voice that affirms his core moral and ethical values. F.R. Leavis treats his narration as personal, and his value system as an objective correlate for the keen sensibility and emotions he pursued. The reader is often reminded of the author and the narrator with the decisive and commanding voice of a visionary by the turn of phrase and tone of voice. Within a narrative structure, Forster examines a system of interrelations that is full in and of itself. Personal relationships, tolerance, human understanding, moderation, honesty, and happiness are all highly regarded in his humanism. Individuality is the apotheosis of the humanist theme. He saw a latent ability in human personality because he was conscious of human vulnerabilities as well as abilities, shortcomings and possibilities, failures and triumphs. For Forster, reality consisted of full self-fulfillment in sincerity and joy. In his imaginary universe, such a circumstance reigns supreme.

As an imaginative exercise, each novel positions the protagonist in a position that causes him to act in a given situation. Rather than how they work in the group, they are judged on whether or not they are true to their instincts. Forster's sense of spontaneous, passionate inclination is connected to his intimate, moral code of the holiness of the heart's desire through this pursuit of honesty. His moral outlook leads the character to a deeper understanding of himself and personal redemption. "Just bind" - the head and heart, purpose and emotion - is his sermon to achieve wholeness of being and vision of full self. Forster's moral realism is articulated by paradoxes, inconsistencies, and the looming dangers of leading a moral life. Forster exposes the shortcomings of his protagonists who lack understanding and fail to reconcile themselves to the demands of their inner selves in each book. Rickie Elliot is looking for his place in the universe. Between Cambridge, Sawston, and Wiltshire, the longest journey oscillates psychologically and emotionally. As Maurice internalises society's portrayal of the homosexual and a personal/private recognition of his own valid needs, he alternates between remorse and disgust. Adela has an emotional breakdown in *A Passage to India* as she vacillates between the demands of her personal self and social formalism. The novelist contends that if man is to live a full and fulfilling life, he must have the courage to break free from society's imposed identities and establish personal meanings. When Lucy learns to cultivate the passion and creativity that she projected into her music in her personal life, her soul becomes a room with a "view."

The Carolines, Rickies, Lucys, Maurices, and Adelas inhabit a world whose ethos determines the society in which the protagonist is forced to live and work. In Forster's novels, the tension between the character and society becomes yet another central theme. Human beings live, for the most part unconsciously, in a world of muddled relationships placed on them by an illusion of order in the society into which they are born, as Gillie explains: They become stereotypes, tethered to others by a system of responsibilities that prohibits them from sharing their true feelings... Gillie (1982, p. 112).

Characters like Philip Herriton, Herbert Pembroke, Cecil Vyse, and Henry Wilcox examine the shibboleths of proper and decorous conduct in his novels, revealing English philistinism. Through the characters of Mrs. Herriton, Agnes Pembroke, Charlotte Bartlett, and Ronny Heaslop, they often show English fetishization of formal polite conduct and general conventionality. If the Forsterian protagonists defy societal pressures and obey their hearts' wishes, they are shunned by society. Lucy and George are forced to leave Summer Lane, Maurice and Alec move to Greenwood, and Rickie joins the Ansell family. Caroline, Philip, and Adela are all sentenced to a life of isolation. This solitary life, on the other hand, is characterised by self-awareness and liberation from the muddle, befuddlement, and dissatisfaction of living in an antagonistic, unsupportive community. The novels' ambiguous endings show life as a continuous phase that cannot be dismissed at will. As a result, they do not discuss the social and moral concerns, but rather leave the potential course of the characters' lives to speculation.

Forster saw human identity as a continually shifting source of perceptions. All of his novels revolve around the theme of conversion. The characters try to find their way from a state of anger, despair, and self-denial to one of liberation and happiness. A symbolic moment of spiritual illumination could be the catalyst for this transition or conversion. Two powerfully made scenes in *Which angels fear to tread* - Gino with the baby and Caroline consoling the bereaved Gino - become epiphanies or eternal moments in the lives of Caroline Abbot and Philip Herriton, respectively, granting their souls an insight into true reality—an insight that contributes to their

conversion and deliverance. Forster's novels are characterised by a concentration of these moments in his characters' lives. The vision can be centred in a single moment, as in *Where angels fear to tread*, or it can be spread out over a longer period of time, as in *A space with a view*. It is often misunderstood, as in Lucy Honeychurch's case, or marked by a failure to respond, as in Rickie's case in *The Longest Journey*.

The powers of nature are associated with the spirit of liberation in Forster's fictional universe. The Hertfordshire countryside, Madingley Dell, Wiltshire Downs, the Holy Lake, Fiesole's violet-covered terraces – all of these landscapes vibrate with pantheistic possibilities that excite the senses and function as a platform for soul awakening. The novelist has a subtle and motivating link to nature. He saw truth and purity in natural things and believed that man's relationship with nature was one of oneness. Gino Carella, Stephen Wonham, and George Emerson's athletic figures express an inherent perception of fact, both in matters of general truth and in tale events, with astonishing intensity. Their greater wisdom derives from their close relationship with nature, which stresses the importance of the earth.' Mrs. Elliot in *The Longest Journey*, Mrs. Wilcox in *Howards End*, and Mrs. Moore in *A Passage to India* are all characters that reflect Forster's idea of a benevolent presence. They are naturally alive and appreciative of nature and natural objects. Furthermore, the supernatural entities Mrs. Wilcox and Mrs. Moore embody the Forsterian confirmation of the 'unseen'- a realm beyond things; reality's subliminal and intangible heart.

Forster became aware of the gradual undermining of past heritage (passed down through generations) from the rhythms of rural culture in Edwardian England, with its increasing challenge of materialism and urbanisation. He, like Hardy, aspires to create an English pastoral in which the legend of the English countryside serves as a source of inspiration and solace. This part of Howard's conviction is supported by *The Longest Trip* and Howard's conclusion. Forster introduces the theme of death into his novels due to the new world order's commercial ethics, wealth, and class snobbery. Deaths are frequent and unexpected in this region. They stress the fact that man is mortal and urge him to behave morally. Forster understood the truth and influence of death regardless of his naturalistic leanings. At the end of the novel, Howard writes, "Death kills a man; the thought of Death saves him" (Forster, 1970: 223)

He expresses himself once more through Helen Schegel: What you say would be true if we lived forever. But we must die, we must leave life at this moment. If we lived forever, inequality and greed would be real. As it stands, we must stick to other things in the face of imminent death. Death is one of my favourite characters because He describes everything Forster (1970, p. 222).

The theory of continuity, the idea of inheritance, rootedness, and traditionalism, on the one hand, and physical and spiritual perpetuity, on the other, are among Forster's many themes. If Howard's ending honours the former, Gino, Stephen, Leonard Bast, and Mrs. Moore represent the latter, who "may be mingled with unknown sea" through their "remote posterity." (1972: 192).

Forster designs his symbols to suit the needs of the novel's intent, making it difficult to read without knowing the novel's conceptual dialect. Depending on their connection with the writer's specific view, the symbols combine a wide range of suggestibility. The relationship of the symbol to the meaning is similar to the theme, and the author's voice plays an important role in implementing it. To ensure that the reader's sense of daily living embraces the symbols, Forster uses symbols from everyday life. The goal is to create clarity rather than obscurity. They are, however, endowed with unique connotations as the plot progresses. Certain types of symbols are needed for thematic ease, and Forster creates new meanings for this purpose.

Forster uses different types of symbolism to elaborate, extend, and test the various thematic premises. The following are some of the most famous patterns:

1. The texture of the language is woven with symbolism.
2. Symbolic objects, locations, circumstances, and characters.
3. Symbols include myths, visions, and rituals.

Certain characters in Forsterian novels are conceived and formed as representations. Mrs. Wilcox and Mrs. Moore represent the metaphysical and elemental; Leonard Bast and Alec Scudder represent the working class; Mrs. Herriton, Agnes, Henry Pembroke, Cecil Vyse, Ronny Heaslop represent the philistines; Margaret Schlegel represents the pragmatic; Ansell represents the intellectual; Helen represents the impulsive; Rickie represents the idealist. The author gives these individuals symbolic weight by focusing on a particular aspect of their personalities. This has an influence on the thematic interest's extension and broadening. Thematic centres are artefacts of symbolic significance that dominate the narrative. The novel manages to express the feeling they

encapsulate without assigning any specific meaning to them. Where angels fear to tread, Lilia's 'daughter' elicits a wide variety of reactions from readers. Mrs. Herriton sees the baby as a commodity; Gino sees it as a sign of ownership, dignity, love, and continuity. Caroline and Philip's baby declares the natural bond between parent and child to be supreme. Similarly, in *Where Angels Fear to Tread*, 'Beethoven's Fifth Symphony' in Howards End, and the child's death at the railway crossing in *The Longest Journey*, objects provoke individual responses, exposing various levels of consciousness that compose the dynamic vision of life. Certain symbolic objects gain in meaning and dimension as leitmotifs as a result of their previous appearance. The recurrent leitmotifs of the "ivy vine," "wych elm," "wisp of hay," and "the level crossing" in *The longest journey* help to gain a rhythmic expansion of the thematic ideas and interests. In *A Passage to India*, the "wasp" is a recurring motif that lets the reader gauge the characters' attempts at inclusion.

Outside of the plot, the metaphoric connections of myths have a greater meaning and structured organisation in Forster's novels. They are both an example and a commentary since they act as normative gestures. These mythic approximations assist in conveying the writer's meaning in relation to the novel's key (thematic) demands. If we're talking about the pairing of a particular and nuanced portrayal of a fictional character with a mythic figure - Stephen with Orion, Mrs. Elliot with Cnidus Demeter in *The longest trip*, Caroline Abbott with Endymion in *Where angels fear to tread*; Mrs. Wilcox with 'Mother Earth' in *Howard's end*; or transposing myths like 'Phaethon' and 'Proserpine' in *A In addition*, we have the protagonist's suggestive metamorphosis into a "nature spirit" in *Maurice*, and Mrs. Moore's transcendence to the stature of a local goddess "Esmiss Esmoor" in *A passage to India*. Rather than being a transaction of a single mythic archetype, the mythic suggestions become profoundly entangled with the narrative framework when used in this way.

Dream symbolism, as part of fictional rhetoric, often interpolates with the novel's core concern. If Maurice's teenage dream reflects his inner realm of lust (homosexuality), then Rickie's dream in *The Longest Journey* is a symbolic prefiguration of the theme of continuity in the real world. Stephen would not have children so his heirs would be doomed to "die out," while Stephen would leave a legacy. Caroline's dream of "Poggibonizzi" as a "joyless, straggling spot," full of pretentious people, transforms into Sawston upon awakening in *Where angels fear to tread*, aligning with the novelist's key contention. Ritual rituals are endowed with symbolic transformational forces, and when woven into the reality of action, they become indispensable. Professor Godbole's dance sequence as a ceremonial gesture in *A Passage to India* is part of the theme of all-encompassing truth. In *Howard's end*, also the apparently unobtrusive and instinctive behaviour of bringing a "wisp of hay," "a blade of grass," is meticulously designed. The gesture not only conjures up memories of Mrs. Ruth Wilcox, but it also identifies Margaret as the house's spiritual owner.

This effort to categorise themes and symbols is a deliberate attempt to make the novel's narrative architecture systematically and comprehensively. Forster seems to have formed a pattern of interpenetration between themes and symbols within their infrastructure: interpenetrating at various levels, they serve as supportive to the novelist's purpose. As a result, the interdependence and cross correspondence become a defining characteristic of the novels' comprehension.

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FEMINISM THROUGH AGES: AN OVERVIEW

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ABSTRACT

Feminism advocates political, economic and social equality of both men and women. It finds expression in organizing activity on behalf of women's rights and interests. The research paper makes an attempt to review the feminist movement through ages. The paper looks at the historical background of Feminism and it's rise.

Key words: *gender, discrimination, harassment, liberty, equality*

1. INTRODUCTION

Feminism as we understand today means political, cultural and economic equality for both men and women. Feminism is wide in its scope as it encompasses various political, cultural and social movements. It also comprises of various theories and ideologies concerned with gender equality. The word feminism was first coined by Charles Fourier, a French philosopher in the 18th century in order to describe emancipation of women in an utopian future envisioned by him. However, the confusion over the meaning prevailed until the end of 19th century when the word finally assumed the definition of equal rights for women in all spheres of public life due to continuous struggle by women's groups in Britain, France and USA. Although the concept of feminism originated in the west, it is largely manifested worldwide and is represented by various institutions committed to women's interests and rights.

2. RESEARCH DESIGN

2.1 Research Aim: Feminism has become a widespread movement today and has pervaded social sphere in such a way that it's discussed outside academic circles too. Therefore, this research paper aims to delve deep into how feminism came to be.

2.2 Objectives of the study:

- Understand the environment in which feminism took birth
- Look into how feminism gained its strength
- Understand the factors that motivated the growth of the movement with each passing decade
- Form a well-rounded picture of the journey of feminism and current situation

2.3 Methodology:

Qualitative methodology is used. The sources referred are secondary consisting of landmark books written by various feminist authors.

2.4 Limitation:

Since the nature of the study is historical, the sources referred are not recent and the study is mostly analytical rather than focusing on reaching new findings.

3. THE WAVE OF FEMINISM STRIKES**3.1 First Wave**

Throughout history women were confined to domestic sphere as the public life was reserved for men. Though early thinkers like Plato advocated sexual equality in public sphere, women in most parts of the world were denied basic education and right to property. Women could neither vote nor hold public office. Women were restricted from conducting any business. There is very little knowledge of any organized protests against such inferior status entrusted upon women. In most part of history there are only few isolated voices which spoke out loud challenging the status of women.

In the early 14th century, French philosopher Christine de Pisan made call for female education and put forth ideas. She denounced misogyny and wrote about equality between sexes in her 'The book of city of ladies'. However, it was only during the 18th century, the age of enlightenment that women began to demand liberty, equality and natural rights be applied to both the sexes. Enlightenment philosophers like Jean Jacques Rousseau focused on inequalities of social class and portrayed women as frivolous creatures subordinate to men. The French declaration of the Rights of Man and of citizen of 1789 failed to provide any legal status for women.

The female intellectuals of enlightenment were quick to point out the lack of inclusivity and subordination of women in public life.

In 1792, Mary Wollstonecraft published 'A Vindication of the Rights of Woman' which is regarded as the first seminal work in feminist philosophy. Craft challenged the existence of women to please men and called out the middle-class women to rise against the inequalities and proposed that women be given equal opportunities in education, politics and business as men. By the end of 19th century issues surrounding feminism laid grounds for social movements demanding suffrage rights for women and slowly ideas being exchanged across France, Europe and America. Suffrage movements began in America when the first national movement for women's right culminated into Seneca falls convention in 1848. The movement which demanded voting rights for women was led by Susan B. Anthony and Elizabeth Cady Stanton.

The movement, though criticized for giving voice to the concerns of upper-class white women alone thereby excluding the lower classes and black women, claimed its victory with the passage of the 19th Amendment to the United States constitution which granted voting rights to women. In Britain too, suffragists claimed triumph as the Representation of the People Act 1918 granted voting rights to women above the age of 30 in possession of property which was eventually extended to all women above 18 in the year 1928. The feminist movement dwindled in US and Europe of post the suffrage era. There was an ideological malnourishment with regards to the purpose of feminism once the voting rights were achieved for women. The Great Depression and World War II hampered feminist activism in most parts of the world resulting in a major void post the 19th century.

After this, there was a void in the feminist movement for some years. The first wave demands had been somewhat fulfilled but the political space for more comprehensive demands wasn't yet borne. Hence, activities and discussions slowed down. But the force of feminism as an ideology is beautiful because of this very aspect, it pervades all spheres with such consistent growth that it becomes almost impossible for things to stay stagnant for very long. This paved the way for the next wave.

3.2 Second wave

The first wave feminists were inspired by the abolition movement and the feminists of the second wave which began in the 1960's was drawn to feminism by the civil rights movement. Issues of unequal pay, employment discrimination, legal inequality etc. were the central concerns of second wave feminists. This period witnessed theoretical observations about the history and origin of women's oppression. Kate Millet's 'Sexual Politics' and Germaine Greer's 'The Female Eunuch' were bold attempts to create a comprehensive feminist ideology. The feminists soon divided themselves into liberal feminists who focused on creating pragmatic changes at institutional level, radical feminists who focused on reshaping the patriarchal society and cultural feminists who advocated the celebration of qualities associated with women.

The second wave was led by educated middle class women for whom personal was political. By the end of 20th century feminism transcended boundaries and the western feminists saw themselves as saviors of the third world women who believed that it was European imperialism which was more problematic than patriarchy. In no time western concept of feminism influenced every aspect of contemporary life. The second wave brought gender to the forefront with the publication of Simone de Beauvoir's 'The Second Sex' in France. "*One is not born, but rather becomes a woman*" - Beauvoir's these lines marked a watershed in the feminist movement. Discourses related to sex and gender, misogyny, sexism, glass ceiling at work place etc rose to debate and discussions in academics and media. The goal of second wave was not merely political emancipation but women's liberation in every aspect of public life.

While the passionate cause of freedom and equality for women still goes on, it developed into many more colors and the whole ideology developed more nuances with time. This brought to the fore a new set of feminists who championed the causes of minorities and many other sections which did not have a voice before. Here began the third wave of feminism.

3.3 Third Wave

Internet revolution, globalization along with rapid growth of technology including the advancement of social media helped the third wave feminists to carry forward the unfinished tasks of second wave. Rebecca Walker, daughter of Alice Walker (a second wave black feminist) coined the phrase third wave feminism in the 1990's. Most of the feminists of this phase were the daughters and grand-daughters of first and second wave feminists. The third wave was possible due to the massive economic and political status achieved by women of second wave. Taking a post-modernist approach, the third wave feminist sought to question and redefine the concepts about gender, beauty, womanhood, motherhood etc. They were more inclusive in their cause as they voiced concerns regarding racism, sexism and classism.

Sexual liberation was the major goal of third wave feminists as they sought to incorporate voices of the LGBTQI community into the feminist movements. There was a general consensus that gender identity and sexuality is shaped by society and one must feel liberated enough to express one's authentic gender identity without any fear of discrimination or judgement. Social media provided a platform for exchange of ideas and information. Sexual harassment in public and domestic spheres, rape, gender pay parity, body shaming assumed center stage in popular discourses with the advent of social media.

While some believe that we are still in third wave, many feminist scholars have put forth that fourth wave is beginning to establish itself propelled by social media. The #metoo movement marks a watershed in this direction. The movement which provided voice to victims of sexual harassment gained support and solidarity all across the globe. Though feminists are yet to reach a consensus on the advent of fourth wave and the direction it would take, the fourth wave would stand firm on intersectionality, individuality and inclusivity.

CONCLUSION

Therefore, as it can be seen, Feminism has come a long way ever since its beginning. From the first wave which dealt with property rights and suffrage rights for women to the second and third wave over the years which focused on equality and anti-discrimination followed by intersectionality and inclusivity, feminism which was seen as a western movement has today become a global one. From what started as education and voting rights for women, feminism today is more nuanced to accommodate broad spectrum of personal experiences faced by women in all spheres. It is no longer just women's movement but people's movement. Campaigns such as 'He for She' show that both men and women have equal stakes and what is needed is the overall change in general attitude thereby ensuring equality of sexes. With renewed commitment, the feminist movement has a lot of work to do in the coming years.

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EFFECT OF POLYTHENE SHEET MULCHING WITH APPLICATION OF ORGANIC AMENDMENTS ON WEED CONTROL MEASURES IN TOMATO SEEDLINGS

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ABSTRACT

A field experiment was conducted at farmers' field during May 2016 in Salem district to study the effect of soil solarization with organic amendments as a method of root-knot nematode and weed management in tomato nursery bed. Solarization of nursery beds using 300 gauge transparent polyethylene sheets was carried out with various amendments to study the performance of tomato seedlings. The experiment was laid out in randomized block design with 11 treatments replicated thrice. The treatments included, solarization for four weeks with four different amendments viz., vermicompost, poultry manure, Farm Yard Manure (FYM), neem cake and castor cake along with non solarized control and solarization without amendment. In four treatments, *Azospirillum* was inoculated two days after the polythene sheet removal. The study was carried out during May, 2013. The results of the experiment revealed that solarization treatment with vermicompost followed by solarization with poultry manure and neem cake were found to be effective in increasing the soil temperature in all depths and on all days of observation. Similarly, the lowest weed population, weed biomass and the highest weed control index was registered in the treatment incorporated with vermicompost followed by neem cake.

Keywords: Solarization, tomato seedlings, weed management, vermi compost and neem cake.

INTRODUCTION

Indiscriminate use of chemical fertilizers, pesticides and herbicides has led to the deterioration of soil health, ground water quality, soil microbial population, atmospheric constituents, quality of the agricultural produce and thereby the health of animals and humans. Soil organic matter is a vital component of the soil that controls the physical, chemical and biological properties to a large extent. Hence now the emphasis is given for the use of organic resources and non-chemical management practices to maintain the soil quality and environmental health in order to produce high quality produce. The global scenario also currently directs the scientists to produce residue free farm produce and hence there is an emerging awareness among public on the use of high quality food materials which are free from chemical toxicants. This has paved the way for organic farming. Organic farming aims at harmony with nature and achieving production without harming the environment. It is a management system that enhances biodiversity, biological cycles and soil biological activity to produce healthy plants and animals and foster human and environmental health. Organic agriculture dramatically reduces external inputs obtained by reframing chemo-synthetic fertilizer and pesticides. With an increasing demand for organic products especially in Europe, USA and Japan, many countries are making an onset in the development of organic farming as a potential avenue to make a mark in the international market. Organic food contains less of bad stuff, such as pesticides, heavy metals etc., and more of good stuff, such as vitamins and minerals. Several studies have shown that organically grown crops contain higher level of nutrients such as vitamin-C and iron, besides, secondary metabolites (e.g., phenolic metabolites) that are believed to have anticancer properties (Azadi et al., 2011). Hence, now-a-days, the produce through organic cultivation are fetching higher price, which ultimately increase the income of farmers. Organic farming can be taken up for high value crops like chillies, bengal gram and baby corn. On-farm generation of organic source and possibility of getting high premium price for organically grown crops will commensurate the net return in addition to maintenance of soil ecological equilibrium. (Siddeswaran and Shanmugam, 2013).

MATERIAL AND METHODS

The nursery trial was conducted during May 2016 to study the effect of solarization with amendments on the performance of tomato seedlings. The soil was well ploughed to break the clods and plant debris which might interfere with uniform conduction of heat and biogases that may protect some pathogenic organisms to escape. The amendments chosen were among available materials in Salem district. The dosage of amendment used was 1 kg m⁻². The organic amendments were incorporated thoroughly into the soil according to the respective treatments. After incorporation of the organic amendments, raised nursery beds of size 3m x 1m were formed. Then the beds were irrigated to field capacity to encourage exothermic fermentation process. After irrigation, the beds were covered with the high density poly ethylene sheet of 300 gauge thickness and the sides were tucked into the soil. These beds thus done were solarized for a period of four weeks and monitored carefully. After the solarization period was over, the polyethylene sheets were removed. *Azospirillum* was applied in the

respective treatments both to seeds and as band application for respective treatments after 2 days of sheet removal. The seeds of tomato cv.Kashi Sarath were sown in the nursery beds. Mulching was done with paddy straw and the beds were watered using rose can. Germination and growth of the seedlings were monitored until transplantation. The experiment was laid out in Randomized Block Design with 11 treatments replicated thrice. The treatments include combination of solarization for four weeks with four different amendments viz., Vermicompost, Poultry Manure, Castor Cake and neem cake along with non-solarized control and solarization without amendment. At the end of treatment period, inoculation with Azospirillum was done for specific treatments.

Treatment Details

T ₁	-	Non solarized control
T ₂	-	Solarization without amendments
T ₃	-	Solarization with Castor cake
T ₄	-	Solarization with Neem cake
T ₅	-	Solarization with vermicompost
T ₆	-	Solarization with poultry manure
T ₇	-	Solarization with Castor cake + Azospirillum
T ₈	-	Solarization with Neem cake + Azospirillum
T ₉	-	Solarization with vermicompost + Azospirillum
T ₁₀	-	Solarization with poultry manure + Azospirillum
T ₁₁	-	Solarization without amendments + Azospirillum

Simultaneously main field solarization was carried out with same set of treatments during April-May 2013.

Weed Population M⁻²

Total numbers of weeds present in the marked area of 1m x 1m in each replication of all the treatments were counted at the time of transplantation.

Weed Dry Weight M⁻²

The weeds present in the marked areas of 1m x 1m were pulled out at the time of transplantation of tomato seedlings. They were dried in a hot air oven at 65 + 2°C until a constant weight was obtained and was expressed in gram.

Weed Control Index (Wci)

It was calculated as per the formula given under and was expressed in percentage. This method was suggested by Horowitz (1980).

$$WCI = \left(\frac{\text{Weed dry weight in control plot} - \text{Weed dry weight in treated plot}}{\text{Weed dry weight in control plot}} \right) \times 100 \text{ RESULTS}$$

Weed Population M⁻²

Data on the total number of weeds per square meter is presented in Table 3. This observation showed the existence of significant treatment differences when compared to control. Among the treatments, T₅ recorded the desirable lowest value (8.32 m⁻²) followed by T₉ (11.02m⁻²). Treatment T₂ had recorded a weed population of 22.96 m⁻² higher than all treatments involving solarization with amendments. The control (T₁) had recorded the highest value for weeds (78.82 m⁻²).

Weed Dry Weight M⁻²

Data on dry weight of weeds exhibited a desirably lesser value in T₅ (4.63g m⁻²) followed by T₉ (5.88 g m⁻²) and T₂ (11.62 g m⁻²). The treatment T₂ (Solarization without amendment) had recorded a value of 11.62 g m⁻² which was found to be lower than control (38.63 g m⁻²).

Weed Control Index

Data on weed control index, revealed that, T₅ had recorded the maximum weed control index (88.01) followed by T₉ (84.78). Among the various treatments, the treatment T₂ solarization without (amendment) had recorded the minimum value of 69.92 (Table 6).

Table 3. Effect of nursery solarization with amendments on weed population, weed dry weight and weed control index during 1st time of transplanting

Treatments	Weed population* m ⁻²	Weed dry weight* gm ⁻²	Weed control index**
T ₁ - non solarized control	8.91 (79.82)	6.26 (38.63)	-
T ₂ - solarization without amendments	4.84 (22.96)	3.48 (11.62)	56.74 (69.92)
T ₃ - solarization with Castor cake	3.86 (14.39)	2.78 (7.21)	64.41 (81.34)
T ₄ - solarization with Neem cake	3.45 (11.37)	2.53 (5.88)	67.04 (84.78)
T ₅ - solarization with Vermicompost	2.96 (8.32)	2.26 (4.63)	69.74 (88.01)
T ₆ - solarization with poultry manure	4.24 (17.49)	3.13 (9.31)	60.67 (76.00)
T ₇ - solarization with Castor cake + Azospirillum	4.16 (17.11)	3.08 (9.01)	61.12 (76.68)
T ₈ - solarization with Neem cake+ Azospirillum	3.82 (14.08)	2.74 (7.00)	64.81 (81.88)
T ₉ - solarization with Vermicompost+ Azospirillum	3.39 (11.02)	2.55 (6.00)	66.79 (84.47)
T ₁₀ - solarization with poultry manure + Azospirillum	4.55 (20.22)	3.28 (10.24)	59.01 (73.49)
T ₁₁ - solarization without amendments+ Azospirillum	5.11 (25.71)	3.60 (12.48)	55.36 (67.69)
S. ED	0.13	0.06	1.23
CD (P=0.05)	0.25	0.12	2.46

Figures in parentheses indicates original value

* Data are square root transformed values $(\sqrt{x + 0.5})$

** Data are arc sin transformed values

DISCUSSION

Soil solarization is a hydrothermal disinfestation method based on covering the water saturated soil with transparent polyethylene sheet and thus, increasing the soil temperature by the solar energy. The recent string in solarization is combining it with organic amendments like animal waste and plant residues that are capable of producing toxic volatiles. During the process of solarization with amendments, bio toxic volatile compounds are released when organic matter is heated (Stapleton, 1997). This process has been shown to improve the efficacy of solarization with the improved control of soil borne plant pathogen, nematodes and weeds. Such a treatment was reported to result in certain physical, chemical and biological changes that favour plant health and growth while producing deleterious effect on weeds, pathogens and pests. Soil borne diseases such as damping off, plant parasitic nematodes and weeds are often inoculated in transplants and nursery stocks (Umamaheswari, 2009). Healthy transplants will be produced from healthy nursery soil. Therefore investigations were undertaken to study the effect of soil solarization on seedling growth of tomato.

SUMMARY

Implementing solarization along with organic amendments significantly changed the microbiota of the soil. The analysis revealed that there was a reduction in nematode population. The least values for was recorded in the solarization treatments with neem cake and vermicompost. Both the treatments reduced the microbial population uniformly. Studies on the weed population and weed biomass were made during the time of transplanting. The calculated weed control index from the weed bio mass indicated the superiority of the treatment viz., solarization with vermicompost followed by solarization with vermicompost along with Azospirillum.

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INFLUNCES OF ORGANIC AMENDMENTS ON ROOT NUTRIENT UPTAKE AND POST HARVEST NUTRIENT STATUS OF DOLICHOS BEAN CULTIVATION

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ABSTRACT

The experiment was conducted to standardize the quantity of bulky and concentrated organic manures for Dolichos Bean to substitute the inorganic fertilizers. The experiment was laid out in a randomized block design with 14 treatments in 3 replications. The treatment schedule included various levels of bulky (25 and 75 % N) and concentrated organic manures (25 and 75 % N), inorganic fertilizers along with an absolute control. The bulky organic manures used were FYM and vermicompost and the concentrated manures used were neem cake and groundnut cake. The nutrient content of bulky and concentrated organic manures used in the study were FYM (0.80, 0.41 and 0.74 % NPK), vermicompost (1.60, 2.20 and 0.67 % NPK), poultry manure (3.47, 1.33 and 3.1 NPK), neem cake (5.2, 1.0 and 1.4 % NPK) and castor cake (4.1, 1.9 and 1.4 % NPK). Quantity of organic manures required was computed on the basis of nitrogen equivalent to substitute the recommended dose of chemical fertilizer (32:72 kg NP ha⁻¹) in garden bean. Among the organic manures and concentrated oil cakes applied, 75 per cent N supplied through vermicompost @ 2.41 t ha⁻¹ along with 25 per cent N supplied through neem cake @ 0.22 t ha⁻¹ followed by 75 percent N supplied through poultry manure @ 0.61 t ha⁻¹ along with neem cake @ 0.22 t ha⁻¹ were identified. which recorded the maximum level of soil physico-chemical properties, number of, nutrient uptake ,post harvest nutrient status of soil and yield of Garden bean.

Keywords: Dolichos Bean, bulk and concentrated organic manures, Organic Carbon, nutrient uptake, post harvest nutrient status of soil.

INTRODUCTION

For improving the soil health, bulky organic manures should be necessarily applied. FYM, vermicompost, poultry manure and pressmud are some of the commonly available organic manures which are widely used by the farmers. Organic manures which are tried in the present investigation are FYM, poultry manure, oilcakes and vermicompost. Among the varied organic inputs, Farm yard manure is considered as a repository of plant nutrients. The role of FYM is multidimensional, varying from building up of organic matter, good soil aggregation, permeability of soil and related physical properties to long lasting supply of several macro and micronutrients, besides, improving cation exchanging capacity of soil (Gupta et al., 1983). Biological nitrogen fixation (BNF) is the biological process by which the atmospheric nitrogen (N₂) is converted to ammonia by an enzyme called nitrogenase. It is the major source of the biosphere nitrogen and as such has an important ecological and agronomical role, accounting for 65 % of the nitrogen used in agriculture worldwide. The most important source of fixed nitrogen is the symbiotic association between rhizobia and legumes. The nitrogen fixation is achieved by bacteria inside the cells of de novo formed organs, the nodules, which usually develop on roots, and more occasionally on stems. This mutualistic relationship is beneficial for both partners, the plant supplying dicarboxylic acids as a carbon source to bacteria and receiving, in return, ammonium. Legume symbioses have an important role in environment-friendly agriculture. They allow plants to grow on nitrogen poor soils and reduce the need for nitrogen inputs for leguminous crops, and thus soil pollution. Nitrogen-fixing legumes also contribute to nitrogen enrichment of the soil and have been used from Antiquity as crop-rotation species to improve soil fertility. They produce high protein-containing leaves and seeds, and legumes such as soybeans, groundnuts, peas, beans, lentils, alfalfa and clover are a major source of protein for human and animal consumption. Vermicompost produced using earthworm is another rich and recognized source of macro and micro-nutrients and contributes much towards improving the fertility of soil. Vermicompost contains major and minor nutrients in available form along with enzymes, antibiotics, vitamins, beneficial microorganisms and other plant hormones and have definite advantage over other organic manures in respect of quality and shelf life of produce (Meerabai and Raj, 2001). Kale et al., (1992) found that the application of vermicompost to fields improved the physico-chemical and biological properties of soil.

MATERIAL AND METHODS

The seeds of Dolichos bean cv. Konkan Bushan were dibbled singly at a spacing of 30 x 60 cm apart. The first irrigation was given immediately after sowing followed by life saving irrigation and subsequent irrigations were given once in a week. Incidence of sucking pests was managed by spraying with Neem seed kernal extract at 5%. Weeding was done where and when found necessary. Quantity of organic manures required was computed

on the nitrogen equivalent basis. Recommended dose of N (36 kg ha^{-1}) was supplied in two different combinations like supply of 25% and 75% N through Bulky and 25% and 75%N through concentrated organic manures. The bulky organic manures used were FYM, Poultry Manure and vermicompost (VC) and the concentrated manures used were neem cake (NC) and castor cake (GC). 25 and 75 per cent N was calculated as 0.84 and 2.25 t ha^{-1} of FYM; 0.8 and 2.41 t ha^{-1} of VC; 0.25 and 0.61 t ha^{-1} of poultry manure; 0.22 , and 0.78 t ha^{-1} of NC; 0.20 and 0.65 t ha^{-1} of CC to substitute the recommended dose of N (36 kg ha^{-1}). Bulky organic manures were applied as basal and concentrated cakes were top dressed in 2 split doses. First application was done at 20 days after sowing. The second was applied on 45th day of sowing. Recommended dose of inorganic fertilizers were applied only in the conventional farming treatment.

Experimental Design and Treatment Details

The experiment was laid out in a Randomized Block Design with three replication and fourteen treatments, viz.,

T ₁	-	Control
T ₂	-	Inorganic fertilizers ($36:72 \text{ kg NP ha}^{-1}$)
T ₃	-	25 % N as Farm Yard Manure (0.84 t ha^{-1}) + 75 % N as Neem cake (0.78 t ha^{-1})
T ₄	-	75 % N as Farm Yard Manure FYM (2.52 t ha^{-1}) + 25 % N as Neem cake (0.22 t ha^{-1})
T ₅	-	25 % N as Farm Yard Manure (0.84 t ha^{-1}) + 75 % N as Castor cake (0.65 t ha^{-1})
T ₆	-	75 % N as Farm Yard Manure (2.52 t ha^{-1}) + 25 % N as Castor cake (0.20 t ha^{-1})
T ₇	-	25 % N as Vermicompost (0.80 t ha^{-1}) + 75 % N as Neem cake (0.78 t ha^{-1})
T ₈	-	75 % N as Vermicompost (2.41 t ha^{-1}) + 25 % N as Neem cake (0.22 t ha^{-1})
T ₉	-	25 % N as Vermicompost (0.80 t ha^{-1}) + 75 % N as Castor cake (0.65 t ha^{-1})
T ₁₀	-	75 % N as Vermicompost (2.41 t ha^{-1}) + 25 % N as Castor cake (0.20 t ha^{-1})
T ₁₁	-	25 % N as Poultry manure (0.25 t ha^{-1}) + 75 % N as Neem cake (0.78 t ha^{-1})
T ₁₂	-	75 % N as Poultry manure (0.61 t ha^{-1}) + 25 % N as Neem cake (0.22 t ha^{-1})
T ₁₃	-	25 % N as Poultry manure (0.25 t ha^{-1}) + 75 % N as Castor cake (0.78 t ha^{-1})
T ₁₄	-	75 % N as Poultry manure (0.61 t ha^{-1}) + 25 % N as Castor cake (0.22 t ha^{-1})

RESULTS

Nutrient uptake

Nitrogen Uptake

There were significant differences among all the treatments in terms of uptake of Nitrogen. The treatment T₂ recorded the highest value of $114.00 \text{ kg ha}^{-1}$ while the treatment T₁ recorded the lowest value of 76.15 kg ha^{-1} . The treatments T₃ and T₄ were statistically on par with each other as shown in (Table 28).

Phosphorus Uptake

For this parameter, there existed significance differences among all the treatments when compared with the control. The highest uptake of phosphorus was observed in T₂ (26.32 kg ha^{-1}) and was followed by T₈ (25.60 kg ha^{-1}) which exhibited significant difference with T₁₀. The lowest uptake of phosphorus was observed in T₁ (13.74 kg ha^{-1}) as presented in the table 28.

Potassium Uptake

Among all the treatments, there existed significance differences interns of potassium uptake when compared with the control. Uptake of potassium was highest in the treatment T₂ ($104.63 \text{ kg ha}^{-1}$) and was lowest in the treatment T₁ (83.15 kg ha^{-1}). The treatments T₄ and T₃ however did not exhibited significant difference among themselves as shown in (Table 28).

Effect of Bulky and Concentrated Organic Manures on Nutrient Uptake in Garden Bean

Treatments	Nutrient uptake (kg ha^{-1})		
	Nitrogen	Phosphorus	Potassium
T ₁ - Control	76.15	13.74	83.15
T ₂ - Inorganic fertilizers ($36:72 \text{ NP kg ha}^{-1}$)	114.00	26.32	104.63
T ₃ - FYM @ 10 t ha^{-1} + NC @ 2.25 t ha^{-1}	81.01	17.74	87.12
T ₄ - FYM @ 15 t ha^{-1} + NC @ 1.50 t ha^{-1}	81.05	18.01	87.25
T ₅ - FYM @ 10 t ha^{-1} + CC @ 2.0 t ha^{-1}	78.91	15.10	85.16
T ₆ - FYM @ 15 t ha^{-1} + CC @ 1.50 t ha^{-1}	80.11	16.15	86.15

T ₇ - VC @ 5 t ha ⁻¹ + NC @ 2.25 t ha ⁻¹	102.23	23.86	98.52
T ₈ - VC @ 7.5 t ha ⁻¹ + NC @ 1.50 t ha ⁻¹	110.73	25.60	101.65
T ₉ - VC @ 5 t ha ⁻¹ + NC @ 2.0 t ha ⁻¹	94.69	21.87	94.87
T ₁₀ - VC @ 7.5 t ha ⁻¹ + NC @ 1.5 t ha ⁻¹	97.79	22.89	95.98
T ₁₁ - PM @ 7.5 t ha ⁻¹ + NC @ 2.25 t ha ⁻¹	98.62	22.97	96.13
T ₁₂ - PM @ 10 t ha ⁻¹ + NC @ 1.5 t ha ⁻¹	106.10	24.84	100.43
T ₁₃ - PM @ 7.5 t ha ⁻¹ + NC @ 2.0 t ha ⁻¹	91.61	20.61	93.54
T ₁₄ - PM @ 10 t ha ⁻¹ + NC @ 1.5 t ha ⁻¹	88.60	19.32	92.04
S.ED	1.260	0.286	0.217
CD (P=0.05)	0.611	0.139	0.446

Post-Harvest Soil Nutrient Status

Available Nitrogen in Soil

The Nitrogen in available form after harvest differed significantly among all the treatments when compared with control. The treatment T₂ (inorganic fertilizer) recorded the highest soil available nitrogen of 208.89 kg ha⁻¹. The next best value was exhibited in the treatment T₈ (200.26 kg ha⁻¹) followed by T₁₂ (193.12 kg ha⁻¹). The treatment T₄ and T₃ were however on par with each other. The lowest soil available nitrogen was recorded in T₁ which served as control (Table 29).

Available Phosphorus in Soil

The available phosphorus in post harvest soil differed significantly among all the treatments. The highest value was recorded in the treatment T₂ (60.14 kg ha⁻¹) which was followed by T₈ (58.51 kg ha⁻¹) and T₁₂ (55.91 kg ha⁻¹). The lowest value for this parameter was recorded in control T₁ (25.84 kg ha⁻¹) as presented in the table 29.

Available Potassium in Soil

The available potassium after harvest varied significantly among all the treatments when compared with control. The value for this parameter was the highest in T₂ (260.18 kg ha⁻¹) and was followed by T₈ (254.52 kg ha⁻¹). The treatment T₂ however did not exhibit significant difference with T₈. The value for this parameter was lowest in T₁ (201.52 kg ha⁻¹) the control as shown in the table 2.

Table.2.Effect of bulky and concentrated organic manures on post harvest soil nutrient status in garden bean

Treatments	Available Soil Nutrient (kg ha ⁻¹)		
	Nitrogen	Phosphorus	Potassium
T ₁ - Control	128.01	25.84	201.52
T ₂ - Inorganic fertilizers (36:72 NP kg ha ⁻¹)	208.89	60.14	260.18
T ₃ - FYM @ 10 t ha ⁻¹ + NC @ 2.25 t ha ⁻¹	135.12	30.10	208.12
T ₄ - FYM @ 15 t ha ⁻¹ + NC @ 1.50 t ha ⁻¹	135.62	31.25	210.32
T ₅ - FYM @ 10 t ha ⁻¹ + CC @ 2.0 t ha ⁻¹	130.12	27.01	204.12
T ₆ - FYM @ 15 t ha ⁻¹ + CC @ 1.50 t ha ⁻¹	132.43	28.41	206.10
T ₇ - VC @ 5 t ha ⁻¹ + NC @ 2.25 t ha ⁻¹	185.06	53.17	245.16
T ₈ - VC @ 7.5 t ha ⁻¹ + NC @ 1.50 t ha ⁻¹	200.26	58.51	254.52
T ₉ - VC @ 5 t ha ⁻¹ + NC @ 2.0 t ha ⁻¹	167.43	46.95	236.42
T ₁₀ - VC @ 7.5 t ha ⁻¹ + NC @ 1.5 t ha ⁻¹	176.14	50.45	239.05
T ₁₁ - PM @ 7.5 t ha ⁻¹ + NC @ 2.25 t ha ⁻¹	177.02	50.93	240.25
T ₁₂ - PM @ 10 t ha ⁻¹ + NC @ 1.5 t ha ⁻¹	193.12	55.91	248.23
T ₁₃ - PM @ 7.5 t ha ⁻¹ + NC @ 2.0 t ha ⁻¹	159.65	43.22	231.38
T ₁₄ - PM @ 10 t ha ⁻¹ + NC @ 1.5 t ha ⁻¹	151.63	40.45	228.94
S.ED	0.73	0.36	0.67
CD (P=0.05)	1.50	0.77	1.38

DISCUSSION

Regarding the physico chemical properties, numerically higher values for EC, organic carbon, water holding capacity and lower values for pH and Bulk density were registered under 75 per cent N supplied through oil cakes. But the values among all the treatments were statistically not significant since it was tried for one season. If the practice is continued for few more years there must be a change in the physico chemical properties. Application of manures, irrespective of sources and rates recorded significantly higher organic carbon and this might be due to increased yield of roots and plant residues and external application of organic manures as reported by Yadav et al., (2000). The differences in the organic carbon content with the application of different

sources of nutrients might be due to the result of differential rate of oxidation of organic matter by microbes (Trehan, 1997). The decrease in soil pH after organic matter addition might be because of the production of CO₂ and organic acids during decomposition of organic materials. Consequently, if there is decrease in soil pH directly it is related with increase in EC. This is in accordance with Shelke et al. (2001) and Mali et al. (2004). The decreased bulk density might be due to incorporation of organic manures with lower bulk density (Umamaheswari., 2009).

The data on nutrient uptake pattern revealed that the application of inorganic fertilizers resulted in the highest nutrient uptake. This is in accordance with Sharma et al., (1995). Among the various organic manures and concentrated oil cakes tried, application of 75 per cent N through vermicompost along with 25 per cent N through neem cake recorded the highest nutrient uptake. This could be attributed to the supplementation of higher nitrogen, phosphorus and potassium supplied by means of vermicompost and neem cake. Moreover, Vermicompost contains nutrients in forms that are readily taken up by plants such as nitrates, exchangeable phosphorus and soluble potassium as reported by Edwards and Burrows (1988). Similarly, the nutrients in neem cake are also in readily available form. This is in accordance with the reports of Chinnaswamy (1976), Sridhar (2003);Bharathi(2004) and Sundhararaman (2009). The next recognizable treatment for nutrient uptake pattern was the application of poultry manure @ 2.16 t ha⁻¹ along with neem cake @ 0.73 t ha⁻¹. The increased nutrient uptake by the crop due to neem cake can be ascribed to the presence of alkaloids like nimbin and nimbidin, which have nitrification inhibiting properties and releases N slowly. Thus apart from the nutrient content in the neem cake, the retention capacity of nutrients to a prolonged period and its balanced availability might have resulted in better uptake of nutrients as reported by Deshpande et al. (2007).

Significant variation was observed among the treatments for the trait, post harvest nutrient status of soil. The maximum availability of nitrogen, phosphorus and potassium were obtained with application of vermicompost @ 10.03 t ha⁻¹ along with neem cake @ 0.73 t ha⁻¹. This might be due to the fact that vermicompost was found to enhance the number of nitrogen fixing bacteria and symbiotic microbial association thereby contributing to increase in nitrogen, phosphorus and potassium in soil. This is in line with the work of Kale et al. (1987). Another reason may be the higher amount of total and mineral nitrogen level as ammonia in the vermicompost that could be rapidly converted to nitrate thus minimizing the loss of N from soil reported by Kale et al. (1992). Application of vermicompost increased the proportion of mineral nitrogen available for plants at any given time, although nitrogen was immobilized in the initial stage as reported by Mahesh (1995), an increased availability of nitrogen in soil by the application of vermicompost compared to poultry manure and FYM is due to mineralization of native 'N' by higher bacterial population. Rao et al., (1996) stated that, higher levels of available potassium were recorded with vermicompost application due to earth worm activity. Further, presence of more organic matter in vermicompost amended soil might have enhanced the nutrient retention in post harvest soil as earlier reported by Arancon et al. (2006). Since the nutrient content in neem cake is greater, the availability of soil nutrients was also higher. The influence of neem cake in increasing the rhizosphere micro flora was also discussed earlier by Subramanian and Rao (1974). The microbiological properties of soil could influence in decomposition of organic matter and enzymatic activities in soil (Nannipieri et al., 1990). This also might be the reason for increasing the availability of nutrients. The lower loss of nutrients due to the slow release in the manure amended plots may be responsible for an increase in available nutrients in soil when compared to inorganic manures as reported by Upperi et al.(2011)

CONCLUSION

Among the treatments comprising organic manures and concentrated oil cakes, 75 per cent N supplied through vermicompost 2.41 t ha⁻¹ along with 25 per cent N supplied through neem cake @ 0.22 t ha⁻¹ followed by incorporation of poultry manure @ 0.61 t ha⁻¹ 25 per cent N supplied through neem cake @ 0.22 t ha⁻¹ recorded the maximum number of root nodules and maximum values for growth and yield attributes. . Numerically higher values for organic carbon, EC and lower value for pH and bulk density were observed in the treatment combination, 75 per cent N through bulky organic manures along. with 25 per cent N through oil cakes. Within the treatments, insignificant variation was observed for these traits. . The maximum values for uptake and availability of nitrogen, phosphorus and potassium, pod yield were obtained with application of vermicompost @ 10.03 t ha⁻¹ along with neem cake @ 0.73 t ha⁻¹ followed by poultry manure @ 2.16 t ha⁻¹ and with neem cake @ 0.75 t ha⁻¹.

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GEOSPATIAL TECHNOLOGY BASED WATERSHED APPROACH FOR NATURAL RESOURCES MANAGEMENT IN CENTRAL HIMALAYA, INDIA

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ABSTRACT

In order to evaluate the different resources present in earth's surface in an integrated and multidisciplinary way remote sensing (RS) geographical information system (GIS) has emerged as an important geospatial technique. The objective of this study is to understand the local need by identifying natural resources like land, water and forest with the help of geospatial techniques and make suggestions accordingly so that ways of optimal long-term utilization of natural resources can be found. In this study, information has been generated for the local people and government and non-government organizations at various levels to provide appropriate solutions to the problems identified through geospatial techniques, So that it becomes possible to manage the natural geographical environment for greater benefits in the long run.

Keywords: Kumaun Himalaya, Watershed, Natural resource, Community participation, Geospatial technology

INTRODUCTION

Remote Sensing and Geographical Information System are powerful tools to manage and analyze spatially distributed information. World-wide experience shows that combined application of remote sensing and GIS can be very effective tool for resources management (Singh, 1997). Watershed management requires linking many kinds of spatial data ranging from river course, soil types, soil quality, land-use, agricultural productivity, water flow, rainfall, soil erosion forest cover, population distribution etc. These data are available from thematic maps, topographic maps, remotely sensed imageries and satellite data. It is essential to compare and combine all these data on a proper geodetic grid, which is only possible by GIS, to help solve the problems related to watershed management in a faster and accurate way (Sengupta, 1992).

Remote sensing and geographical information system techniques are being effectively used in recent times as tools in determining the quantitative description of basin geometry i.e. morphometric analysis including stream length, bifurcation ratio, drainage density, stream frequency, texture ratio, form factor, circulatory ratio and elongation ratio and prioritization of sub-watershed (Biswas *et al.* 1999).

GIS has been providing valuable information on land-use land cover change analysis in relation to elevation (Ghouse *et al.* 1998). GIS techniques involve the integrated and conjunctive analysis of huge volumes of multidisciplinary data, both spatial and non-spatial, within the same geo-referencing scheme. Studies on applicability of remote sensing and Geographical Information System techniques for watershed management have been attempted throughout the Indian Himalayan region (Krishna, 1996). The remote sensing satellite data has been used to map the forest cover types and density in a number of studies carried out for the Himalayan region (Singh 1988; Porwal and Pant 1989; Pant and Roy 1990; Anon, 1990).

Table 1: Forest cover in Uttarakhand (Singh *et al.* 1984)

Forest	Kumaun		Garhwal		Uttarakhand	
% Crown Cover	Area (Km ²)	% of total area	Area Km ²)	% of total area	Area (Km ²)	% of total area
Poor (<30 %)	1,767	8.4	2,942	9.8	4,709	9.2
Medium (30-60%)	4,381	20.9	3,285	11	7,666	15
Good (>60%)	1,017	4.8	1,246	4.1	2,263	4.4
Total Forest	7,165	34.1	7,473	24.9	14,638	28.7

RS and GIS Based Land Resource Assessment

Accurate and current information on land-use is essential for planning natural resource management. Remote sensing method are becoming increasingly important for land-use mapping for several resource, e.g. the interpretation of large areas in the faster and less expensive than conducting ground surveys; satellite image provide an un-biased data set that may be interpreted for a wide range of specific land-use; remote sensing has the capability of repetitive coverage to depict long-term changes; and an opportunity has been provided to integrate existing surveys into an updated monitoring system (Myers, 1983; Sabins, 1987). Land-use changes in the watershed can be analyzed and tabulated by GIS. These changes are such as reduction in agricultural land, increase in forest cover and change in various forest types. With the help of GIS slope analysis can be done easily to determine land capability for agriculture, forestry, fodder and grazing lands. During floods ground survey may not be possible so remotely sensed data can be applied and digitized for Geographical Information System (Poudyal and Syne, 1994).

RS and GIS Based Forest Resource Assessment

In a recent study the forest area is reported to be 3,466 thousand hectares and accounts for around 62.3% of the area of Uttarakhand (Sati, 2005). Although 65% of the area in Uttarakhand Himalayas is classified as 'forest' (Shah, 1981) it is commonly stated that forests should occupy 60% of the total land area of hilly or mountainous regions and about 20% in flat areas for the sake of a country's prosperity (Tiwari, 1973). Forest cover in the Uttarakhand Himalaya is, clearly, far below this recommended level.

The data presented in Table 1 are far from the realistic condition of the forest cover, which exist today. Environmentalists have expressed their doubts on the government statistics and have pointed out that even the existing forest areas are in very bad shape (Pal, 1982). Tiwari (1982) states that the official estimate of forest area includes forest blanks, scrub areas and areas above the tree limits in the Himalayan region and in consonance he felt that the wooded area is much less than the reported area. The official forest statistics depict 63.9% forested area (1983-86) while the Landsat imageries show only 36.4% areas under forest. Not only this, even the good forest accounts for not more than 34.3% of the total reported area. The interpretation of Landsat imageries was made by Singh *et al.* (1984) which gives only 28.7% area covered by forest and only 4.4% of the area had forest with more than 60% crown density, followed by 15% and 9.2% of the area which had medium and poor type of forest area (Table 1).

RS and GIS Based Water Resource Assessment

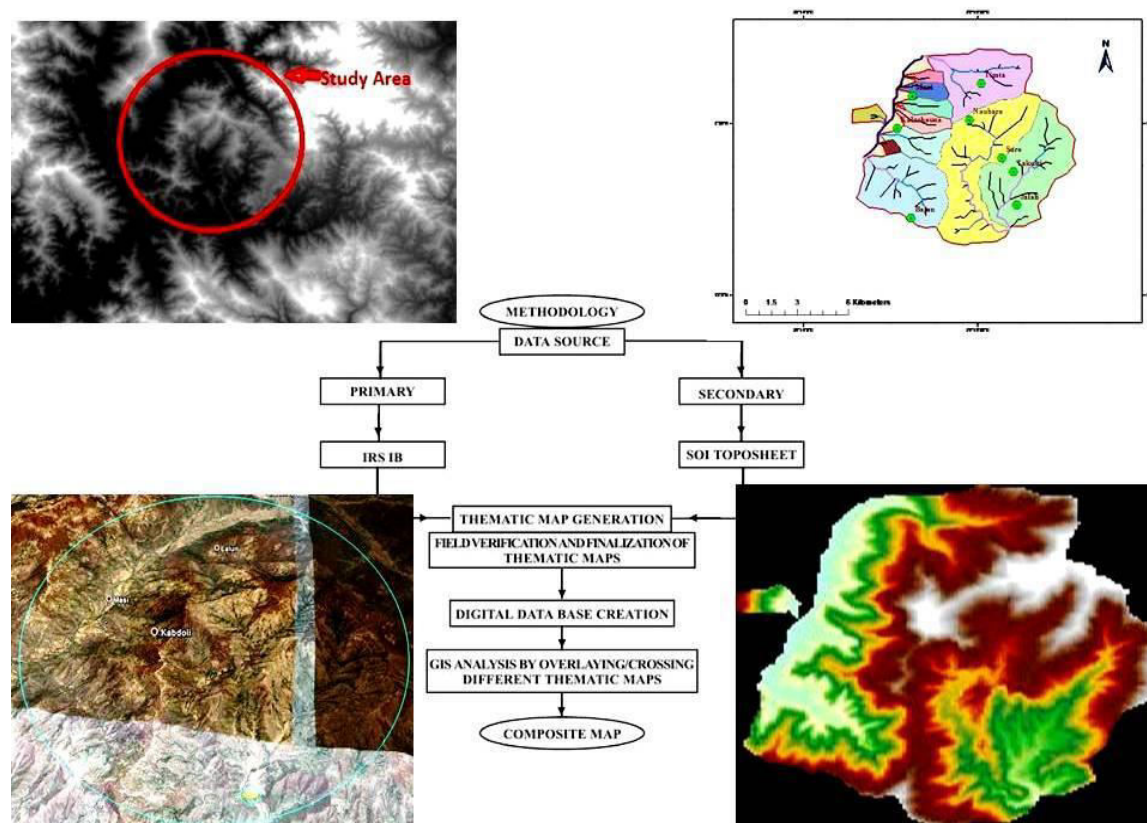
Remote sensing, with its advantages of spatial, spectral and temporal availability of data has now become a very useful tool in assessing, monitoring and conserving water resources. Satellite data provides quick and useful baseline information on various parameters controlling the occurrence and movement of groundwater such as geology, structural features, geomorphology, soils, land-use, land cover, lineaments etc. All these parameters used to be studied earlier independently due to non-availability of data and lack of integrating tools and modeling techniques. A systematic study of these factors leads to better delineation of areas suitable for artificial recharge, which are then studied in detail through hydrogeological investigations. Visual interpretation of satellite imagery, with emphasis on terrain analysis is being used widely for selection of sites suitable for recharge augmentation. Aspects, which are given special attention for the study, usually carried out with satellite imagery or False Color Composites (FCC) on 1:50,000 scale include stream course delineation, land form analysis, outcrop pattern analysis, fracture pattern analysis and land use analysis. These studies can provide valuable information on drainage density and lineament intensity, which helps in the identification of suitable sites for recharge. Various geomorphic units can also be delineated, which also help determine the type of recharge structures suitable for the area.

MATERIAL AND METHOD

The study is based on quantitative and qualitative data collection, for which various tools and techniques such as; Remote Sensing, GIS, GPS surveys and measurements, and small group interviews, observation and participatory rural appraisal (PRA) technique have been used. Study area delineation and Micro-watershed map (Figure 1) has been standardized by geo-referencing them and digitized in the standard format adopted for the present study. These digitized maps have been used for common natural resource mapping of the study area. The digital elevation model (DEM) has been generated from elevation contours at 20m intervals using a linear interpolation method with the help of ArcGIS. The multi-spectral data obtained from remote sensing satellites have been used to study land forest and water resources.

Table 2 Salient features of the Ramganga basin

Location of Origin	30° 5' N (Lat.) 79° 16' E (Long.)
Elevation at point of origin	3,110m asl
Total length of river Ramganga from its source to its outfall into river Ganga	596 Kilometers
Catchment area	32,493 Km ²

Figure1 Data flow methodology with thematic layer generation using geospatial tools and techniques in the present study

DISCUSSION

Comprehensive Watershed Assessment and Management approach

Physically, a watershed consists of land mass and a network of drainage channels, which are hydrologically interrelated and can be treated as one entity for planning and implementation to ensure sustainable use of land. Rainwater and other forms and sources of water in that physiographic unit provide the natural point of delineation of the resources. Then there are human and livestock component forming villages in the watershed. Hence, the sustainability of resources and development of a watershed crucially rests on the integrated interactions between water, land mass, vegetation, human and livestock. These components must be considered together and any attempt of separation will simply thwart the process of watershed development. There is nothing working with the watershed concept as it is and will always remain the scientific approach to eco-development in hills, what is wrong in fact is the meshing of two entities of watershed namely physical and human resource has never been attempted. The development of one entity at the cost of other will simply lead to lopsided development and hence both of these have to be taken together.

Effectiveness Resource Mappings

Watershed management is covering the area from the highest point (ridge line) to the outlet is defined as the integration of technologies within the natural boundaries of a drainage area for optimum development of land, water and plant resources to meet the basic minimum needs of the people in a sustainable manner. The deterioration of natural resources in an area can be accessed and the total resources properly developed only by adopting the watershed approach.

Land Resource Mapping

Accurate and current information on land-use is essential for planning natural resource management. Remote sensing method are becoming increasingly important for land-use mapping for several resource, e.g. the interpretation of large areas in the faster and less expensive than conducting ground surveys; satellite image provide an un-biased data set that may be interpreted for a wide range of specific land-use; remote sensing has the capability of repetitive coverage to depict long-term changes; and an opportunity has been provided to integrate existing surveys into an updated monitoring system (Myers, 1983; Sabins, 1987).

Land-use is a fairly useful indicator in understanding the environmental set up, socio-economic status, infrastructural facilities and climatic conditions of an area and has been identified as playing a key role in the degradation or conservation of natural resources. Land-use changes in a watershed can be analyzed and tabulated by GIS. These changes are as follows - reduction in agricultural land, increase in deforested land and changes in different forest types. With the help of GIS, slope analysis can be easily done to determine land potential for agriculture, forestry, fodder and pasture land. Ground surveys may not be possible during floods, so remotely sensed data can be applied and digitized for geographic information systems (Paudyal and Syne, 1994). Various land-use categories has been identified with the help of remotely sensed data in the study area which includes forest land (34%); agricultural land (21.3%); waste land (7.7%), pasture and scrub land (7.8%); bare rock surfaces (19.6%) and settlement and others (9%).

In the hilly micro-watersheds of the Ramganga River, very limited land is available for agriculture due to steep and rugged nature of terrain. In general, the cultivated land is predominantly rain-fed and only three crops are taken in two successive years, which cannot fulfill the food and fodder demand of human as well as livestock population of this region.

Forest Resource Mapping

Comparison of forest is more important than mere knowledge of the area under forest. It refers to different plant species found therein. From the economic point of view, the accessibility and the composition of forest are very important because each species requires a particular geographical environment and has varied economic impact (Singh *et al.* 1984). Uttarakhand Himalaya constitutes a variety of forests ecosystems owing to a great variations in altitude, rainfall, soil and slope aspects. The main forest type of the region is the Himalayan moist temperate forest found between 1,200 to 1,800m asl, altitude followed by the Sub-tropical forest continued between 900 to 1,200m asl. The third major category is the Alpine forest sub divided into three vegetation belts. Among the natural resources of Uttarakhand, forests are the most important, both economically and environmentally.

Mapping and monitoring of forest cover is one of the foremost requirements for its planning, management and conservation, remote sensing (RS), and geographical information system (GIS) play vital role in mapping of existing forest resources information in a particular period of time. The multi-spectral data obtained from remote sensing satellites have been used to study forest features either by visual interpretation or by processing digital data using digital computers. The digital analysis of the satellite data has the advantage of being fast and able to handle large quantity of data whereas the visual interpretation is based on the tonal variation of different features observed on satellite imagery.

The forest in the micro watersheds consisted of genetically poor, degraded and twisted chir-pine. Chir-pine is useful for local community only as timber and fuel wood. However, the degraded and twisted condition of the tree in the area did not allow even that purpose to be fulfilled adequately. Pine is also a fire hazard, makes soil acidic and prevents undergrowth. The other main species found in the area are bhimal, bakin, shahtoot, amla, reetha, harad, bahera, queral, sheesham, tun and utees. In the study area, the forests are depleting at a large scale. The depletion of forests is causing severe impediments for the stability of landscape.

Water Resource Mapping

The manners in which land resources are used are a primary determinant of the status of water resources in any region. The environmental conditions of the study area are highly conducive to water resources; however, land-use changes that occur through anthropogenic influences have the potential to have adverse impacts on water resources. The changes relating to land that could have such impacts are:

- (i) Reduction in forest area, or coverage.
- (ii) Increase in cultivation
- (iii) Construction activities (houses and roads etc.)

In spite of the Western Ramganga River flowing in the west-south-west direction on the north-western part of the study area the region in general has paucity of water especially in the summer. In the entire study area, 'naula' (1-2m deep, *appropriately lined wells to recover water from seepage*) and 'dhara' (*natural springs*) are the main sources of water for drinking and household consumption. Springs constitute the major source of water supply especially in uplands. In general, most of the villages are located on top of the ridges where springs are the main sources of drinking water because the Ramganga River flowing in valley can provide water only through pumping which entails appreciable costs hence hardly serving for the purpose of providing drinking water.

Identification of Vulnerable and Priority Areas

The physiographic condition of the study area is the same as other water deprived places in Kumaun region. The water in the micro-watershed villages is mostly collected from springs. Irrigation systems are mostly rain fed. The village communities of the study area have had acute water shortages for many decades as a result of increase in temperature, change in rainfall patterns and snowfall and reduction in no of rainy days. This has resulted in the drying up of the springs which are the only source of water in the area because there is no glacial melt supplying the middle Ramganga valley. Drinking water is collected and transported by women and, on an average; they have to cover 1-4 Kilometers to bring water every day. Land erosion and deforestation go hand in hand in this part of the Ramganga valley. Now -a-days villagers are of the opinion that there has been a rapid loss of forest around the village due to the forest fires. This has resulted in significant decrease of broad leaf species of tree like Oak (*Quercus*), Buransh (*Rhododendron*), Kafal, Utees and Padam. These species are known for maintaining the water recharge in the area and conserve more moisture than other forest species. They are also more resistant to forest fires, as they have good moisture retention capacity. The decrease of these tree varieties have given way to the chir-pine trees, which contain very little moisture and are less resistant to fires. Villagers have also seen some of the varieties of wild vegetables/medicinal herbs becoming extinct in recent years with the reduction in forests. As a result of this, animals like wild pigs (wild boar) are not able to find food in the forests and head for the agricultural fields in search of food. These animals destroy huge amounts of crops which further reduces the total produce of the village.

Community Engagement and Participation

Participation of local people in both decision-making processes and implementation of management plans is important for natural resource management. The study area has a very long tradition of community-level informal institutional networks involved in the management of all natural resources. The reason for ensuring people participation and creating public awareness is that the concerned rural community should be closely involved at every stage of the decision making process e.g. their water harvesting system, ranging from the technical and financial parameters of site choice and construction to equitable distribution of the collected water. This can go a long way not only in ensuring proper management of land, water and forest resources but also in generating a sense of community.

Policy and Institutional Support

The problems that have arisen regarding natural resource governance in the mountains in recent decades point to the fact that the increased use of natural resources for various purposes is not matched by appropriate management practices. Forest department promotes mostly pine forests under afforestation scheme which is adversely affecting water sources in the area. Deciduous and evergreen species like Utis, Padam and Banj-oak can be planted in the recharge zone (provides year round foliage cover). In the light of these facts, it becomes necessary to examine the role of the residents and the local, district and state administration in the management of natural resources to find out the reasons for the present alarming situation. A study (DCAP, 2003) evaluated five varied approaches (Community management approach, two State Government approach, NGO approach and World Bank funded SWAJAL approach) to manage drinking water in Uttarakhand historically, shows that no single approach has yielded an integrated, sustainable and equitable management paradigm for water resources in Uttarakhand.

CONCLUSION

The natural resources of micro-watersheds are fragile and precarious and this makes them sensitive to changes imposed by physical environment, human land-use and external factors. Irregular rainfall and poor soil and water management practices are not new problems, yet current research, knowledge and practices have not solved them. The success of planning for developmental activities depends on the quality and quantity of information available on both natural and socio-economic resources. Therefore, it is necessary to invent ways and means of organizing computerized information systems. Remote sensing (RS) data and geographic information systems (GIS) play an increasingly important role in the field of land water and resources

development. The linking of physical characteristics of an area with numerical socio-economic, natural resource and demographic parameters has proved to be of great significance, for researchers, various planners, and decision makers, to optimize the resource allocation, to initiate developmental processes. In this regard, GIS has the capabilities to interfacing field realities with socio-economic data for the planners and decision makers, which has great relevance in data handling, management and generating models for decision-making.

Thus, the remote sensing and geographical information system techniques are being effectively used in recent times as tool for natural resource management at watershed level.

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