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**(RTR-18)**

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# ***NATIONAL CONFERENCE***

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**ON**

## **Recent Trends in Research**

**(RTR-18)**

**Date: 11<sup>th</sup> March 2018**

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## ABOUT INSTITUTE

**Jai Narain Vyas University (JNVU)**, sometimes known as **University of Jodhpur** is an educational institution in Jodhpur city in the Indian state of Rajasthan. Established in 1962, the university took over the four colleges of Jodhpur run by the state government. In 2005 the university became the first in its state to receive an "A" grade ranking by the National Assessment and Accreditation Council. The university maintained this grade for five years until a shortage of resources saw its accreditation lowered to a "B".

The institution is the only residential university in the state, catering mainly to the needs of students of western Rajasthan (Marwar). Its research and development activities focus on the heritage, society, and challenges of the Thar Desert region, in which it is located. As the western-most University of the Country, research is conducted in border areas with neighbouring Pakistan. Courses are offered in humanities, sciences, social sciences, law, engineering, commerce and business management, information technology, and languages. There are more than 40 postgraduate programs, 30 undergraduate programs, and 5 diploma and certificate courses.

Jai Narain Vyas University is the second university in the State of Rajasthan. The university was established in 1962 by the Jodhpur University Act (Act XVII), enacted by the State Legislature for the Unitary Teaching University. Dr. Sarvepalli Radhakrishnan opened the university on August 24, 1962.

The university began operations in June 1962 when it took over the four colleges of Jodhpur run by the state government. These colleges were:

- Jaswant College (campus of the Faculty of Commerce)
- Shri Maharaj Kumar College (campus of the Faculty of Law, Institute of Evening Studies, and undergraduate studies of the Faculty of Arts)
- Mugneeram Bangur Memorial Engineering College (campus of the Faculty of Engineering)
- Kamla Nehru Girls College (the university's multi-faculty constituent college)

The first two colleges were converted into the Faculties of Arts, Commerce, Law, Science and Social Sciences; the other two colleges retained their identity and function and have been designated as the MBM Engineering College and Kamla Nehru College for Women. Now 37 private affiliated college at the time of the university.

On February 12, 1992, the name of the institution was changed from Jodhpur University to Jai Narain Vyas University. It is a residential university and the colleges within the municipal limits of Jodhpur are affiliated to it. It received University Grants Commission recognition as a university on July 14, 1962. Post modernism and post-colonial studies

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## ABOUT CONFERENCE

The term "Multidisciplinary" is always distinguished to different philosophy, and the modern discipline has a clear set of antecedents including Social Sciences and Humanities, Business Management and Economics, Teaching and Education, Engineering and Technology, Physical, Life and Health Sciences and other fields concerned with normative determinations of what ought to be and with deducing the characteristics and functions of the ideal state. National Conference on Multidisciplinary 2018 provides great platform to all academics, leading researchers, professionals to share their knowledge and their achievement. All academic practitioners in all around the world are encouraged to submit their research abstracts, papers and posters base on following conference tracks. All accepted abstract will be published in conference proceedings. In advance full text papers are welcome for journal publication and base on the review results, all full text papers will be published in online and reputed journals. We are warmly well come to academic practitioners, researchers, professionals, scholars, and scientists for National conference "RECENT TRENDS IN RESEARCH" 2018.

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## **RECENT TRENDS IN AGRICULTURE SECTOR IN WESTERN RAJASTHAN: A GEOGRAPHICAL ANALYSIS**

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**Abstract:** - Agriculture provides basic needs for our food and livelihood security and support for the economic growth and social transformation of the country the nation's food security depends on the performance of the agricultural sector. Rajasthan is predominantly an agricultural economy. Agriculture is the backbone of Rajasthan economy. Agriculture, with its allied sectors, is unquestionably the largest livelihood provider in western Rajasthan, more so in the vast rural areas. It also contributes a significant figure to the state economy. The threat to environment, due to dependence on chemical fertilizers and pesticides for increasing productivity and pest management respectively is major constraint affecting the global food production. Advancements in the field of science and technology along with the global urbanization are the major factors driving the course and evolution of agricultural research. Modern trends suggest that new innovations in agriculture are inevitably needed and these innovations should be integrated with the main stream agriculture. The present research paper tries to establish a linkage between the structural, technological and institutional policy reforms, which are responsible for the success of sustainable agriculture development. The present study is conducted with the objective to analyze the trend and of agricultural productivity of main food grains.

**Keywords:** Agriculture, livelihood, economy, productivity, reforms, trend.

### **1. Introduction:**

Rajasthan agriculture has witnessed wide variations in growth performance during a span of six decades after independence. The variability was particularly pronounced due to the subsistence nature of farming in India and the sector's heavy dependence on monsoon and other climatic parameters. In the initial years after the inception of planned development, it was the green revolution technologies that fired up growth in the sector for nearly three decades. The impact of green revolution tapered off gradually towards the later years of the last century. Advancements in the field of science and technology along with the global urbanization are the major factors driving the course and evolution of agricultural research. Rise in per capita income in developing nations, occupational changes and global linkages have changed the food preferences. These trends along with the increase in population pose a challenge to agriculture for producing more & better food. Increase in the productivity of agriculture by employing techniques of conventional (20th century) agriculture is posing a limitation. The threat to environment, due to dependence on chemical fertilizers and pesticides for increasing productivity and pest management respectively is major constraint affecting the global food production. These trends suggest that new innovations in agriculture are inevitably needed and these innovations should be integrated with the main stream agriculture. Main trends are presented on the number of holdings as well as on the concentration and specialisation of production. In addition, some features of Rajasthan agriculture on the age composition of farm holders and the relative importance of part-time farming. The use of modern varieties, irrigation and fertilisers were important factors that ensured higher growth in crop production. However, technological and institutional support for a few crops like rice and wheat brought significant changes in crop area and output composition in some regions. The results of crop output growth model indicate that the enhanced capital formation, better irrigation facilities, normal rainfall and improved fertiliser consumption helped to improve crop output in the state.

**2. Objectives of the study:-**The main objective is to assist the recent trends in agriculture for sustainable development .the key objectives of the study are given below:

- Analysis emerging trends in agriculture sector.
- Major determinants of agricultural productivity.
- To analyze the trend and pattern of agricultural productivity of main food crops.



- To identify the main obstacles to the way of progress of food production in western Rajasthan.
- To understand the changing scenario of crop production with respect to recent trends in agriculture sector.

### 3. Study area:

The area of the study covers-North-West District of Rajasthan state. The study area 'Western Rajasthan' is situated in the western part of Rajasthan. (Fig.1). this region includes 12 western districts of Rajasthan, which covers an area of 208,746 sq. km with a population of 27,115,542 persons as per census 2011. The study area makes up about 60.99 percent area and 39.51 percent population of the state. This Region has 12 District: - Ganganagar, Barmer, Hanumangarh, Bikaner, Churu, Nagaur, Jodhpur, Jaisalmer, Pali, Jalore, Sikar and Jhunjhunu. The land is covered by sand dunes with interdunal plains in the north, west and south and alluvium in the central and eastern parts. The climate of this part is characterised by extremes of temperature ranging from below freezing point (at times) in winter to over 50°C in summer. The study area has a desert climate characterized by extreme temperature and erratic rainfall. The study is empirical in nature and attempts to evaluate the recent trends in agricultural sector in western Rajasthan.

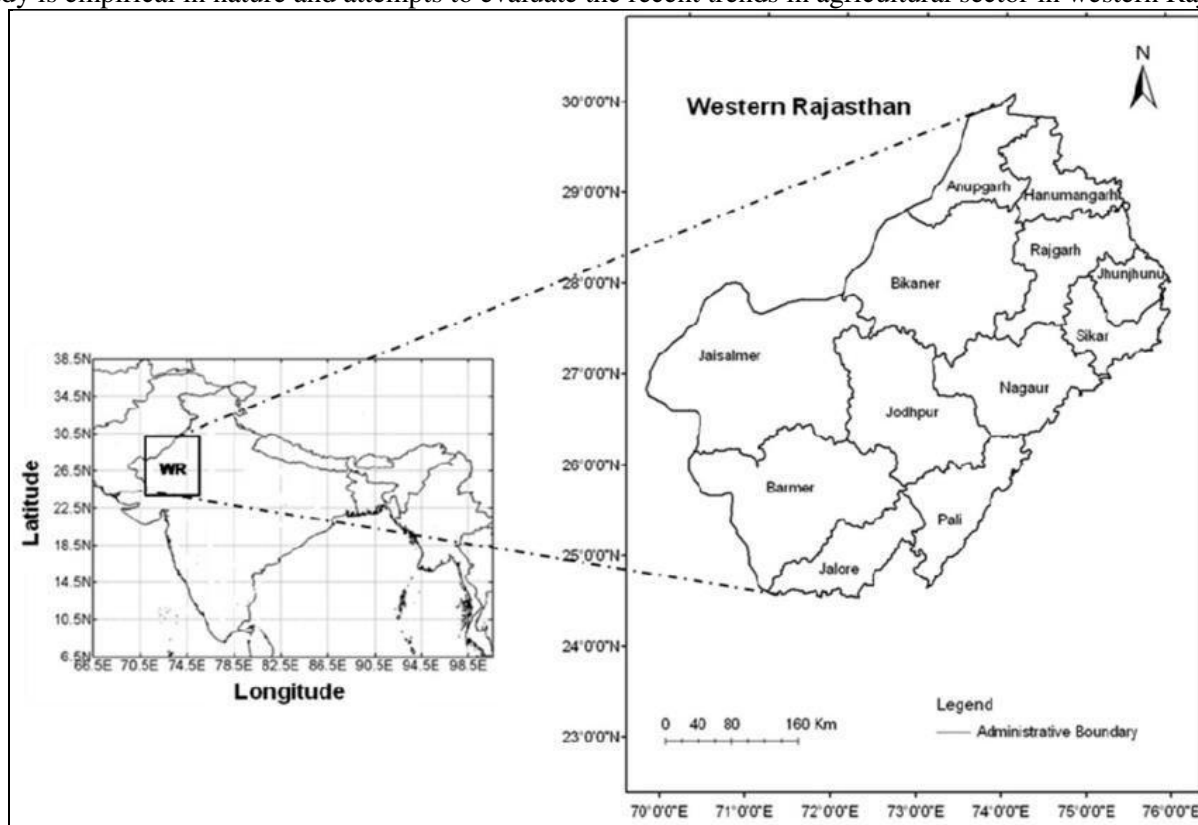


Fig. 1: Location Map of study area

### 4. Methodology:

The present study is mainly based on secondary data obtained from census of India (2011) and statistical handbook of Rajasthan. Other relative data collected from various official sources such as publications of the Directorate of Economics and Statistics, the Revenue Board of Rajasthan, Departments of Agriculture. Review of secondary study also included government orders, legislations, policies, combined with online search through relevant website etc. The analytical tools and techniques have been used for analysis and interpretation of data. Through this and with the help of statistical data, the spatial variation of any territorial unit of any level can be determined.

### 5. Result and discussion:

**Recent Trends in Agriculture:** -recent trends suggest that new innovations in agriculture are inevitably needed and these innovations should be integrated with the main stream agriculture.

- Recent trend in agriculture has seen rise in production and productivity of agricultural crops to accommodate the demands of increasing world population and address the rising concern for environmental issues.
- The increasing role of the corporate sector in agriculture by infusing new technologies and accessing new markets.
- Developing New Biological Techniques& Establish new agreement for agriculture sector
- Growing Trend of Unemployment in Agricultural Sector and Its Solution and rising the agricultural resources.

Let me try to elaborate these three points to make clear the issues under discussion, and thereafter I would like to share my understanding of the changes that are needed in institutions, incentives and investments to accelerate growth in agriculture which can make it more competitive, inclusive, sustainable and scalable.

### Trends in agricultural production:

Agricultural production in Rajasthan can be broadly classified into food crops and commercial crops. In India the major food crops include rice, wheat, pulses, coarse cereals etc. Similarly, the commercial crops or non-food crops include raw cotton, tea, coffee, raw jute, sugarcane, oil seeds etc.

Rajasthan has been experiencing the increase in the production of food grains particularly after the introduction of new agricultural strategy (i.e., technology, developed irrigation etc.) in agricultural practices. The increase in agricultural production has an important impact on the economic development of a country. In western Rajasthan, the increase in the production of food grains has been given in table 1. it reveals from table 1, that from 1990 to 2014 food-grains production has increased by about more than three times. According to the table, the production of cereals was 3186133tonnes in 1990-91 which turned to double i.e. 7035148tonnes in 2014-15. Regarding trend of oilseeds, it was 705825tonnes in 1990-91 which increased to 2194814 tonnes in 2014-15. This data indicates that production of food-grains has increased considerably over the years but in terms of percentage, increase in production varies from 1990-91 to 2014-2015.

**Table 1: Trends in Production of Agricultural Crops in western Rajasthan**  
**From 1990-91 to 2014-2015**  
**(Production in tonnes)**

CROPS	1990-91		2000-01		2010-11		2014-15	
	PRODUCTIO N	%	PRODUCTIO N	%	PRODUCTION	%	PRODUCTIO N	%
FOOD GRAIN CROPS {I & II}	<b>4884088</b>	85.88	<b>5388056</b>	93.16	<b>10226457</b>	87.72	<b>8313609</b>	76.83
[i] CEREALS { a & b}	3186133	56.03	3285624	56.81	7967961	68.34	7035148	65.01
(a)KHARIF CEREALS	1773500	31.19	1183192	20.46	4171095	35.78	3154510	29.15
(b)RABI CEREALS	1412633	24.84	2102432	36.35	3796866	32.57	3880638	35.86
[ii] PULSES {a & b}	1697955	29.86	384432	6.65	2258496	19.37	1278461	11.81
(a)KHARIF PULSES	1386361	24.38	198957	3.44	1258934	10.80	707261	6.54
(b)RABI PULSES	311594	5.48	185475	3.21	999562	8.57	571200	5.28
OILSEEDS {a&b}	<b>705825</b>	12.41	<b>496359</b>	8.58	<b>2571259</b>	22.05	<b>2194814</b>	20.28
(a)KHARIF OILSEEDS	176375	3.10	96486	1.67	737465	6.33	1187694	10.98
(b)RABI OILSEEDS	529450	9.31	399873	6.91	1833794	15.73	1007120	9.31
COTTON	145962	2.57	127861	2.21	126250	1.08	195127	1.80
SUGARCANE	<b>187661</b>	3.30	<b>118274</b>	2.04	<b>174950</b>	1.50	<b>148388</b>	1.37
chili	16851	0.30	11877	0.21	2723	0.02	2455	0.02
CUMINSEED S	26806	0.47	72387	1.25	109746	0.94	118444	1.09
GUARSEEDS	802884	14.12	395813	6.84	1432089	12.28	2507444	23.17
<b>total</b>	<b>5686972</b>	100.0 0	<b>5783869</b>	100.0 0	<b>11658546</b>	100.0 0	<b>10821053</b>	100.0 0

SOURCE:- STATISTICAL ABSTRACT, DIRECTORATE OF ECONOMICS &  
STATISTICS, RAJASTHAN, JAIPUR 1990-91, 2000-01, 2010-11 & 2014-15



#### *Rising Productivity of Agricultural Resources:*

One of the important aims of liberalisation is to attain higher productivity of resources utilized for agriculture. Improvement in the productivity of resources is being done through better allocation of resources between different areas and also with the application of latest technology. In the present regime of liberalisation, there is an emerging trend to emphasize on export oriented policies, applying new improved technologies in food processing and marketing and giving stress on planting crops as per geographical suitability.

#### *Developing New Biological Techniques:*

During the period of green revolution, increasing application of chemical fertilizers and pesticides were encouraged extensively in order to meet the growing demand for food required to feed the rising population. Rising population, ever-increasing demand for food and unlimited exploitation, of natural resources have created a grave threat to the environment as well as to the agricultural sector. In order to save and protect the environment as well as the agricultural sector from any further damage, increasing use of biological technology for agricultural operation has been emphasised and more emphasis is being given to develop new biological technology.

#### *Growing Trend of Unemployment in Agricultural Sector and Its Solution:*

Green revolution and increasing mechanization of agriculture have resulted fall in employment opportunities, resulting in a serious problem in the rural areas. Although many special employment programmes have been introduced to serve as a security net but increasing potentiality of the agricultural sector as emerged from the liberalisation wave should be exploited properly. The growing trend in agricultural exports, increasing demand for horticultural and animal products in the export market has created ample opportunities and scope for employment of huge number of population. This allied sector being labour intensive can provide a lasting solution to the rural unemployment problem of the state.

#### **Technology, Markets and the Increasing Role of the Corporate Sector:**

The corporate sector has an important role to play in generation and diffusion of technology in the years to come. This can be a major driver of change in Indian agriculture. However, technological advancement alone, without access to markets, is not sufficient to bring about a revolutionary change.

#### **New agreements are established:**

Interaction between agro food sector other private actors and public policies. Farmers interact with private organisations in the agro food sector (e.g. retailers and food processors), cooperate with NGOs with specific expertise or consumer groups. In addition, new types of cooperation emerge with water suppliers and other organisations with a specific interest in agriculture (e.g. nature organisations). Co-operative agreements are voluntary agreements entered into as a result of negotiations between farmers and water supply companies. Such agreements have to meet the four key requirements.

#### **6. Conclusion:**

Thus, in conclusion changing demographic trends and technological advancements are delivering new innovations in the field of agriculture. These emerging technologies are required to be used judiciously to meet the growing demands from modern agriculture. Vertical farming and organic farming can be adopted as the viable alternatives for the conventional agriculture to meet the changing demands and needs of mankind. Further, constraints in adoption of such practices should be addressed and linkages between researchers and farmers should be created for suitable measures. The present study has discussed the trends and patterns in the growth of the crop sector at the state levels. It has also estimated crop output growth model to analyse its determinants at the state level. The cropping pattern in India has undergone significant changes with a significant shift from the cultivation of food grains to commercial crops. However, technological and institutional support for a few crops like rice and wheat have brought significant changes in crop area and output composition in some regions.

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## National Conference on Recent Trends in Research

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# Rethinking and Re-evaluation in Government's Role for Women's Welfare Schemes

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**Abstract:** This paper is sort of a small survey investigation to evaluate government schemes that assures us to bring huge changes in the socio-economic conditions of women in India. At present, we are witness of various small or big schemes but cannot comprehensively be considered as effective tool for the welfare of women. The main concern of this discussion is that government should evaluate its all policies and schemes time to time. To deal this subject matter, we must aware to limit our analysis under the discussion of specific schemes only. By and large, we have total four sections in this paper. In the first section, we elaborate the concept of 'woman empowerment' with (the special reference of Ministry of Woman and Child Development). In the second section, we mainly focus on two schemes (Mahila E-haat and Mahila Shakti Kendra Scheme) with their main objectives and the roles in an ordinary woman's life. In the third section, we particularly survey the roles and duties of (Rajiv Gandhi Kishori Sashaktikarn Scheme-SABLA) even though this scheme has been regulated in total 35 states of India. In Rajasthan, total ten districts (Bhilwara, Jodhpur, Bhaanswara, Udaipur, Jhalwar, Dungarpur, Bikaner, Jaipur, Barmer and Ganganagar) have been selected for this scheme. In 2000 Ministry of Child and Women welfare (Govt. of India) has started 'Kishori Shakti Yojna' under de-structuring of ICDC. It mainly focused on the age group between (11-18) to look after their physical and mental health through association of family members. In the last section, we may conclude that there is needed urgency not at administrative level for govt. but also at own individual level to verify the certainty of such schemes in future.

**Key Words:** Women, Ministry, Scheme and Evaluation

## 1. INTRODUCTION:

At present, we are witness of number of woman welfare schemes all around the world. In India, concerned departments like (Ministry of Woman and Child Development) regularly active for discussing woman's related issues and providing legitimate support to them. In this way, we must little think about the concept of 'woman empowerment' here. At first sight, it seems common and known to all. According to United Nations convention, (Gender Equality and Woman Empowerment) is listed as 5<sup>th</sup> out of 17<sup>th</sup> Sustainable Development Goals (SDGs).<sup>1</sup> It means that all woman irrespective of caste, religion, color, and ethnicity must have access to achieve physical, economical, mental, social sorts of development without any fear and unnecessary restrictions. Article 15 (1) perspicuously advocates that the state must have equal attitude for both male and female. Similarly, Article 16 (1) favors employment equality without consult any specific sex. It must be remember that the notion of woman empowerment is the result of unbearable exploitation of woman in all sects of social, economical and religious inclusion. So at national and international level various kinds of commissions and legislations as (legal rights and safeguards) required for women's participation and upliftment. For reducing the domestic violence, a woman may approach to concerned authority with 'Protection of Women from Domestic Violence Act [2005]'. Along with 'Dowry Prohibition Act [1961]' was introduced for women to make them free from male party's exploitation. Also, the government is accountable for controlling the determination of sex with Pre-Conception and Pre-Natal Diagnostic Techniques (Prohibition of Sex Selection Act, [1994]). In a similar way, National Commission for Women Act [1990] takes care of all female matters either related their legal safeguards or different schemes and programs. While Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal, Act [2013] also saves the women identity in all public and private places.<sup>2</sup> We have enough information here that easily makes us better to understand the notion of woman empowerment. Today, it is also more famous and seems a developed thought or vision in modern feminist era. But we cannot ignore the remote areas where still woman is illiterate not by literacy point of view but also surrounded by the same historical cage of male oriented society. So, even a number of legal or other non-governmental level efforts are in action but the target of (ALL= WOMAN) is not achieved yet.

<sup>1</sup> For more information visit <https://www.unido.org/our-focus/cross-cutting-services/gender-equality-and-empowerment-women>

<sup>2</sup> For more details see <https://edugeneral.org/blog/polity/women-rights-in-india/>

## 2. GOVERNMENT SCHEMES: (MAHILA- E- HAAT AND MAHILA SHAKTI KENDRA)

As we mentioned in the previous section that the government is worried about the welfare of woman in all spheres of life. For this purpose, it is actively worked for organizing committees, establishing commissions, directing states and passing different acts to regulate the level of women's progress all over the country. In this section, we mainly focus above two schemes here.

### 2.1 MAHILA –E- HAAT :

It directly comes under (Ministry of Women and Child Development) that is a kind of Bilingual portal launched on 7<sup>th</sup> March 2016. It helps the (Woman entrepreneur, SHGs and NGOs) to advertise their products time to time. It has many advantages for such entrepreneur as follows.<sup>3</sup>

- It is a kind of direct link between vendor and buyer.
- Aadhar ID is relevant.
- By the age of 18 years, woman can display the product or service.
- It is less complicated to login E- Haat and even mobile also be a medium between vendor and buyer.
- Over 2000 products in 18 categories displayed from 24 states.
- On 9<sup>th</sup> September 2016, it has been awarded with SKOCH GOLD.

Under this scheme, Mahila-E – haat organized workshops periodically with the help of state governments and woman development corporations. It is also an important that this portal is upgraded.

### 2.2 MAHILA SHAKTI KENDRA:

It is another kind of Government's initiative (during 2017-18 up to 2019-20) to improve and empower rural woman by the community participation. It comes under Pradhan Mantri Mahila Sashaktikarn Yojna (PMMSY). It works at central, state, district and block levels. At center level, the main focus on 'Gender Issues' and would monitor, co-ordinate the work progress of State, District and Blocks. At state level, the technical help is provided by State Resource Center for Women (SRCW). While district level center for women (DLCW) collects information related govt. schemes, programs and create a link around 640 districts.<sup>4</sup> In above all center-state-district-block wise sequence is monitored and co-ordinate with the same sequence here. In this scheme, villager women trained and get awareness easily. But here, it is an important part of 'volunteer' that useful for around 115 backward districts of the scheme. In both schemes (Mahila –E- haat & Mahila Shakti Kendra), we can observe the initiatives of government for woman's progress. In the first scheme, we find that government is ready to use multimedia for empowering woman in the business line. It develops the user-friendly online portal for woman. In the second scheme, it is regulated at center, state, district and blocks all levels. It is targeted to empower villager woman with volunteer participation around 115 backward blocks of MSK.

## 3. MAIN FOCUS ON RAJIV GANDHI KISHORI SASHAKTIKARN SCHEME- (SALBA):

In this section, we elaborately discuss 'Rajiv Gandhi Kishori Sashaktikarn Scheme (SALBA)' with its role and importance in an ordinary woman's life. In this scheme, the word 'Kishore' has an important place that may have various derivatives (like 'to produce', 'to identify' etc.). In fact, it indicates all round development of girls. In (2000) Ministry of Child and Women welfare (Govt. of India) has started 'Kishori Shakti Yojna' under de-structuring of ICDS. It covers the age group between (11-18) to look after their physical and mental health through family members' participation. It has been implemented in total 35 states of India. In Rajasthan, total ten districts (Bhilwara, Jodhpur, Bhaanswara, Udaipur, Jhalwar, Dungarpur, Bikaner, Jaipur, Barmer and Ganganagar) have been selected for this scheme. The objectives are followed as:

- By literacy, makes them empower.
- By proper nutrition, makes them healthy.
- To spread awareness related health, cleanliness and family issues.
- To prepare them occupation oriented.
- By vocational education change the life of illiterate girls.

### *Main Activities*

#### *(A) Kishori Group*

At Aganwadi level, in a group around (15-25) Kishoris will be included and then (3 leaders) will also be selected for one year. They would work as 'Saheli' and get a certificate from government.

#### *(B) Training kit*

Each Aganwadi would have a kit for resolving health; education and law related all issues. Sakhi or Saheli will be trained for using this kit.

<sup>3</sup> Visit <http://mahilaehaat-rmk.gov.in/en/>

<sup>4</sup> <http://www.wcd.nic.in/sites/default/files/Final%20Guidelines%20MSK%28English%29%20Scheme.pdf>

### (C) Kishori Divas

By the instructions of state government or other bodies, one day will be celebrated in three months. It is an important to associate the mothers on this day.

### (D) Kishori Card

It is a kind of record for Kishoris about their health, weight, height etc. It would also include admission, drop out of all Kishoris.<sup>5</sup>

Under SABLA, two main things will be kept in mind. First take care of age group (11-14 then 14-18) Kishoris. Secondly focus on the same age group but dropout only. Thus it is limited with the Kishori age groups to provide them help in terms of hygienic food, reducing the dropout, encouraging admissions and developing vocational abilities.

## 4. CONCLUSION:

In this paper, we surveyed some women welfare schemes (Mahila -E- haat & Mahila Shakti Kendra and Rajiv Gandhi Kishori Sashaktikarn Scheme- (SALBA) to re-collect some observations here. By discussing such schemes, we find that our government has definitely regular concern for women's welfare and to empower them. And also no doubt, women are benefitting with each and every scheme. But after that we must suggest that our government should evaluate the progress report with count the period of years for targeted group or group of women. For evaluation, it is better to find out the drawbacks if any with comparative study of such schemes. If any scheme is played more important role then must be continued till the achieving of last goal. It may also be possible that our government must follow area wise issue/problem oriented approach. It may notice that instead of bundle of schemes better to improve the implementation process with few schemes.

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## National Conference on Recent Trends in Research

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# The discovery of Barmer-Sanchore basin, Rajasthan, and its Production and Reserves

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**Abstract:** The discovery of oil and gas in the Barmer Basin in northwest India was one of the more significant global discoveries in the decade 2001-2010. The basin's presence was suspected from gravity and magnetic data in the late 1980s but not confirmed until 1999 from seismic and drilling. Prolific source rocks occur from the Mesozoic through Eocene strata. Tectonically, the basin is divided into a northern and a southern province. The northern part of the basin predominantly an oil province and the southern part a mixed oil and gas province. The prolific Paleocene Fatehgarh Formation contains the bulk of the 7.3 billion barrels of stock tank oil in place (STOIP) identified to date, but other reservoirs from the Mesozoic to the late Cenozoic are common and may yield significant future resource additions. 4.1 billion barrels of oil in place (i.e. 500 million tonnes) have been proved alone in Barmer-Sanchore Basin. This review paper explores the discovery of crude oil and natural gas in Barmer-sanchore basin, and its Production and Reserves in detail. Petroleum exploration may lead to the possibility of establishing refinery which can lead to the mushrooming of vast industries using byproduct. It focuses on the petroleum reserve in Rajasthan. It gives a detailed overview of the opportunities, challenges and critical success factors for the growth of the industry. This Paper also emphasis on the exploratory work going on in Barmer, Rajasthan and the involvement of various growth work.

**Key Words:** Barmer Basin, magnetic data, petroleum reserve,

## 1. INTRODUCTION:

Energy resources have been closely embedded to development process since beginning of the civilization. Natural oil is important energy resource and India is one of the top ten oil consuming countries in the world. The current production level does not match the existing demand of oil, thus with inadequate crude oil production, the country is heavily dependent on imports. This dependence on imports is increasing as the number of consumers and new applications are rising, specifically in the automobile and aviation sectors. In this scenario of rising demand, Rajasthan based oil exploration in the Barmer Sanchore region which is the biggest onshore oil finding in India, along with a proposal of establishing a refinery in the region is expected to have the biggest oil related economic canvas in the country. Rajasthan has a vast tract of rock formations spread over to 1,50,000 sq. km in Barmer-Sanchore Basin, Jaisalmer Basin & Bikaner-Nagaur Basin, which has the potential of hydrocarbon and lignite deposits. These three petroliferous basins are now recognized as Category-I on the basis of their proven commercial productivity. The Barmer Basin is located in the Thar Desert of western Rajasthan. The surface topography of the Barmer Basin is a stony desert with little or no surface expression of the underlying basin. It is the northernmost extension of the Cambay Basin, a more mature hydrocarbon province. These two oil-prone intra-cratonic rifts contrast with most of the proven hydrocarbon basins in India, which are dominated by offshore gas and a few high-volume offshore oil fields. The review paper also gave detail information about the discovery of oil & gas, their production, reserves in Barmer-Sanchore basin and their impact on district & State economy. Energy is obtained by human from exploration and which contribute to economy. There is thus strong relation between energy and the economy. This paper is aimed at examining the exploration-economic relation using Rajasthan.

## 1.1. OBJECTIVES OF STUDY:

Current state policy promotes the oil and gas industry as a key component of the state's overall economic development framework and works to achieve the following major goals:

- Encourage sustained long-term growth in Rajasthan oil and gas sector.
- Generate spillover business activity and jobs in the broader state economy.
- Encourage increased production and full utilization of the state oil and gas resources.
- Generate tax revenue for state and local governments to support public services.



- Value addition of Petroleum Resources through Refinery cum Petrochemical Complex
- Dampen the effects of fluctuating energy prices on the industry and state economy.
- Enhance the overall quality of life and economic wellbeing across Rajasthan communities.

## **1.2. STUDY AREA:**

The Barmer-Sanchore Basin is located in the Thar Desert of western Rajasthan (Roy and Pandey, 1970). The RJ-ON-90/1 onshore block lies between 24° 47' 7.58" to 26° 5' 49.24" N Latitude and 71° 20' 1.65" to 72° 4' 39.29" E longitude with an approximate area of 4970 km<sup>2</sup> in Barmer and Jalore districts, Rajasthan. It covers parts of Baitu, Barmer and Guda Malani tehsil in Barmer district and Sanchore and Bagoda in Jalore district. The surface topography of the Barmer Basin is a stony desert with little or no surface expression of the underlying basin. It is the northernmost extension of the Cambay Basin, a more mature hydrocarbon province. These two oil-prone intracratonic rifts contrast with most of the proven hydrocarbon basins in India, which are dominated by offshore gas and a few high-volume offshore oil fields. The region is characterized by low and uneven distribution of rainfall causing high soil water stress throughout the year. High potential evaporation and strong wind also add adversity to the area. The summer is the most dominant season characterized by high temperature spreading over March to mid of July, coupled with high wind velocity and drifting sands. The long dry season is generally pronounced and predictable, while the short rainy seasons are unreliable both in time and amount of rainfall. The most characteristic feature of the climate is the wide variation in the temperature. The maximum temperature rises to 50 °C in summer and drops down to 0 °C in winter. Wind velocity is strongest during the months of May to July. Rain is the main source of water for drinking and for the irrigation of agricultural crops in the region. Annual average rainfall in Barmer region ranges from 200 to 350 mm whereas in Jalore region it ranges from 300 to 450 mm. Thus there is vast variation in rainfall both in quantity and number of rainy days indicating highest co-efficient of variation. The region is characterized by arid landscape like level rocky structural plains, rock-cut pediments, gravelly pavements, shallow colluvial plains, other sandy plain with alluvial underneath, sandy hummocks and low sand streaks, sand dunes of various kinds and interdunal plains. The Thar is the most populous desert in the world as per the census 2011. Population density in Barmer division is 92 persons km<sup>-2</sup>, while in Jalore the density is 172 persons km<sup>-2</sup>. However, considering the RJ-ON-90/1 block, lowest population density is in the northwestern portion of the RJ-ON-90/1 block, which occurs in Barmer District. The highest density is in the southern portion of the block, which occurs in Jalore District. Around 80% or more human population is still living in rural areas but urbanization is increasing day by day in different pockets. Agriculture and cattle rearing are the main occupation in the region. As a present study is about the discovery of Barmer-Sanchore basin Rajasthan and its production and reserve.

## **2. METHODOLOGY:**

The present study is mainly based on secondary data obtained from statistical abstract (2016) and economic review of Rajasthan. Other relative data collected from various official sources such as publications of the Directorate of Economics and Statistics, the Revenue Board of Rajasthan, Departments of energy, Cairn energy annual report, and ONGC annual report, Department of Industry and Department of Environment and Forest. This research aims to analyses the impacts of oil and gas exploration activity on environment in Rajasthan at district level, with the help of multi-variable data analyzing methods based on a determined system of viewpoints. The presented model and the methodology based on it are suitable for making spatial variation measurable. Through this and with the help of statistical data, the spatial variation of any territorial unit of any level can be determined.

## **3. RESULT AND DISCUSSION:**

### **3.1. OIL & GAS EXPLORATION:**

#### **3.1.1 DISCLOSURE OF OIL & GAS RESERVES**

Barmer-Sanchore basin completely unknown before 1990. By 1989, early entrants into the basin had reviewed the gravity and limited very poor-quality 1970 vintage two-dimensional (2-D) seismic data that suggested the presence of a shallow sedimentary basin extending northward from the Cambay rift. This generated sufficient interest to warrant acquisition of 150 line 63km (93 mile) of 48-fold dynamic 2-D seismic data in the southern part of the basin. Based on the encouraging indications from these data, Shell India Petroleum Development (SIPD), Oil and Natural Gas Corporation Limited (ONGC), and the Government of India (GOI) formed a Production Sharing Agreement (PSC) in 1995 to establish an exploration license over the basin, known as Block RJ-ON-90/1. Subsequently, the partnership acquired 1613 line kilometers (~1000 mile) of 2-D seismic a small three-dimensional (3-D) seismic survey over a large structure high in the south-central part of the basin and reprocessed much of the 1989 seismic survey in the southern part of the basin. In 1997, Cairn Energy India Ltd. (CEIL) farmed in to the PSC with 27.5% equity, in 1999 increasing to 50%.

#### **3.1.2 EXPLORATION SUCCESS OF OIL AND GAS RESERVE:**

In 1999, the RJ-ON-90/1 partnership drilled the Guda-1 well, which discovered the Guda field encountering poor quality reservoirs in shallow Eocene sandstones, flowing at a stabilized rate of around 2000 BOPD (84,000 US

gal of oil per day) of 38°API oil from 4 m (13 ft) of pay with significant depletion. Gas was found in a deeper sequence of ignimbrites and basalts, but these were not tested. Subsequent drilling along the structural high in the central part of the basin encountered additional hydrocarbons, but with no significantly better reservoir quality or thickness. Regional studies, fieldwork, and basin modeling using sparse geochemical data indicated that the Barmer Basin was a narrow, elongate rift system, but suggested the northern part of the basin was there mally immature, and the basin was reservoir constrained. It thus appeared that there was a restricted supply of coarse clastic material into the basin that limited the potential for finding quality reservoirs. With these disappointing initial results, the original joint venture partnership transferred operatorship to CEIL in 2000. CEIL acquired 1267 line kilometers (787 mi) of higher density 2-D seismic and 650 km (251 mi<sup>2</sup>) of 3- D over the Central Basin high, which was identified as a more prospective part of the basin. Further drilling around and east of the Central Basin high discovered the Saraswati field in 2001 and the Raageshwari oil field in 2003, both considered volumetrically small at the time of discovery, and within relatively poor quality reservoirs. SIPD and ONGC withdrew from the joint venture in May 2002 and CEIL, as sole operator, continued exploration, encouraged by the presence of a proven petroleum system in a largely unexplored, newly discovered rift basin, clearly analogous to the Cambay rift immediately to the south. Additional small discoveries followed in 2003 with the Kaameshwari and Guda South-1 wells, both of which also lacked presence of a high-quality reservoir. By late 2004, with 13 exploration wells drilled and several small discoveries, CEIL was considering an exit from the basin, when they tested a large, shallow fault block in the far northern part of the basin. The prospect was considered high risk for both charge and seal, but the well encountered the giant Mangala field. Unlike prior discoveries, this field had 360 m (1181 ft) of overall pay in the high reservoir quality Fatehgarh Formation, with permeability's of several Darcy's. The waxy nature of the crude required a heated pipeline to monetize the discovery (Kulkarni, 2010) and a new water resource to extract the oil (Kumar and Sinha, 2010), but the high-quality reservoirs and over one billion barrels of oil in place were clearly economic. The Mangala field-considered to be the largest onshore hydrocarbon find in India in the last two decades - was discovered in January 2004. This was followed by the discovery of Aishwariya and Bhagyam fields. Commercial Production of Crude Oil has commenced w.e.f 29.08.2009 from Mangla Field. Presently, production 1,65,000- 170,000 bbls/day is in progress from Mangla, Bhagyam, Aishwarya Saraswati & Raageshwari & Aishwarya fields. 2 Feb. 2013 approval by Government of India for exploration in development areas. Cairn India commenced the drilling of its first exploration well, Raageshwari-South-1, on 25 Feb., 2013 located in the southern part of the block. The Rajasthan block, RJ-ON-90/1, is spread over 3,111 km<sup>2</sup> in the Barmer district. Cairn, Oil & Gas Vertical of Vedanta Limited is the operator with 70% participating interest. Its joint venture (JV) partner, ONGC, has the remaining 30% participating interest.

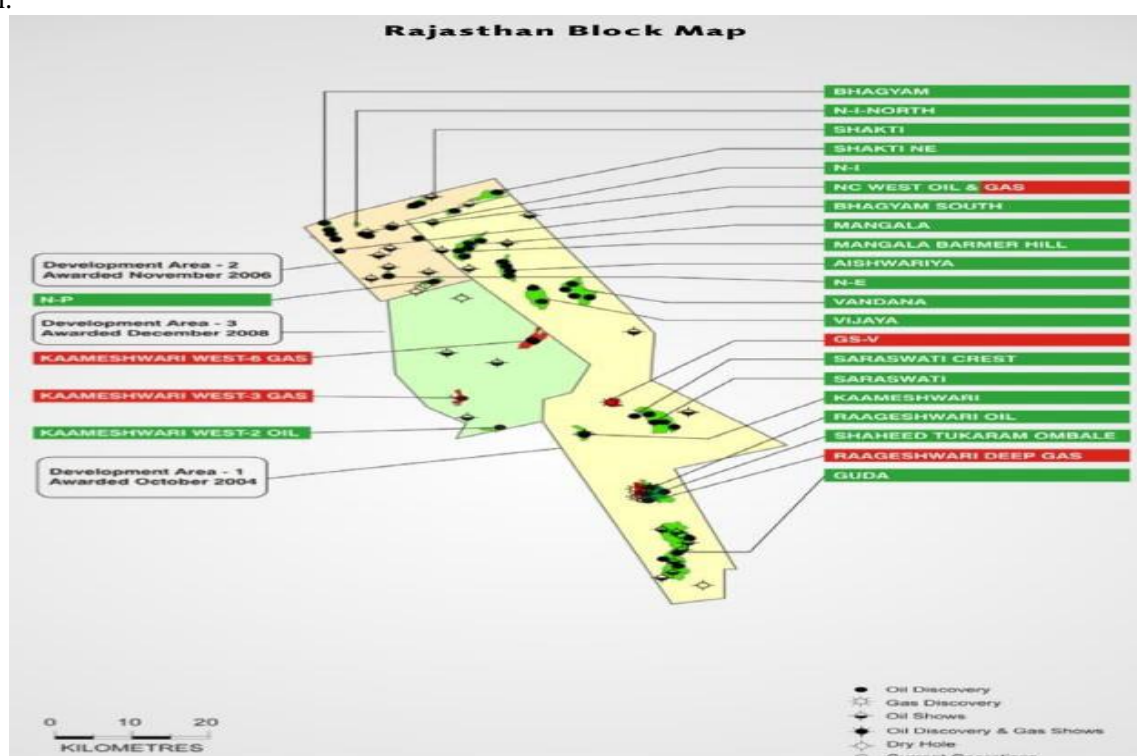
The block consists of three contiguous development areas:

DA 1, which comprises the Mangala, Aishwariya, Raageshwari and Saraswati (MARS) fields;

DA 2, consisting of the Bhagyam, NI, NE and Shakti fields; and

DA 3, having the Kaameshwari West fields.

A total 38 discoveries were carried out by Cairn India and ONGC with joint venture work in Barmer-Sanchore oil field basin.



### 3.1.3 DRILLED WELLS AND THEIR COST:

In Rajasthan, a total of 315 wells were drilled with an investment of Rs 2000-2500 crores till the year 2008-09. However 161 wells were drilled with an investment of Rs 1625- 1730 crores during last 4 years between 2009-10 to 2012-13. During the year 2013-14, 36 wells have already been drilled with an investment to the tune of Rs 350-370 crore till March '2014. Activities related to Oil and Gas exploration began in Barmer-Sanchore Basin in last two decades and Rajasthan has emerged on country's Oil and Gas map with the discovery of Mangla Oil field with the efforts of National and International companies. During the year 2014-15, 30 wells have been drilled, out of which 25 wells in Barmer-Sanchore basin, 2015-16 65 wells in total out of which 49 in Barmer-Sanchore and 16 in Jaisalmer. While in 2016-17, 33 wells have been drilled, with an investment of Rs 5123.80 crores. During the year 2017-18 (up to December, 2017), 16 wells have been drilled, against the target of 30 wells. Presently, Oil, Gas Exploration is being undertaken in 21 Blocks of Rajasthan. Two Blocks are offered by Directorate General of hydrocarbons, New Delhi for Oil & Gas exploration and production under National Exploration Licensing Policy, (NELP) ninth round by bidding. As per estimates 500 million tonnes Oil in-place reserves (4.1 Billion Barrels) have been proved in 38 discovered fields of Barmer-Sanchore basin. Out of these 5 fields shall be categorized in commercial. Rest of the fields shall come into production after approval of Field Development Plans by Government of India.

### 4. OIL & GAS PRODUCTION :

The Directorate of Petroleum was setup to expedite the exploration and development programme of Oil and Natural Gas in the State. During current financial year (up to December, 2017), a total to 58.19 lakh metric tonnes of crude oil has been produced from Barmer- Sanchore Basin by Cairn India Limited and approximately 531.90 MMSCM Natural Gas has been produced from Jaisalmer & Barmer Sanchore Basin by Cairn India Ltd, focus Energy, ONGCLand Oil India Limited. The State Government had sanctioned 12 Petroleum Mining Leases for exploitation of Crude Oil, Heavy Oil and Natural Gas. Exploration is underway in 4 Blocks for which Petroleum Exploration Licenses were granted. Commercial Production of crude oil had been to commenced from Mangla Field on 29 August, 2009 and at present 1,60,000 – 1,65,000 barrels of oil per day is being produced from Mangla, Bhagyam, Aishwarya, Saraswati, Raageshwari, Kameshwari etc. fields. A total of about 4.2 billion barrels of crude oil i.e. 500 MMT (Million Metric Tonnes) in-place reserves have been assessed in 38 discovered fields of Barmer-Sanchore Basin. A total of 467.98 lakh metrics tones (338.50 million barrels) of crude oil has been produced from Barmer Sanchore basin w.e.f 29.08.2009 to march 2016 As per the latest estimates of Cairn India, BarmerSanchore Basin has resource potential of 7.8 billion barrels (i.e. about 1100 MMT) of oil equivalent. A total of about 30 billion cubic meter of lean & rich gas reserves in-place have been proved by OIL, ONGC, Cairn India & focus Energy in Jaisalmer Basin & Barmer-Sanchore Basin. Cairn Energy has commenced production of Natural gas from Raageshwari Deep Gas Field of Barmer Basin at the rate of 1.1 mmcmd and out of which about 0.3 mmcmd is utilized for company's internal petroleum production operations and about 0.8 mmcmd is being supplied to Gujarat Narmada Valley Fertilizers & Chemicals Limited (GNFC) and KRIBHCO. During the current financial year 2017-18, Revenue accrued is `1,806.35 crores till December, 2017. Revenue is accrued in terms of royalty on production of crude and natural gas, PEL fees, dead rent etc.

#### PRODUCTION AND REVENUE ACCRUED FOR CRUDE OIL AND NATURAL GAS

Year	Crude Oil			Natural Gas		Total (Rs Crore)
	Royalty (Rs Crore)	Production (Lakh metric tonnes)	Production million barrels	Royalty (Rs Crore)	Production MMSCM	
2009-10	100.37	4.68	1.29	3.39	214.53	110.49
2010-11	1603.47	51.31	38.95	4.52	186.81	1630.28
2011-12	3410.29	64.01	46.94	8.64	289.54	3435.61
2012-13	5041.46	86.00	62.03	10.03	269.38	5069.88
2013-14	5905.31	90.70	65.61	31.49	449.12	5953.11
2014-15	4782.38	87.62	63.38	51.55	572.80	4849.67
2015-16	2262.95	83.66	60.30	67.02	667.00	2341.43
2016-17	2264.75	80.67	58.63	57.72	626.54	2331.53
2017-18*	1750.75	58.19	41.82	47.68	531.90	1806.35

\*Upto Dec 2017

## **5. OIL & GAS RESERVES:**

Rajasthan has immense investment opportunities in Upstream, Midstream & Downstream sectors. A total of about 30 billion cubic meter of lean & rich gas reserves in-place have been proved by OIL, ONGC, Cairn India & focus Energy in Jaisalmer Basin & Barmer-Sanchore Basin. 4.1 billion barrels of crude oil i.e. 500 MMT (Million Metric Tonnes) in-place reserves have been assessed in 38 discovered fields of Barmer-Sanchore Basin. As per the latest estimates of Cairn India, Barmer Sanchore Basin has resource potential of 7.8 billion barrels (i.e. about 1100 MMT) of oil equivalent resources can be tapped from unconventional and tight reservoir in Barmer Sanchore basin. The MoP and NG, GOI has granted permission to Cairn India for exploration in lease hold area for the same.

Ministry of Petroleum & Natural Gas (MoP&NG) has initiated the campaign to assess the prospectively of hydrocarbons in unexplored area of sedimentary Basins of India and about 80,000 sq km would be covered Under 2-D seismic survey of Rajasthan. The campaign would be monitored by ONGC & Oil India Ltd. Petroleum department, Rajasthan have proposed blocks for next round for bidding in Barmer-Sanchore basin in two blocks namely RJ-ONN-2013/3 in 3658 sq km and RJ-ONN-2013/4 in 2107 sq km.

## **6. ESTABLISHMENT OF REFINERY: CHANGING ECONOMIC PORTFOLIO:**

The Rajasthan refinery will be the first in the state, which is blessed with immense oil and gas reserves. This refinery will benefit Rajasthan, especially the industrious youth of the state. In order to take full advantage of hydrocarbon resources of 900 million tonne (7.3 billion barrels) discovered in Barmer for value addition and employment generation in the state, The Government of Rajasthan conducted MOU with 9.0 million tonne capacity refinery will establish (Rajasthan state government and HPCL partnership) at Sajiyali, Sambhara village in Pachpadra tehsil of Barmer district where land already have been acquired for refinery purpose. Hon'ble Prime Minister on 16 January, 2018 has commenced work for 9 MMTPA Rajasthan Refinery. Project cost – ₹43,129 crore (on 4800 acre land). This project is a Joint Venture, in which HPCL's share is 74% and Government of Rajasthan's share is 26%. This will be the first project in India integrated with Refinery and Petrochemical complex. This oil will be most refined with high quality. Countries most advanced and of BS6 standard first refinery will be completed in 2022. 80 thousand to 1 lakh employment directly or indirectly will be available (who will work for five years). When it will be established will provide employment directly to 1 thousand persons. After establishment of refinery, nylon, plastic related industries, PBC industry, pesticide making factory, fertilizer industry, cosmetic, medicine cover manufacturing including many more type of industries will be set up around the refinery from which more than 1 lakh employment directly will be created. 262 MW (mega watt) electricity can be produced from the waste material of refinery. Thus: This refinery will be boon for Barmer and for state.

## **7. CONCLUSION:**

Requirement of new energy resources is an integral part of the development process. It is dominating as a major prerequisite in the present era where development is industry and technology based which is mainly energy dependent. The compulsion of global connectivity and exploring the space in view of shrinking earth resources further emphasize focus on new energy resources. Undoubtedly, social, economic, environmental and management issues are always related to such new exploration of energy resources. The present paper well considers and analyses these issues in a case of oil discovery in Barmer region of the Rajasthan state.

The study is presenting some factual inputs, which are useful in planning the related development process;

- The oil finding will substantially add to self-reliance of the country in the energy sector.
- Considering the huge volume and related economic and managerial investment, the project has well been planned under public-private partnership approach. This approach has to be Carefully sustained with gradually opening it to inclusion of entrepreneurs, NGOs and other related entities.
- New set of employment opportunities, sectoral mobilization, infrastructure development, industrial and service sector development, education and training needs are the key developments after oil finding, these would have great impact on economic structure of the region.

In nutshell, in view of its typical geographical, political and social background, the development in Barmer region and thereby Rajasthan would have different requirement and direction. This distinguishes it from earlier cases and pattern of development in oil findings. In the environment of conducive technology and managerial breakthroughs, the case of Barmer oil discovery and related economic developments should be well planned and managed. The present analytical study is a positive step in this direction.

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**IMBRICATE ZONE IS DEVELOPED IN FORNTAL PART OF THE  
RAMSU-DODA- BHADERWAH AREA OF DODA DISTRICT,  
KASHMIR HIMALAYA**

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**Abstract:** In Ramsu-Doda- Bhaderwah area of Doda district of Jammu and Kashmir, the Kashmir nappe is thrust by an Imbricate Zone of the rock units consisting of Lesser Himalayan formation. The imbricate zone consists of highly sheared disrupted slices of limestones, quartzites, black carboniferous slate and basic volcanic. The imbricate zone is separated from the Murree Group of rock to south by the Murree Thrust and to its north it is overlain along Panjal Thrust by the Salkhala Group of rocks of the Kashmir nappe. The Salkhala Group of rocks form the basal part of the nappe sequence and consist of quartzite, slate and limestone in the lower part and phyllite, mylonitic gneiss and foliated granite in the upper part. Two shear zones are observed in the Salkhala Group, one along the belt of the quartzite unit overlying the Imbricate Zone and the other along the mylonite band between the quartzites and schists and granite unit. The shear zones are characterized by the development of mylonite banding of phyllonites, shear cleavage, crushing, pulverization and rotation of garnet porphyroblasts. The garnet porphyroblasts belongs to all the three stages i.e. pre-tectonic, syn-tectonic and post-tectonic type. Garnet showing different type of textures also viz. helicitic, rim, snow ball and zoned garnet. All the above features indicate ductile shearing and the south ward movement of the Kashmir nappe.

**Key Words:** Kashmir nappe, Murree Thrust, Panjal Thrust, Salkhala Group, Shear zones, Imbricate Zone, Mylonitic gneiss.

## 1. INTRODUCTION:

The study area which lies around Batote–Ramban–Ramsu regions of Doda District of J & K is located along the river Chenab which comes under Lesser Himalayan region. The investigated area located at latitude 32°59'00" to 32°22'00"N and longitudes 75°12'30" to 75°42'20"E with high hills, steep cliffs and canyons. The great variations are present in the relief i.e. from 675 m to 2231 m above MSL. The Topography is highly rugged and characterized by highly steep escarpments. The hills generally trend in NW–SE direction running parallel to Pir Panjal range (Tripathi and Shrivastava 1998).

The Imbricate Zone is separated to the north from the Salkhala Group by Panjal Thrust and to the south from Murree Group by Murree Thrust (Sharma, Tripathi and Thakur 1992). The zone consists of highly sheared, pulverized and mylonitised rocks of limestones, quartzites, slates and basic volcanics.

The objective of the study is to establish the lithostratigraphy of the Panjal Imbricate Zone on the basis of lithological and tectonic features. A lithological map along with cross sections has been prepared from the field data. On the basis of major and minor structures namely textural, compositional characters and deformational features rocks have been classified into various categories.

## 2. LITHOSTRATIGRAPHY OF THE AREA:

From south to north mainly three tectonic divisions can be identified in the study area. The rocks of Murree Group of Outer Himalayan Zone constitute the southern side and the lower most tectonic unit of the area. It is separated from the overlying rock formations of the Panjal Imbricate Zone along Murree Thrust. The Panjal Imbricate Zone consists of imbricate slices and bands of the Lesser Himalayan formations. The Salkhala Group of rocks is the only unit of the Kashmir Nappe exposed in the study area. The Panjal Thrust demarcating the base of the Salkhala Group brings the Kashmir Nappe to overlie the Panjal Imbricate Zone (Table 1). The lithological map is given in Fig. 1 and Fig. 2. Four cross sections, first along Pira–Ramsu and the second along Nachhar Nala – Lidar Nala, Fig. 2 (c) along Raggi Nala - Udian Nala section, Fig 2(d) along Lidar Nala – Seri section are given in Fig. 2(a), 2(b), 2(c), and Fig. 2(d) respectively.



Tectonic Zone	Lithostratigraphic unit	Lithology	Age
KASHMIR NAPPE	Ramsu Formation	Slates Conglomerate	Lower Palaeozoic
	-----Unconformity-----		
	Salkhala-C	Amphibolite Staurolite-gar Schist Garnetiferous mica schist Mylonitic augen gneiss	
	-----Thrust-----		
	Salkhala-B	Granitic gneiss Marble Stau-gar-bio schist Garnet-biotite schist	Precambrian
	-----Thrust-----		
	Salkhala-A	Biotite-mus schist Garnet-bio phyllite Marble Slate	
	-----Panjal Thrust-----		
Panjal Imbricate Zone (Wadia’s Authochthonous Fold Belt)	Dighor group (Ramban Formation) (Bhatia &Bhatia, 1973)	Slate Greywacke	Late Precambrian
	-----Thrust-----		
	Pira group (Gamir & Baila Fm.) (Reo et. Al., 1975)	Phyllite and metavolcanics Limestone Quartzite	
-----Murree Thrust-----			
Outer Himalayan Zone	Murree Group	Shale Siltstone Sandstone	Lower Miocene to Oligocene

**Table-1: Lithostratigraphy of the Batote-Ramban-Doda area**

### **Panjal Imbricate Zone**

Quartzite, limestone, phyllite, metavolcanics, slate, greywacke are the main constituents of zone with pebbleiferous beds. These rocks are exposed between the Murree Thrust and the Panjal Thrust. On the basis of lithological characters as well as major and minor structures the rocks of the Panjal Imbricate Zone have been classified into two groups (a) The Pira group (b) The Dighor group.

(a) The Pira group delimited in the south by the Murree Thrust and in the north by a thrust plane which has brought rocks of Dighor group to rest over them. The rock units are mappable and constitute quartzite, limestone and phyllite and metavolcanic, all unitsshow mylonitic effect, crushing and pulverization. All the thrust sheets overlaps like roof tiles and are dipping in the NE which is a general direction of dip in the area, forming schuppen type of structures.

### **Quartzite**

Quartzite is best exposed in the southern part of the Chakwa Nala with 50 to 100 m in thickness. In the southwestern part near GangaVillage in ChenabValley, the quartzite is cut-off by the Murree Thrust. Cataclastic texture, pulverization and crushing are common in quartzite, whereas the quartz grains are stretched shows lobate and irregular boundaries and are aligned in a preferred direction. Mylonitised quartzite is exposed in the vicinity of the thrust zone showing mortar texture. The quartzites of Pira group are of variable nature. All along the thrust plane quartzites are gritty and show poorly developed schistosity. Often show alternating black and grey coloured bands indicate the original bedding composition. Near the Murree Thrust quartzite shows sulphur encrustation at locality Baghot and Dharmund. Rao et al., 1975 named this quartzite unit as the Gamir Formation.

Quartz, feldspar and sericite flakesdefine thecleavage, which is clearly observed in thin sections. Majority of quartz grains developed mortar texture, showing micro granulation and fracturing. In some thin sections ribbons of quartz grains are aligned to the mylonite fabric (Fig. 3a).

### **Limestone**

The Limestone overlies the quartzite unit along a thrust plane. This thrust is a low angle thrust plane dipping towards north. Limestone is grayish black, fine grained, hard and compact with thin quartz veins varying in thickness

from 1 to 3 cms and exhibits swell and pinch structures (Fig. 3b). Limestone is highly fractured and jointed and shows strong crushing and pulverization indicating that it has undergone shearing. Rao et al., 1975 named this Limestone unit as the Baila Formation.

Calcite and dolomite are the dominant minerals in Limestone under microscope. Minor constituents include sericite and chlorite. Calcite occurs as rhombohedral and twinned grains. Larger grains have inclusions of quartz, carbonaceous matter and iron oxide. Calcite and dolomite grains show elongation and define a fabric. Feldspar show strain shadows.

### **Phyllite and Metavolcanics**

The Limestone is succeeded by the phyllite and metavolcanics along the thrust plane. The intercalations of metavolcanics in phyllite are best exposed in the southwestern part of the investigated area. The regional strike trend of the phyllite is WNW to ESE and the dip is highly variable especially at along the thrust. The amount of dip generally varies from 20° to 35° however; steep (60°) dip has also been recorded near village Baghot and Dharmund. Due to intensive compression the phyllite show disturbed schistosity with highly crenulated folding (Fig. 3c). Microscopically, rocks show alternating bands of calcite, dolomite and quartz feldspar. Foliation defined by preferred orientation of muscovite, sericite and elongated grains of quartz and feldspar defines a fabric that is parallel to compositional banding. Calcite is disseminated in the groundmass. Coarse grains of calcite show the polysynthetic twinning, high order interference colour and rhombic cleavage. Tourmaline, haematite, epidote and zircon occur as minor constituents.

The metavolcanics are medium to fine grained, greenish black to grayish black in colour. The thickness varies from few cms to 1–2 m and lies concordantly with regional trend of adjoining quartzite and limestone. In thin section foliation planes are poorly defined by chlorite laths and hornblende.

### **(b) The Dighor group**

Dighor group is separated in the south from Pira group and in the north from Salkhala Group of rocks. A broad succession, approximately 600 m to 1 to 2 km thick, consisting of greywacke, slate with pebbleiferous bed constitute the Dighor group. It is best exposed between Ramban and Digdual. The sedimentary succession of Dighor group shows a thrust contact at Dighor with overlying Salkhala Group of rocks. This thrust has been designated as the Panjal thrust. The rocks of the Dighor group are weakly metamorphosed and show sole marks, flute casts and graded bedding. The presence of these structures and alternation of fine and coarse sediments of slates and greywacke are the typical characteristic features indicative of flysh deposits. The total ratio of slate and greywacke is about 40 to 60%. The presence of graded bedding, small scale cross-bedding and diamictite beds further support a turbidity (flychoid) origin of these deposits.

### **Slate**

Slates are grey and highly jointed. The pebbles of sandstone and greywacke are present in slates and are oriented in a preferred direction. Original bedding and well developed slaty cleavage are observed. The cleavage surface is puckered, showing minor crenulation. Thin quartz veins run along the cleavage planes. Bhatia and Bhatia (1973) concluded that the pebbles are oriented in the WNW – ESE direction.

Slate is fine grained, crystalloblastic and show well developed foliation in thin section. The foliation is defined by preferred arrangement of sericite, chlorite and graphite flakes. It is also marked by compositional banding and tiny wisps of sericite which are oriented obliquely to the slaty cleavage. Quartz occurs as small irregular, rounded to subrounded as well as feebly recrystallised and fractured grains. Two generation of quartz grains are observed; one set is aligned parallel to the fabric and the other has grown across the fabric. Elongated flakes of mica are aligned along the foliation plane (Fig. 3d). Carbonaceous matter is abundant and occurs as streaks and bands parallel to the bedding cleavage. Epidote, zircon and haematite occur as accessories.

### **Greywacke**

The slate gradually grade into the greywacke. Greywacke is dark grey green to black in colour. It is very hard, compact, tough, partially metamorphosed and firmly indurated coarse grained rock and breaks with subconchoidal fracture. It consists of poorly sorted and extremely angular to subangular grains of quartz and feldspar with an abundant variety of dark grey and fine grains of sericite. The grains are bounded together by clay matrix that has imparted a great toughness and hardness to the rock. The greywacke occurs as a thick body exhibiting sole marks and massive and obscure stratification. Greywacke is characterized by a dominant detrital clay matrix (25–75%) with angular quartz grains and abundant metamorphic rock fragment containing more than 12–17% mica and chlorite. Bhatia and Bhatia (1973) calculated the grain size of matrix as less than 0.02 mm.

The rock appears like micro-breccia, having a high percentage of matrix and broken framework under microscope. The main constituents are quartz, feldspar, sericite, chlorite and calcite. Quartz is angular to subrounded, majority of grains show undulatory extinction. The grain boundaries of quartz are embayed or sutured. The grain size of feldspar is much smaller than quartz. Feldspars are mostly plagioclase showing well developed albite twinning. Rock-fragments consist of angular pieces of calcite and flakes of sericite and chlorite. The accessories are zircon, tourmaline and opaque minerals.

### 3. STRUCTURE OF THE AREA:

The effect of tectonic forces with varying intensity and tectonic transport directions have left imprints in form of lineation, foliation, fault and different generation of folds in the area. The minor, meso and major structures are reflecting the above features. Three major deformations have been identified  $D_1$ ,  $D_2$  and  $D_3$  which synchronize with  $F_1$ ,  $F_2$  and  $F_3$  folds respectively. The  $F_1$  folds are isoclinal recumbent type. The folds have long and thin limbs compared to hinges which are thickened and rounded. They usually trend from North-East to North-Northeast and South-West to South-Southwest directions. The plunge, however, varies between  $0^\circ$  to  $40^\circ$  in Chenab Crystallines and  $13^\circ$  to  $35^\circ$  in Kishtwar group of rocks, giving evidence of intricate post- $F_1$  deformation in Kishtwar group. The open type of folding ( $F_2$ ) is most common with varying interlimb angles (Fig. 3e). Most of these folds are smaller in size, though it may not be a rule. They are co-axial to  $F_1$  type of folds. Two other types of  $F_2$  folds are also identified.  $F_2A$  type of folds is developed due to drag produced in incompetent beds between two competent ones. The  $F_2B$  type is highly angular and tight to open produced due to higher compression in schists near thrust plane and a shear plane is developed at the crest of  $F_2B$  fold (Fig. 3f).

### Metamorphic History

According to the index minerals prevalent in the area four metamorphic zones have been mapped. Chlorite zone indicating lowest grade of metamorphism are exclusively found in Kishtwar group and Chatru group rocks. Muscovite has been promoted in the metamorphic ladder by being present at an early phase of metamorphism. It is suggested that low to moderate stress with temperature up to  $300^\circ\text{C}$  was responsible for such rocks. Presence of chlorite, muscovite and quartz as essential minerals further suggests initial stage of metamorphic activity.

Biotite zone is the next higher grade of metamorphism which is observed both in Kishtwar group as well as in Chenab Crystallines. In this zone, essential mineral is biotite which may or may not contain garnet and chlorite. Increase in the percentage of biotite indicates advancement of metamorphic activity. The grade is generated at approximately between  $390^\circ\text{C}$  at 2 kb  $\text{PH}_2\text{O}$  and  $405^\circ\pm 10^\circ\text{C}$  at 7 kb  $\text{PH}_2\text{O}$  pressure (Althaus, 1966).

The Almandine Garnet-Staurolite zone comprises of garnetiferous biotite schist, garnet-staurolite schist and gneissose granites. It exhibits regional metamorphism, with the isograd remaining parallel/sub parallel to the trend of the rocks. The essential minerals are Garnet, Biotite with or without Staurolite. Garnet has been formed at the expense of Chlorite and Biotite/Magnetite. The presence of this zone indicates  $500^\circ\text{C}$  at 4 kb for production of almandine garnet. Staurolite produces on  $700^\circ\text{C}$  at 5.5 kb pressure. Staurolite which is the most reliable indicator of this zone does not have wide range of temperature stability.

Garlick and Epstein (1967) suggested that regionally metamorphosed schist containing kyanite and staurolite appear to have crystallized at  $520^\circ\text{C}$  -  $600^\circ\text{C}$ , on the basis of oxygen isotope data. This data is consistent with the staurolite+quartz stability data of Richardson (1968). According to Hoschek (1969) amphibolite facies of kyanite zone sets in at about  $575^\circ\text{C} \pm 15^\circ\text{C}$  at 2 kb  $\text{H}_2\text{O}$  pressure. Kyanite zone shows highest grade of metamorphism in the area, with essential mineral as kyanite, quartz and biotite. It is indicative of 7-8 kb pressure and approximately  $650^\circ\text{C}$  temperature of formation. The kyanite zone and Almandine-Staurolite zone are exclusively seen in Chenab Crystalline group.

Detailed analysis has been done to ascertain the relative order of crystallization of minerals and their relationship with various episodes of deformation. Along with three phases of deformations the rocks have also undergone three distinct metamorphic phases, i.e.  $M_1$ ,  $M_2$  and  $M_3$ .

The first phase of metamorphism ( $M_1$ ) has resulted from sediment deposition in geosyncline which was later subjected to consolidation by subsidence and overburden pressure. The most characteristic feature is development of  $S_0$  schistosity. The conditions were just sufficient for development of first generation quartz, feldspar, chlorite, sericite and some iron oxides. No deformation had come into picture during this stage.

$M_2$  phase which is of prime importance in the field of metamorphic activity in the area has been subdivided into  $M_2'$  and  $M_2''$  phases as they formed part of same progressive metamorphism.  $M_2'$  synchronized with  $D_1$  deformation during which  $F_1$  folds and  $S_1$  schistosity came into existence. The  $S_1$  schistosity was defined by static growth of first generation muscovite, biotite and garnet with few crystals of staurolite. Incidentally  $S_1$  schistosity is most readily observed schistosity in the area. This phase was immediately succeeded by major thrust movements during which crushing took place. Chatru thrust and Shalimar thrust are reminiscence of such a period of upheaval.  $M_2''$  is subjected to  $D_2$  deformation during which  $F_2$  folds and  $S_2$  schistosity came into existence. Development of second generation garnet, biotite, muscovite and first generation kyanite took place. They are aligned parallel/sub parallel to  $S_2$  schistosity. Development of kyanite during this phase indicates that regional metamorphism was still continuous (Table 2).

The  $M_3$  phase which synchronized with  $D_3$  deformation is distinctly marked with retrogressive changes in minerals already formed by that time. Alteration of garnet into chlorite, sericitization of feldspar and presence of chlorite and iron oxides along biotite flakes are common features of this phase.  $D_3$  deformation has ended up giving rise to kink bands and joints.

### **Tectonic Framework and correlation of Panjal Imbricate Zone**

The Panjal Imbricate Zone is directly thrust over the rocks of Murree Group by Murree Thrust to the south whereas Panjal Thrust forms the northern boundary. The zone extends from Uri–Poonch in the Jhelum Valley through Mandi and Bafliaz (Suran Valley), the Srinagar, Jammu Highway near Pira and further continues eastward through Basol; south of Dalhousie, Chauri Tehsil, Dharamsala upto Mandi–Darla. The Gamir and Baila formations are correlatable to the Pira group and the Ramban formation is correlatable to the Dighor group. Dighor group can also be equated with Sincha formation of Razdan and Dhir (1989).

Panjal Imbricate Zone in its southeastern extension, in Chauri Tehsil, H.P., is correlatable with Parautochthonous zone of Chaku (1972). Three units; called Mandi Dolomite, Samot Volcanics and Raipur Formation have been described from the Parautochthonous zone, where Samot Volcanics are the equivalent of the metavolcanics of the Pira group and Raipur Formation is correlatable with the Dighor group. Mandi Dolomite is not present in the area and may have been eliminated due to thrusting.

Further eastward Gupta and Thakur (1974) described Dharamkot Limestone and Dharamsala Trap from the imbricate zone. The Dharamkot Limestone and Dharamsala trap can be correlated with the Limestone of Pira group. Srikantia and Sharma (1969) described Shali structural belt comprising of Mandi–Darla Volcanics, Sundernagar Formation and Shali Formation that extend from Simla to Ravi River. The Shali structural belt is bounded between Mandi Thrust to the South and Suketi Thrust to the North. Mandi and Suketi thrusts were considered to be the extension of Murree and Panjal Thrusts respectively. Considering this structural disposition, the Shali structural belt can be safely compared with the Panjal Imbricate Zone.

Keser Singh (1994) described Shali Imbricate Zone in Chamba (H.P.) comprising mainly of Volcanics, quartzite, limestone and slates in ascending order and is exposed between Main Boundary Thrust (MBT) and the Chail/Panjal Thrust. Volcanics, quartzite and limestone of Shali Imbricate Zone can be an extension of Pira group whereas slates are the extension of Dighor group and Shali Imbricate Zone can be correlated to the Panjal Imbricate Zone.

### **4. CONCLUSION:**

The rocks of the Panjal Imbricate Zone have been divided into Pira and Dighor groups by a thrust contact. This tectonic contact has also helped in establishing the separate identities of the Pira and Dighor groups in Lesser Himalayan zone of the Doda area. All the thrust sheets are overlapped in the SE direction forming Schuppen structure.

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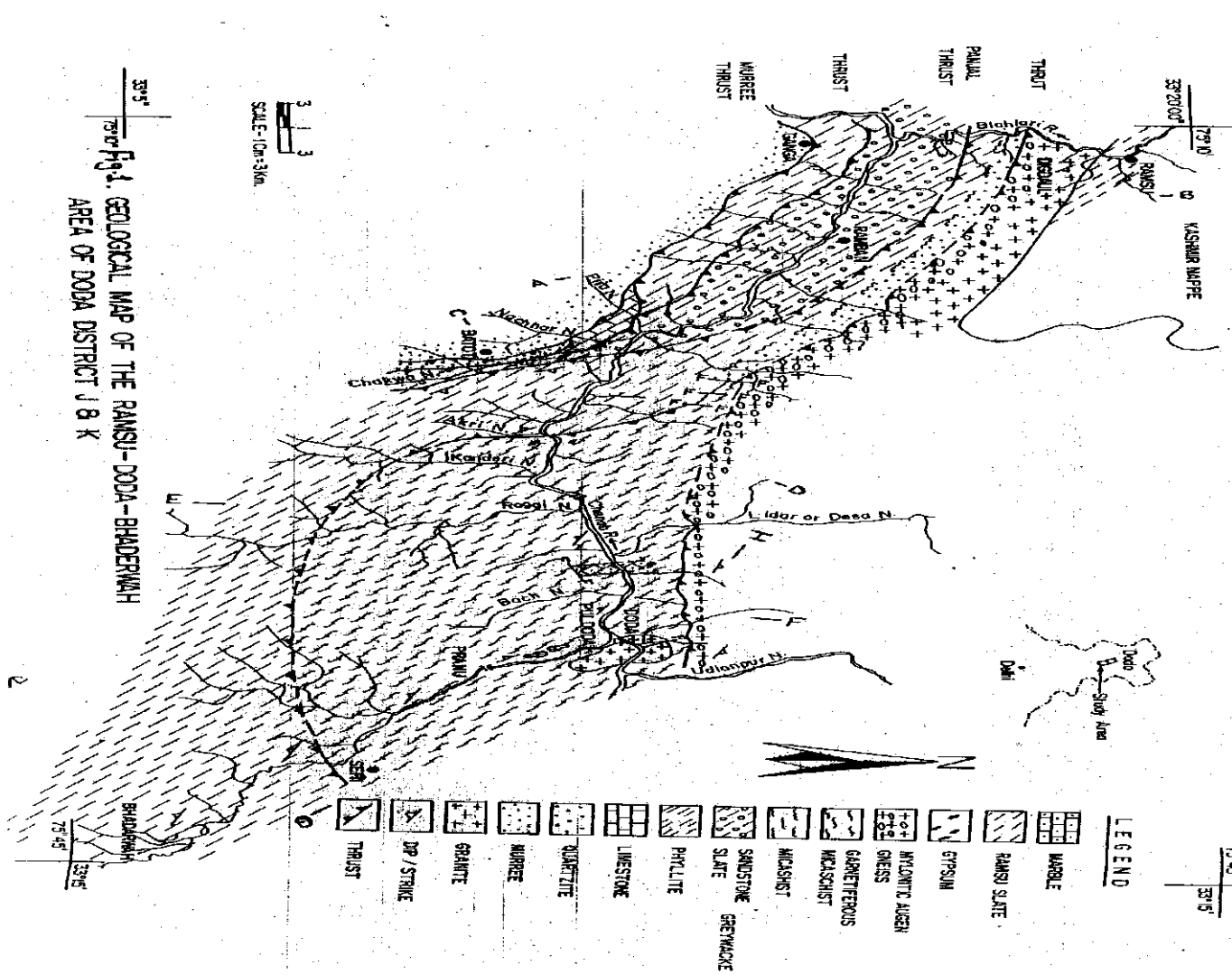


Fig.1

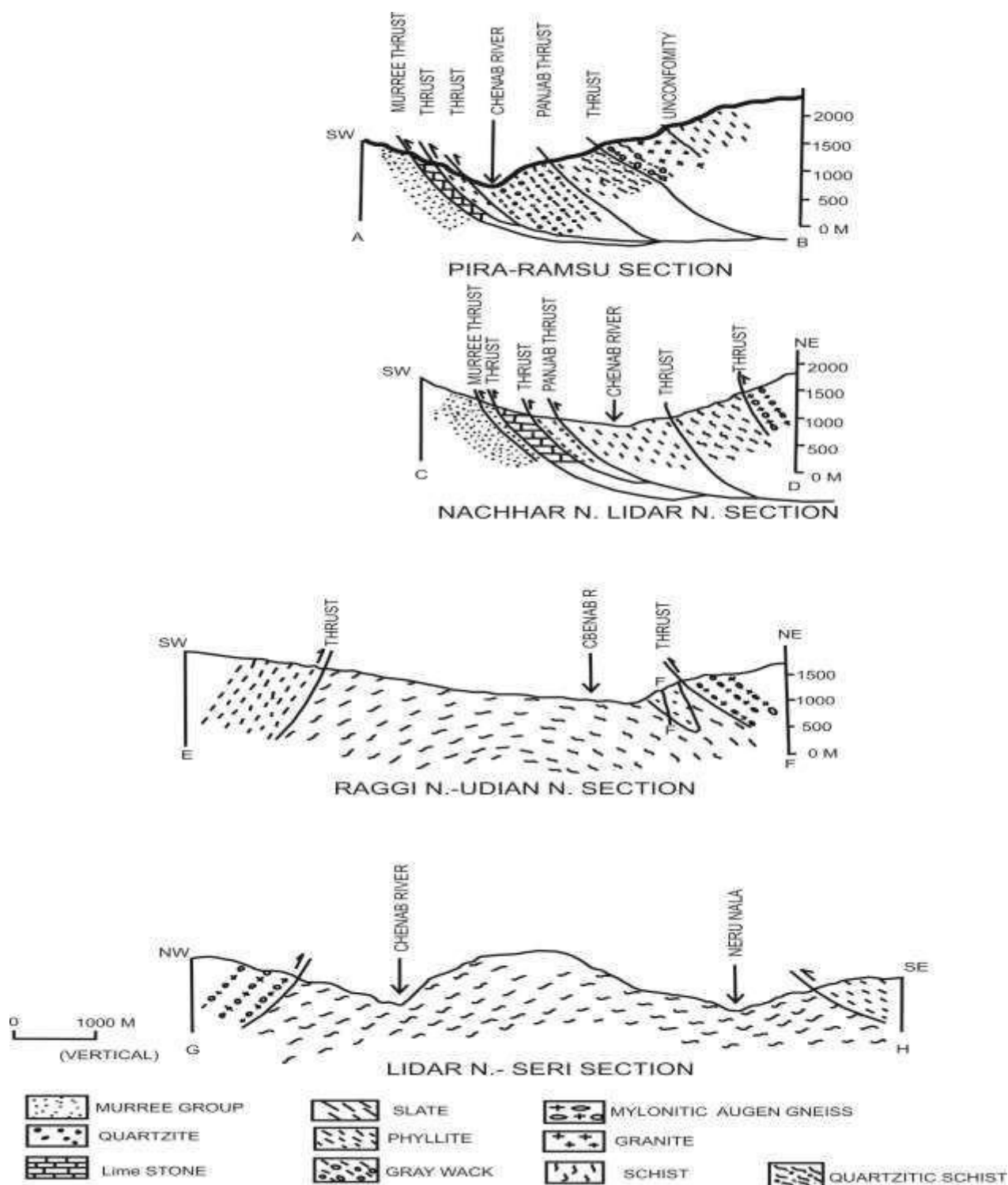


Fig2. i) along Pira–Ramsu, ii) along Nachhar Nala – Lidar Nala, iii) along Raggi Nala – UdianNala, iv) along Lidar Nala – Seri, are given in Fig. 2(a), 2(b), 2(c), and Fig. 2(d) respectively.



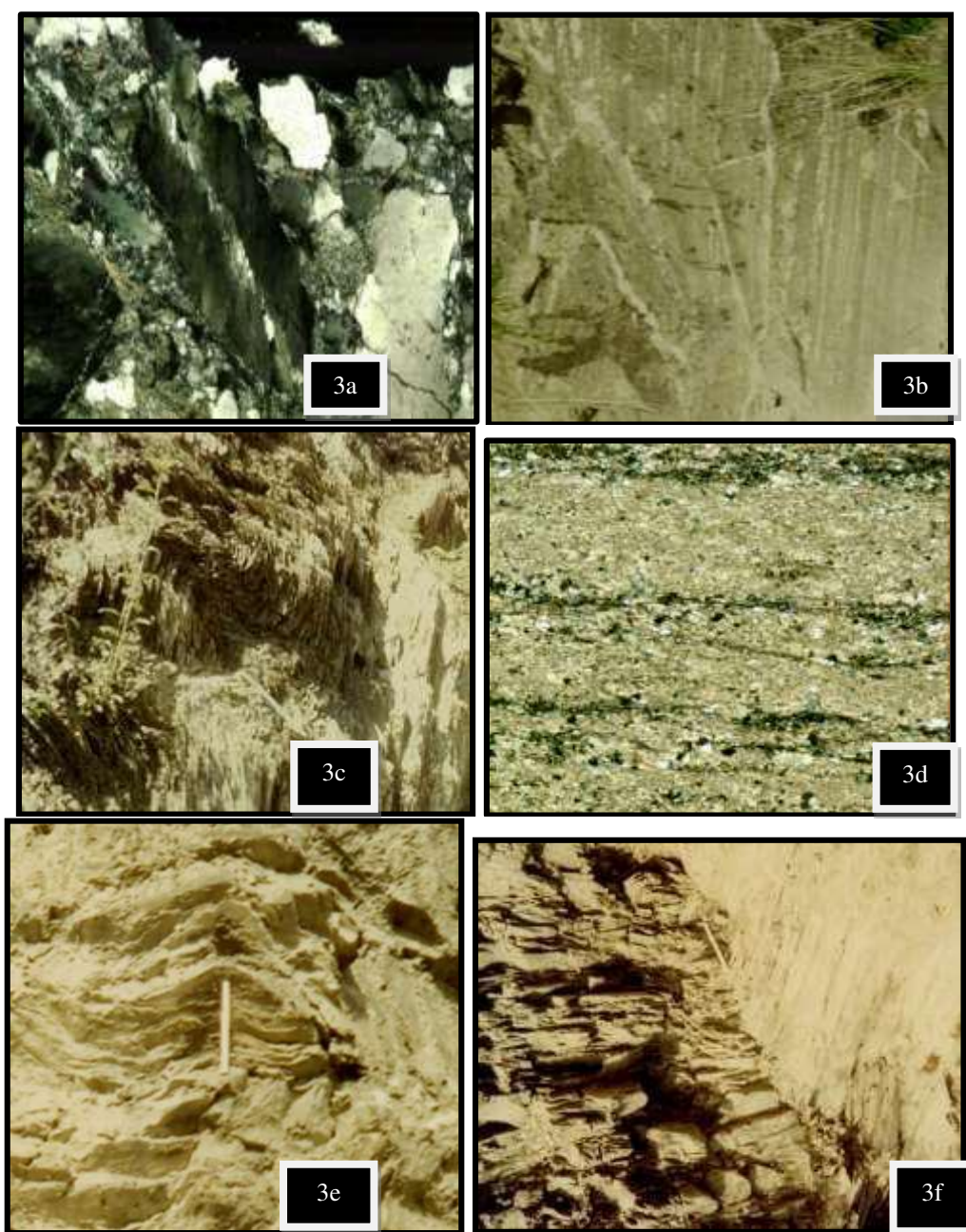


Fig. 3a) Stretched elongate, aligned strained quartz grain showing recrystallisation, granulation and intercrystalline plastic deformation (x63). Fig.3b) Quartz veins showing swell and pinch structures in limestone. Fig.3c) Folded schistosity and crenulations are present in phyllite. Fig.3d) Fine grained mica gives planar fissility in slate (x25). Fig.3e) Open fold is present in garnetiferous mica schist of Salkhala Group. Fig.3f) Brittle shear developed along the hinge of the  $F_2$  fold in garnetiferous mica schist of Salkhala Group.

Deformation phases	D <sub>1</sub>		D <sub>2</sub>		D <sub>3</sub>	
	Syn	Post	Syn	Post	Syn	Post
Quartz						
Feldspar						
Muscovite						
Biotite						
Garnet						
Staurolite						
Kyanite						
Chlorite						
Metamorphic Stage	M <sub>1</sub>		M <sub>2</sub>		M <sub>3</sub>	
Schistosity	S <sub>1</sub>		S <sub>2</sub>		S <sub>3</sub> (indeterminate)	

## RELATION BETWEEN THE PHASES OF METAMORPHISM MINERAL GROWTH AND DEFORMATION

Table: 2

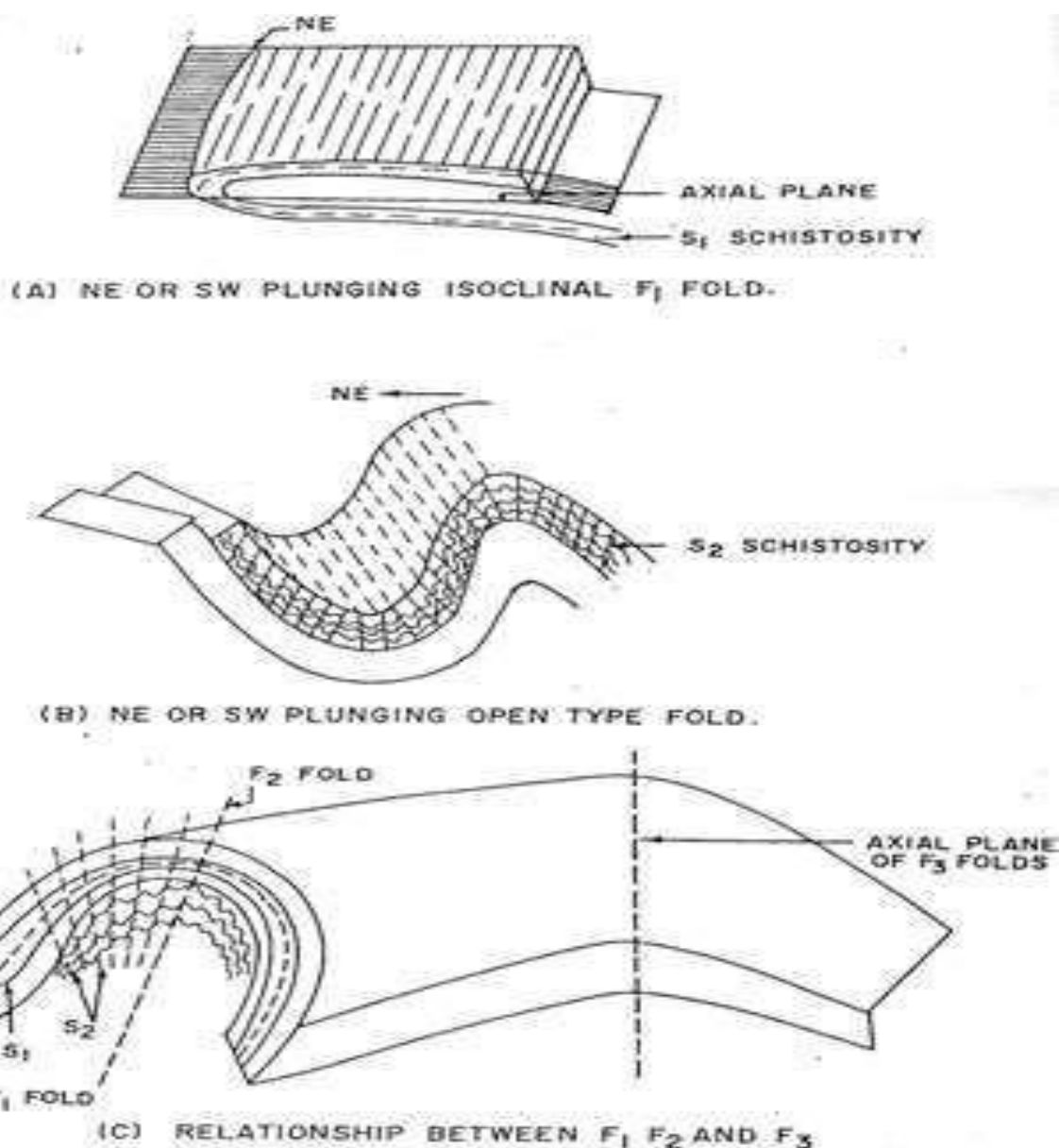


Table 3 Three Generations of Folds. Table 3 (A) NE or SW plunging  $F_1$  fold. Table 3 (B) NE or SW plunging open type of folds. Table 3(C) Relationship between  $F_1$ ,  $F_2$  and  $F_3$  folds.

## National Conference on Recent Trends in Research

11<sup>th</sup> March, 2018 at Jai Narain Vyas University, Jodhpur, Rajasthan, India.

### Changing trends in market towards beauty care industry : A conceptual study of global beauty market

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**Abstract:** Today's changing scenario demands high-quality, sophisticated and distinctive services from beauty industries. This is the key to survive and sustain in this competitive environment and do progress in this sector. With rising per capita income across the country, people have become too much concerned with their beauty and appearance. One of the main reasons for the popularity of beauty service industries in India is changing lifestyles and adopting foreign culture. To look presentable and attractive is the foremost requirement of the corporate sectors. Females who are working in national and multinational companies also need maintenance and care, provided by professionals. Hence many beauty care salons are establishing at every nook and corner. In the contemporary age appearance and presentation are given prime importance, finding a vast scope in this sector, beauty service industry is growing steadily not only in India but also worldwide.

The global beauty market mainly divided into five business segments – hair care, skin care, color (make up) fragrances & toiletries. This paper mainly focused on recent trends in market towards beauty care industry & changing present & future market towards global beauty care industry.

#### 1. INTRODUCTION:

##### Beauty & Fashion Awareness –

Beauty and trends market has experienced dramatic transformation in the last few decades, this includes the segment of then trance of prestige brands into mass markets, the selection of mineral beautifying agents, the execution of organic and natural items, and the exploitation of the Internet and social networking sites to build up augmented brands.

##### Recent trend in beauty care industry



#### 2. LITERATURE REVIEW :

With the growing importance of physical beauty and attractiveness, beauty parlors and spas are rapidly increasing (Star Lifestyle 2009). A beauty salon is an enterprise dealing with cosmetic treatments of men and women. Beauty salons provide generalized services related to skin health, facial aesthetic, and foot care, aromatherapy, (i.e., massage, facial, manicure, pedicure, waxing, etc.) even meditation, oxygen therapy, mud baths, and innumerable other services (Schwar & Danes vary 2000).

According to the industry experts, the term "parlor" can be explained as a place that offers specialized services along with regular services equipped with all the modern facilities. Parlors and salons set the beauty trends and anew swagof the modern industries. They usually target the high profile beauty conscious customer segments.



May Fair, after that, in the 1980s, Bollywood (Mumbai, formerly known as Bombay, based Indian film industry) actress created an image of women with a complete makeover. Since the 1990s, as satellite TV was forecasting its beauty enigma on urban women, second-generation beauticians started to enter into the industry with sophisticated and educated grooming. This new generation of beauticians has turned the hobby of homemakers into a profession (**Parveen 2006**). As a result, there are over 2,000 parlors and salons across the country (**Rahman 2010**). Now mothers, housewives, students, professionals, and brides all kinds of women from the age group of 18 visit beauty salons and spas for beauty and health care services (**Pritom 2009**). **Zahid (2007)**. With the clients becoming increasingly well-informed, the beauty-care industry in Bangladesh is under pressure to raise the quality of its services (**Star Lifestyle 2009**).

In the world of services, it is exceptionally very difficult to escape from the thought of "customers are king" or "customers are always right". Service providers need to be competitive to gain profits by fulfilling customer's desires and requirements and attending their issue and problems. In the beauty salon industry, holding profitable customers is very crucial for regular high earnings. To hold customers, there is a need to carefully assess the significance of the purchaser's need in relation to the organization (**Freeman, 2003**). Many service providers frequently lost their customer to competitors because of their inability to fulfill the customers' requirements. Above all customer's satisfaction can be managed by a long-term relationship with the customers by the service providers.

**Elif A. Ergin et al (2011)**, conducted a research study with a view to deciding brand loyalty among Turkish women concerning skin-care items and empowering cosmetic companies to infiltrate to the Turkish market and to shape marketing techniques. The outcomes demonstrated that there is a brand loyalty among Turkish women for cosmetic items or products.

**Stephen et al (2007)**, investigated the impact of brand image benefits on satisfaction and loyalty goal for the color cosmetic item or product. Results revealed that brand image benefits as being useful, social, experiential and appearance enhancing are positively identified with general satisfaction and loyalty goal which is altogether influenced by usefulness and appearance booster.

**Mermelstein & Felding (2007)**, In the modern time a new trend is developing and the male grooming industry is blooming since customers are progressively adopting new and western styles. The gap has abbreviated these days between men and women by introducing beauty care items for males of their interest. Even skin care items have been introduced to satisfy their concerns for look and appearance; for attractive and bright skin tone, to sustain the skin nourishment, for anti-aging treatment, body and hair care etc. Spa centers or even beauty institutions have been increasing day by day.

### **3. CHANGING SCENARIO OF BEAUTY CARE PRODUCTS**

From the blog **Euro monitor International (2017)** at the county level, two countries Brazil and Russia have successfully restored their significance among the potential development markets with special reference to beauty care industries. These countries have gained remarkable positions in the beauty and fashion industries. Whilst the financial or economic situations improved in Brazil, mark administrators likewise depended on measures, for example, careful advances and promotional offers to maintain request in place. In the interim, Russia was also backed and supported by few neighborhood players, for example, Natura Siberica and Faberlic, and higher spending in Russian high avenues, as consumers turn away from shopping destinations, for example, Paris, and London, and spent less in travel retail. These flow helped Brazil and Russia post developments of 4.8% and 9.8%, independently.

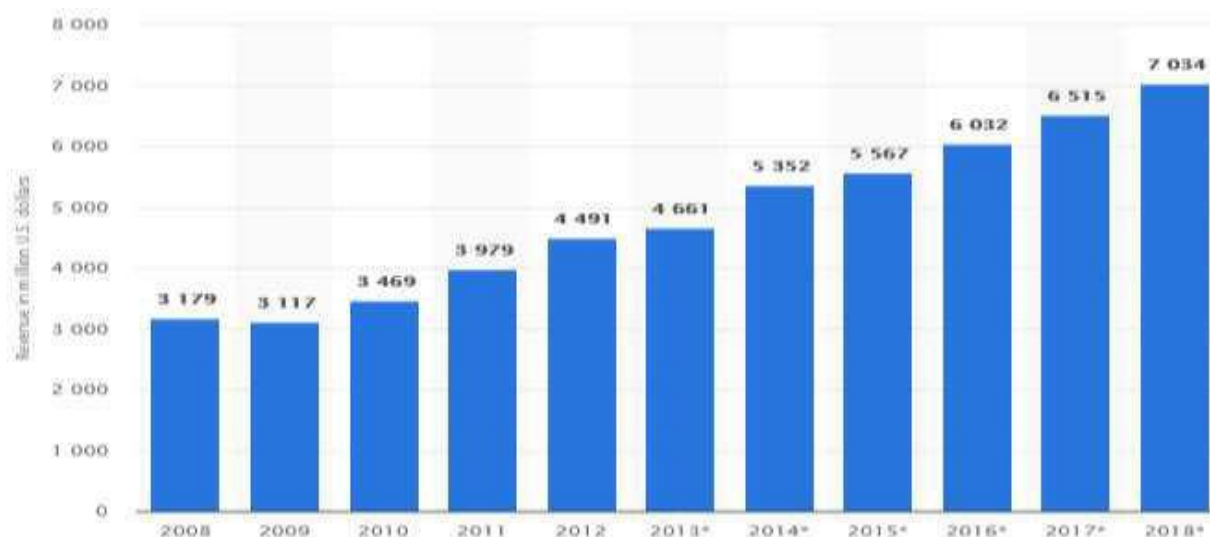
Previously it was expected that dynamic development in 2016 will be maintained by India and Indonesia, at 9.2% and 10.6%, while their market measure about multiplied more than 2011-2016 to achieve US\$12 billion and US\$4.6 billion, distinctively. Projections point to comparative elements, with India anticipated that would experience the pain in the short-term from demonetization, however, is required to get back rapidly as retailers strengthen cashless transactions and emphasized on digital banking.

### **4. PREVIOUS 5 YEAR GROWTH DATA OR PRODUCT GROWTH PERCENTAGE DATA**

In the year 2016, the global cosmetic market witnessed a quadruple growth and grew at an expected rate of four percent in comparison with the previous year. Fundamental product classifications of the cosmetic market are categorized into Skincare, hair care, makeup, scents, toiletries and antiperspirants, and oral cosmetics. Skincare was considered as the major class, depicting around 36 percent of the worldwide market. Hair care products contribute a further 23 percent, while makeup presents only 18.2 percent in 2016. The healthy and clear skin has continuously been the figure to remain the highest beneficial product classification, as its market esteem is estimated to develop by 20.1 billion U.S. dollars in the vicinity of 5 years from 2014 to 2019. Commencing in 2016, Asia and Oceania were the major business pioneers, representing around 40 percent share of the worldwide market. Also in the vicinity of 2016 and 2021, the Asia Pacific mass beauty market is anticipated to expand by about 14.9 billion U.S. dollars in sales.

The mass production of cosmetics and beauty products is composed of a humble bunch of multi-national companies. L'Oréal, Unilever, Procter and Gamble Co., The Estee Lauder Companies, Shiseido Company, and Lancôme. Originating in 1916, the French cosmetics organization L'Oréal was the dominant beauty producer in the whole world, creating around 28.6 billion U.S. dollars in income that year from beauty products. This organization retained the main individual care mark around the world, L'Oréal Paris, esteemed at 23.89 billion U.S. dollars in 2017. This market pioneer was also equally one of the major organizations in cosmetic development, enlisting comprehensive of 314 licenses in 2015.

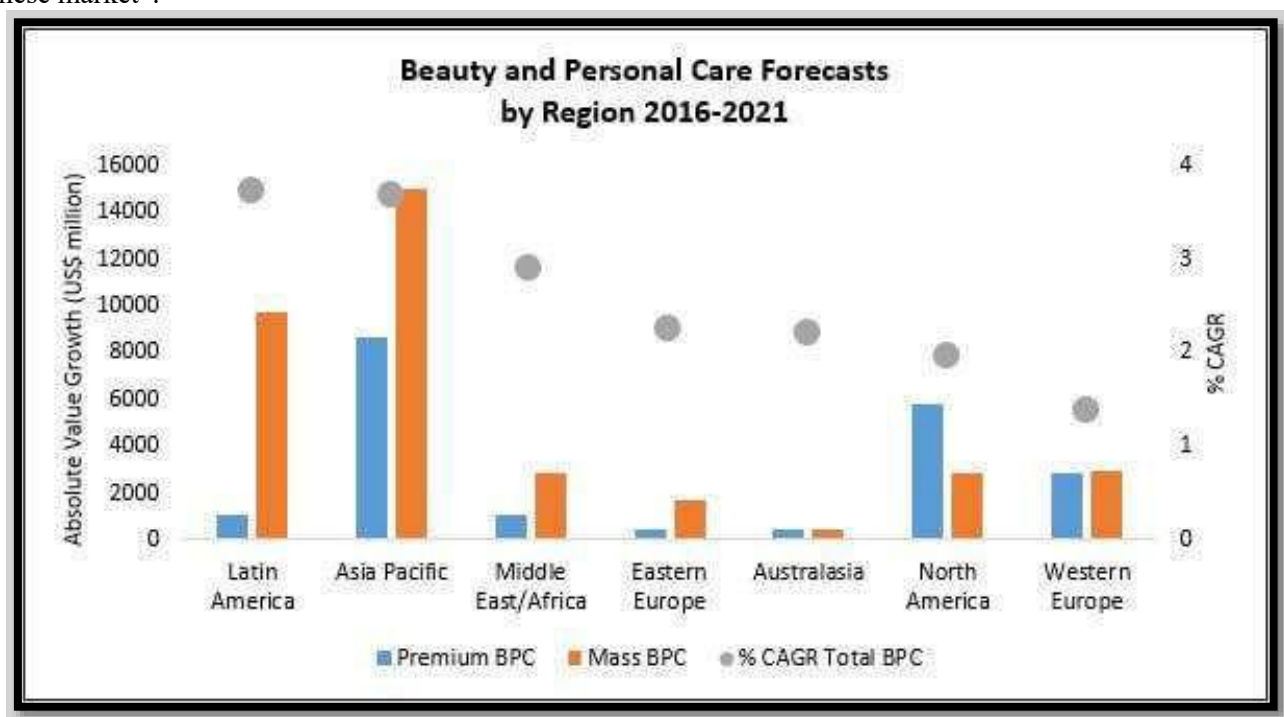
**Revenue of cosmetics and toiletries store retail (SIC 47.75) in India from 2008 to 2018 (in million U.S. dollars)**



This statistic demonstrates the revenue of cosmetics and toiletries store retail in India from 2008 to 2012, with a projection until 2018. In 2010, incomes of cosmetics and toiletries store retail in India added up to around 3.47 billion U.S. dollars.

## 5. FUTURE LOOKING MORE PREMIUM

It has been recognized that the “BPC (Beauty and Personal Care) forecasts points to an increasingly more premium future over 2016-2021, with a CAGR of 3.6%, estimate to 2.4% in the mass section. China and the US are estimated to contribute 54% of the US\$20.3billion in absolute gains in premium beauty over the forecast phase, with China likely to catch up with the US in terms of contribution to absolute gains, reinforcement the effectiveness of the Chinese market”.



Source: <https://blog.euromonitor.com/2017/05/reimagining-growth-in-the-global-beauty-industry.html>



This is more obvious in discretionary categories, as more wonderful esteem is conveyed by premium brands. With the finest shading and coloring, beautifying estimated foreseen to widen at a CAGR of 4.2% more than 2016-2021 all-inclusive, the aggregate categorization can possibly outshine hair care as the second largest category beyond this forecast period, as the gap in value sales narrows.

Whereas international mass shading/coloring beautifiers or cosmetics and healthy skin continues to be more grounded than the top notch section, estimated to add US\$6 billion and US\$12 billion in complete gains, individually, the key areas of North America and Western Europe discover a more beneficial perspective for the top notch section. Possibly, mass healthy skin and shading beautifying agents may come across an indistinguishable destiny from mass scents, which is witnessing a decrease in North America (- 2.5% CAGR more than 2016-2021), while in Western Europe, projection reveals a level 0.1% CAGR over a similar phase. These two districts are presently premium-commanded in scents. The quality enhancement slant, predominant in unrestricted categories, is aggressively pushing mass brands toward this course, simply to get by in the commercial center, as more buyers seek for the quality and item comes about related with premium facts.

## **6. FUTURE FORECAST**

As indicated by industry experts, the market size of India's beauty, cosmetics, and grooming market will reach 20 billion dollars by 2025 from the current level of 6.5 billion dollars. The continuously mounting awareness of personal care products, rising dispensable salaries, changes in deployment examples and ways of life and improved purchasing potential of females, exciting times for the personal care industry. All these trends are estimated to dramatically boost the personal care market in India and elevate the consumption of personal care products and services, thereby contributing widespread opportunities for domestic and international players.

**World Beauty companies coming in India & promote their product –**

(Source: - <http://www.stylecraze.com/articles/top-10-make-up-brands-in-india/#gref>)

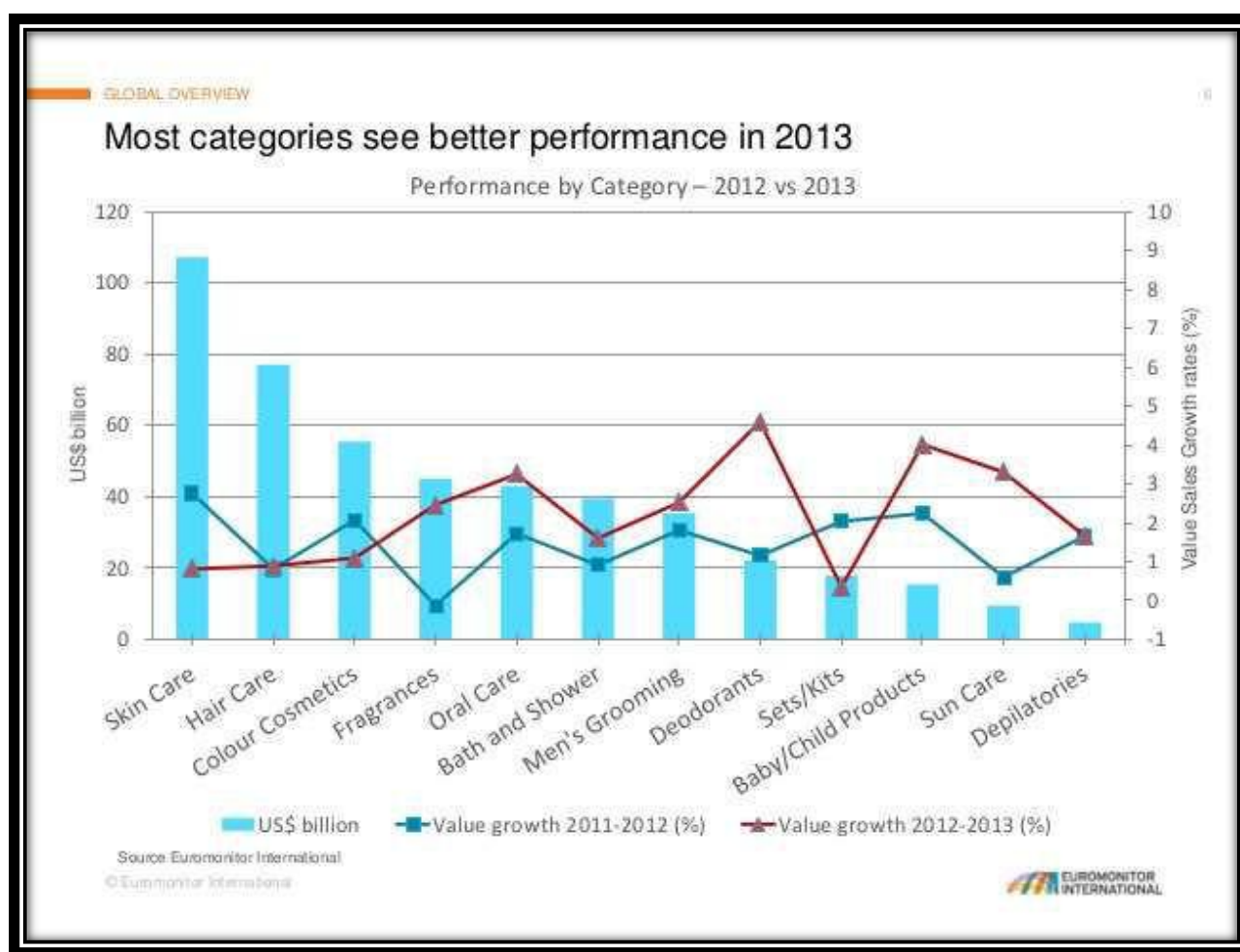
### **• 15 Best Makeup Brands in India**

1. Mac
2. L'oreal
3. Lakme
4. May belline
5. NYX
6. Bobbie Brown
7. Colorbar
8. L.A.Girl
9. Avon
10. The Body Shop
11. Clinique
12. Revlon
13. Pac
14. Make up revolution
15. The Balm Cosmetics

## **7. ANATOMY OF THE GLOBAL BEAUTY MARKET**

According to **Lopaciuk & Loboda (2013)** "In the last two decades, Global Beauty Market has grown by 4.5% a year on average (CAGR), with annual growth rates fluctuating from around 3% to 5.5%. Also known as Cosmetics and Toiletries or Personal Care Products, this market has established both its ability to achieve steady and continuous growth as well as its capacity for flexibility in critical economic conditions".

The International Beauty Market is typically divided into five main business segments: skincare, haircare, color (make-up), fragrances and toiletries. These five sections are complementary to each other and through their wide diversity, they are able to cater the needs of all consumers' and fulfill their expectations with regard to cosmetics.

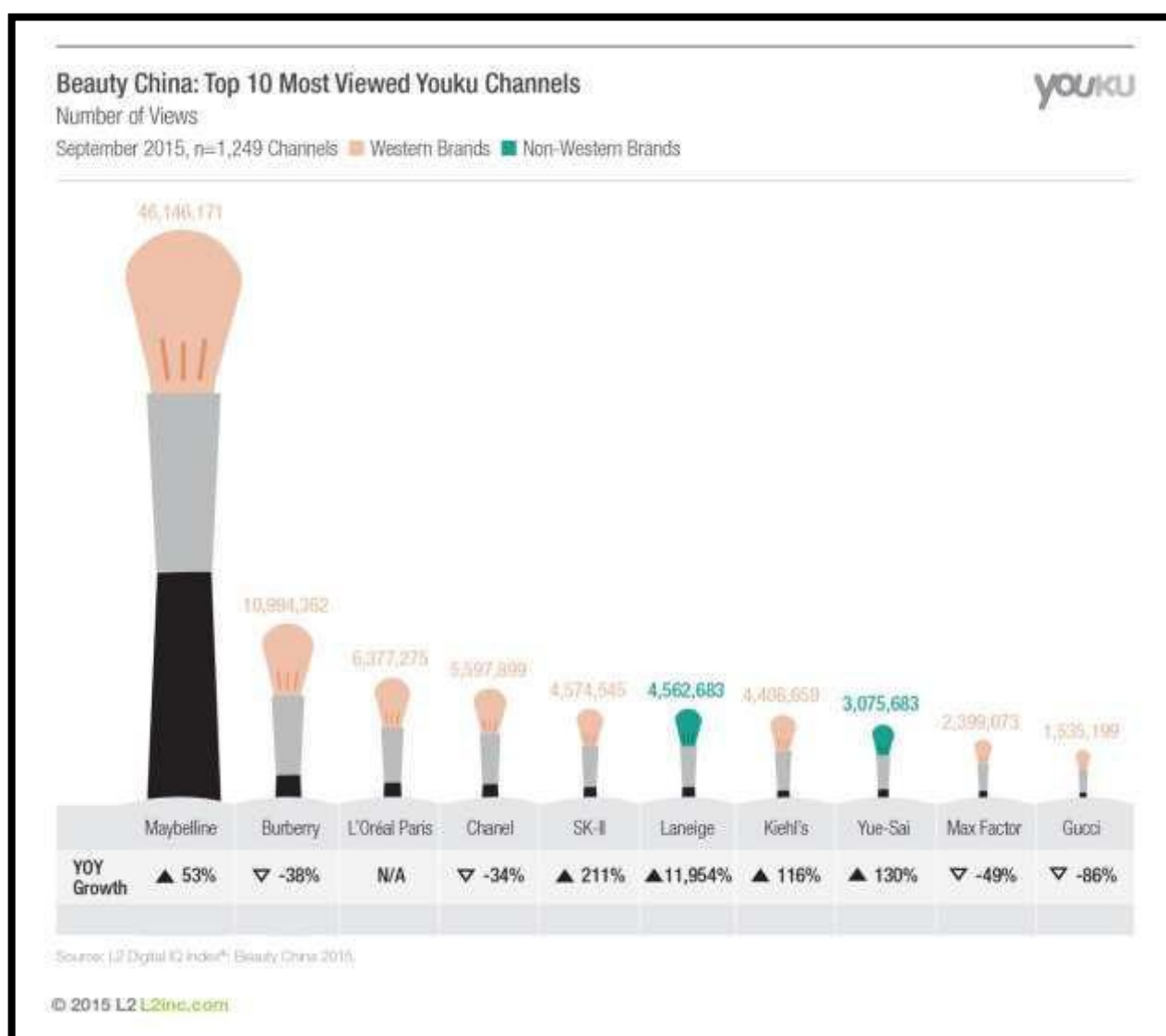


Beauty products can be also be broadly subdivided into premium and mass production segments, depending upon the brand prestige, price and distribution channels used. In another national view, the mass segment represented 72% of total sales in 2010, whereas the premium segment accounted for the remaining 28%. The majority of global premium cosmetics sales is concentrated within the developed markets (**mostly US, Japan, and France**) (Barbalova, 2011).

## 8. PRODUCT CATEGORY TRENDS

The beauty care products industry is basically involved in manufacturing beauty products that are externally applied to augment the beauty of skin, hair, nails, lips, and eyes. The industry incorporates manufacturers' segment revenue related to beauty care products. The beauty business worldwide was adversely impacted by the 2009 recession but improved smartly in 2016 as the global economy improved marginally.

As per the study, higher demand for luxury products (cosmetics) is realized due to increased awareness. Providing good quality products at a reasonably low cost is a challenge for manufacturers. Skincare, the biggest segment, indicates healthy growth prospects for the forecast period. Rise in the demand for multi-feature products viz. moisturizing cream with sun protection and anti-aging or anti-wrinkle properties are likely to determine market growth. Hair care is the second-largest section and represents good future growth potential. The cosmetics segment also has growth potential as demand is increasing for premium cosmetics in the expanding middle class in developing nations.



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## National Conference on Recent Trends in Research

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### Definitional Issues in Social Entrepreneurship: a review

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**Abstract:** Social entrepreneurship has been gaining greater momentum from the public sector as well as from scholars. However, there is a lack of unifying paradigm in the field of social entrepreneurship that leads to proliferation of definitions of social entrepreneurship. In fact the debate on social entrepreneurship is emerged as a serious issue in research and academia. Since existing researchers and research organizations are unable to provide a unified and universal definition of social entrepreneurship, many researchers who are working on social entrepreneurship are requested to develop a universally accepted definition in order to understand and observe the phenomena of social entrepreneurship. The objective of this paper is to clarify the definitional part of social entrepreneurship. The paper will review different literatures on social entrepreneurship available in reputed academic journals. The study will focus on various definitional issues on social entrepreneurship.

**Keywords:** Social entrepreneurship, definitions,

#### 1. Social Entrepreneurship: The urgency of a definition

In recent years, Social entrepreneurship has received greater importance from the public sector, along with scholars from various disciplines (Stryjan 2006; Weerawardhena and Sullivan Mort 2006; Nicholls 2008). The concept of social entrepreneurship has not uniformity among scholars and is poorly defined till now. Its reach to other fields of study remain complex and unclear (Mair and Marti 2006). Still, it has not been treated as an independent. Social enterprises has at least two merits in current scenario i.e. innovativeness in solving social problems, which are becoming more challenging and complicated has been noticed by numerous scholars (e.g. Johnson 2000; Thompson, Alvy, and Lees 2000) and this entrepreneurial practice of innovativeness contains unclear lines between private and public sectors which is the genesis of hybrid organisation (Wallace 1999; Johnson 2000) which is directed by strategies of dual value creation- social and economic (Alter 2004). The emerging phenomena of growth of social enterprise is also seen as a response to the funding problems of non profits (Dees 1998a,b) and the financial risk involved to run social enterprise (Young 2001). A consensus has emerged among scholars (Dees 1998a,b; weerawardhena and Sullivan Mort 2006) that due to lack of conceptual clarity, there is a need to define social enterprise more clearly.

Social entrepreneurship is made of two words: Social and entrepreneurship. An understanding of meaning of these two words i.e. social and entrepreneurship would help to unearth its meaning, shows how it differentiates itself from commercial/ traditional entrepreneurship and the manner in which it is similar traditional entrepreneurship.

#### 2. Research Questions:

The review of literatures in social entrepreneurship shows that the definition of social entrepreneurship is also included regional context also (Seelos and Mair, 2005). Therefore, the proposed study is intended to fill definitional related issues in social entrepreneurship. With regards to social entrepreneurship and its association with other factors, the study is attempt to answer on following research questions based on earlier studies: (1) What should be viable definition on social entrepreneurship in developing economies? (2) How various definitions on social entrepreneurship are unable to capture the definitional issues? (3) How the various types of social venture affect human livelihoods and future probability of a new venture in a region (Zahra et al., 2009)? (4) How can we measure the social value in social entrepreneurship?

##### 2.1. Research Objectives

Relevant to mentioned research questions and to achieve them the study is focus of following objectives: (1) To identify the significant definition of social entrepreneurship through literature review. (2) To examine a crucial research gap to do further research on social entrepreneurship.

##### 2.2 Research Methodology

The Social entrepreneurship literature is visible in top tier management and entrepreneurship journals.

To capture the body of knowledge in social entrepreneurship area, this study has drawn articles from the journals related to management and entrepreneurship.

### **3. The social element in social entrepreneurship**

There is a common things observed in the literature that there has been unanimity among scholars about its central theme of social mission or social value creation (Dees 1998; Dees et al.2001; Austin et al.2006 a, b; Dorado 2006). Opportunities are found out to provide solution to social problem or satisfy social needs, thereby creating social value (Seelos and Mair 2005b; Mair and Marti 2006 ;). Social entrepreneurs are treated as change agents in social economy (Dees 1998; Nicholls 2008). They can provide systematic and sustainable solution to societal problem. Social entrepreneurs have a business models for efficiently meeting to basic human needs that existing markets and exiting institutions have failed to satisfy these needs and made contribution to sustainable development. There is a common limitations found in literatures is that term “social” should be defined clearly and its definition should moves around social needs, social values and equilibrium in creation and mapping of value that supports the beneficiaries (Phils, 2009).

#### **3.1 Difference between Social and commercial entrepreneurship: Same, different or both?**

In Social entrepreneurship, social mission is one of the most important criteria used by scholars to distinguish social entrepreneurship from commercial entrepreneurship (Dees 1998; Austin et al. 2006).

Lumpkin et.al. (2013) find that SE differs from commercial enterprises in terms of their social motivation/ mission, opportunity identification, access to capital and engagement of multiple stakeholders.

Austin et.al (2006) compare and contrast social entrepreneurship with commercial entrepreneurship. They give argument that in spite of common elements between social entrepreneurship and commercial enterprises. They made differences based on four dimensions.

- a. Market failure: there is an opportunity difference due to market failure. The same market failure may have different meaning and direction for creation of social and commercial enterprises.
- b. Mission- In social entrepreneurship, creating social value through a social mission is an important while private gains are primary objective of commercial entrepreneurship. The differences in mission of both social entrepreneurship and commercial entrepreneurship occur due to management, motivation and tension between process of commercial and social enterprise.
- c. Mobilization of human and financial resources: Here, both social and commercial entrepreneurs use different approaches in mobilising or managing resources of an organisation i.e. financial and human resources. social entrepreneurs depends on a range of funding sources including personal contributions, foundation grants, membership dues, user fees and government payments.
- d. Measurement of performance- Measurement of performance as social impact is key differentiator of social and commercial entrepreneurship. Performance measurement in commercial enterprise is based on financial performance. The performance measurement process in social enterprise is not unique and standardise and more idiosyncratic to the particular organization. It makes complication in accountability and stakeholders relations.

The above mentioned differences provides clarity on concepts of social entrepreneurship and based on these four factors i.e. People-Context-Deal-Opportunity framework to investigate how they may lead to meaningful differences in social entrepreneurial phenomenon.

Similarly, Dorado (2006) made a comparison between commercial entrepreneurial venture and social entrepreneurial venture based on three criteria – opportunity definition, resource leverages and organisation building. She discovered that commercial entrepreneurial ventures and social entrepreneurial ventures have many differentiating factors like ‘double bottom line’ in the mission (Dees 1998). There is inclusion of both the commercial and social dimensions that leads to source of tension (Austin et al. 2006). In social enterprise, the social mission is not overlooked by profit maximization.

Trivedi and Stokols made a comparison between social enterprises and commercial enterprises on these dimensions (i) the purpose of their existence – social goal; (ii) role played by social entrepreneur; (iii) elements of innovation to solve social problem( iv) generating and utilizing economic profit as a means to solve social problems. Due to these differences, most of the findings on entrepreneurship may not hold true and rigorous research is required on social entrepreneurial ventures (Dorado 2006).

Apart from above mentioned differences, the measurement of social impact and social value creation created by social enterprise is crucial for the social entrepreneur himself/ herself as well as the donor, funding agencies or grant makers , and other stake holders.

#### **3.2 Entrepreneurial elements**

Social entrepreneurs utilize various entrepreneurial opportunities such as opportunity identification, innovation in order to obtain social mission of a social enterprise (Nicholls 2006).

- a. Opportunity identification – A maximum number of literatures on social entrepreneurship gives emphasis on opportunities for social mission (Dees et al. 2001; Austin et al. 2006). This contains finding source of opportunities, globalisation of opportunities related to social entrepreneurship, different types of social enterprise, distinguish factors between social and commercial entrepreneurship and investigation of the way in which opportunities develop in social entrepreneurship in empirical way (Corner and Ho 2010). The sources of entrepreneurial opportunities in social entrepreneurship are activism, self – help and philanthropy (Hockerts 2006). The opportunities related to social entrepreneurial activities are available in various sectors such as demographic, financial area, nutritional, resources management, environmental, health, gender, educational, digital and security.
- b. Resource mobilisation – It has also recognized as an important area to ponder among scholars because of its directly linkage to social mission (Dees et.al. 2001). There are several studies have been conducted to explore resource mobilisation in social entrepreneurship. Domenico et al. (2001) has identified three more construct for theory building i.e. social value creation, stake holder participation and persuasion in acquiring resources in resource scarce environment.
- c. Innovation- The review of literature indicated that innovation is an integral element of entrepreneurial activity social enterprise but there is a little attempt has been made to study innovation. Innovation is a tool by which entrepreneurs exploit an entrepreneurial opportunity (Ducker 1986). It is found that in most of the definitions of social enterprise (Dees 1998; Skollfoundation.org; [www.ashoka.org](http://www.ashoka.org); Weerawardena and Mort 2006) also add innovation as a tool to create social value in social entrepreneurial process.
- d. Risk taking- Risk taking in social enterprise is also emerged as under explored area of research. In the context of social entrepreneurship, research on risk taking is still lack in the current literature of social entrepreneurial literature. However, only few literatures have captured risk factors associated with social enterprise. Weerawardena and Mort (2006) discovered that risk taking behaviour of social entrepreneurs is related to build sustainable organisation.
- e. Context- The context in which social entrepreneurial activities are embedded has been given importance by scholars (Mair and Marti; Austin et al. 2006, Weerawardena and Mort 2006; Dorado 2006). There is continuous interaction between social entrepreneurs and the context in which they operate. Therefore, in the social entrepreneurship, contextual elements i.e. macro economy, tax and regulatory bodies and social and political environment are equally important as those in commercial enterprise (Austin et al. 2006). Social entrepreneurship is multidimensional model and social value is affected by three factors- desire to achieve social mission, need to build a sustainable enterprise and consistent requirements of operational environment or dynamics of environment (Weerawardhana and Mort 2006).

#### **4. Conclusions and Future Research Direction**

Social entrepreneurship is gaining momentum in research fraternity because of its ability to solve societal problems. Social entrepreneurs are seen as an agent of change, because they generate social value and bring social change during solving social problem. The literature review shows that the existence of conceptual differences in literature of social enterprise. However, there is uniformity on social mission and social value creation. Social entrepreneurship is a dual combination of entrepreneurship and social mission. The descriptive findings based on available literatures suggest that social entrepreneurship do not have uniformity in its definition (Choi and Majumdar, 2014). Therefore, there is an urgency of an appropriate definition on social entrepreneurship (Seelos and Mair, 2005; Choi and Majumdar, 2014). The present study compels that scholars to reach a common consensus on definitional issues social entrepreneurship in order to understand social entrepreneurial phenomena in better way (Seelos and Mair, 2005; Choi and Majumdar, 2014). Apart from these, the empirical papers and conceptual papers will help in framing uniformity in definitional issues of social enterprise (Sinkovics et al., 2014).

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## National Conference on Recent Trends in Research

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### DECISION MAKING AND SYADVAD

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**Abstract:** Decision making is one of the most important functions of management, so much so that some thinkers pronounce it synonymous to management. Now, the questions arises that how to make the management decision wholesome and sound. The answer could be derived from the philosophy of Syadvad from Jainism. The philosophy of Syadvad vouches for encompassing diverse opinions, as each person has his own Naya i.e. point of view. And, only after including the diverse opinions (nayas) can he reach the good decision. Therefore, the manager would do well to embrace the various view points to arrive at the optimum decision.

**Key Words:** Decision making, Inclusion, manager, Syadvad, Naya.

#### 1. INTRODUCTION:

Jainism takes its stand on the relativity of knowledge, the obvious fact that the relations of the objects within the world are not fixed or independent, but are the results of interpretations. Only Kevala or perfect knowledge comprehends all substances and their modifications. It is omniscience unlimited by space, time or object. To the perfect consciousness the whole reality is obvious. This knowledge, which is independent of the sense, which can be felt and not described, is possible only for purified souls free from bondage. According to jainism knowledge is of two forms, pramana, or knowledge of a thing as it is in itself, and naya, or knowledge of a thing in its relation. The doctrine of nayas or standpoints is a peculiar feature of the jaina logic. A naya is a standpoint from which one makes a statement about a thing. One defines and separates one's standpoints by abstraction. The conceptions that belong to them, or partial views, are the outcome of purposes that one pursues. The result of this abstraction and concentration on particular ends is the relativity of knowledge. To occupy one particular standpoint is not to deny the others. Even in Upanishads there are glimpses of how reality reveals itself in different ways at different stages of the knowledge. There are many ways in which nayas are divided. According to one scheme, there are seven nayas, of which four refer to objects or meanings, and three to words, and all these lead to fallacies when taken as absolute and entire. The nayas are as follows-

- Naigamanaya
- Samgrahanaya
- Vyavaharanaya
- Rjusutranaya
- Sabdanaya
- Samabhirudhanaya
- Evambhutanaya

Each of these seven nayas or point of view represents one of the many ways from which a thing can be looked at. If any one point of view is mistaken for the whole there is nayabhasa. The doctrine of nayas or standpoint is a logical one. One can explain by quoting the old story of the six blind men, who each laid hands on a different part of the elephant and tried to describe the whole animal. The man who caught the ear thought that the creature resembled a winnowing fan, the holder of the leg imagined that he was clinging to a big round pillar, etc. It was one who saw the whole that perceived that each had only a portion of the truth. Almost all philosophical disputes arise out of a confusion of standpoints. Let's also take the case of gold necklace. If one considers a gold necklace to be a mere substance, it is the same as the gold of which it is made. But, if we look at the necklace as a modification, it is new and did not exist in the mere substance of gold. Thus, the contributions which each standpoint makes are merely partial views reached by the process of abstraction. The most important use of these standpoints is of course the **Syadvada** or the **saptabhangi**. It is the use in seven different ways of judgments which affirm and negate,

severally and jointly, without self-contradiction, thus discriminating the several qualities of a thing. This view is Syadvada, since it holds that all knowledge to be only probable. Every proposition gives us only a perhaps, a may be or a syad. One cannot affirm or deny anything absolute of any object. There is nothing certain on account of the endless complexity of things. It emphasizes the extremely complex nature of reality and its indefiniteness. It does not deny the possibility of predication, though it disallows absolute or categorical predication. The dynamic character of reality can consist only with relative or conditional predication. Every proposition is true, but only under certain conditions, i.e. hypothetically. Syadvada weds practical ethics to philosophical speculation. Syadvada holds that there are seven different ways of speaking of a thing or its attributes, according to the point of view. There is a point of view from which substance or attribute can be known or perceived.

- Is (syadasti)
- Is not (syadnasti)
- Is and is not (syadastinasti)
- Is unpredictable (syadavaktavya)
- Is and is unpredictable (syadastiavaktavya)
- Is not and is unpredictable (syadnastiavaktavya)
- Is, is not and is unpredictable (syadastinastiavaktavya)

This doctrine insists on the correlativity of affirmation and negation. All judgments are double-edged in their character. All things are existent as well as non-existent (sadasadatmakam). It emphasizes the fundamental truth that distinction is necessary for thought. A thing which has nothing from which it can be distinguished is unthinkable. The fact that one is conscious of the relativity means that one has to reach out to a fuller conception. It is from that higher absolute point of view that the lower relative ones can be explained. All true explanation is from above downwards. It is only in the light of this absolute principle that one shall be able to apply a scale of values to the relative conceptions and estimate their worth. All truth is relative when compared to the absolute truth. All knowledge transcends the given and points beyond itself. With a continuance advance towards fuller and fuller truth, the object itself loses its apparently given character. When we reach absolute knowledge the distinction between subject and object is overcome. Only in the light of such an absolute standard could we correct the abstractions of the lower. The recognition of every form of knowledge as relative, something bound to pass over into something else, requires us to assume a larger reality, an absolute into which all the relatives fall. Now, we take up the case of decision making for the manager. If only the manager follows the concept of Syadvad, he can see a sea change in the quality of his decisions. The experience of traditional, hierarchical organizations has been that senior executives pass down an edict, and that's the decision- one simply has to follow it. What one sees through time is that a collaborative, inclusive leadership and decision-making style is more successful. It gets you more diversity of thinking and experience, more well rounded ideas and better decisions. Of course, there comes a point, when the manager can't have a full democracy where every person and every idea gets fully vetted and reviewed before making a decision. But, the manager finds that once he solicits enough ideas to form a breadth and diversity of knowledge on an issue, he has what he needs to make a decision. The dividend is when he presents his recommendations, he has synthesized many people's ideas into his own, so when people look at that recommendation they see their own ideas reflected, which increases the likelihood that they are going to support it.

If the manager operates from a motivational, influence-based perspective, he draws people in, he draws their ideas in, he draws their energy in, and he uses them. In fact, your opinions are not yours: they are the aggregation of multiple smart people's opinions whom he asks for as input. Then he synthesizes them, consolidates them and makes them his own. This procedure can make for more successful outcomes because he has pulled in other people's ideas, quite often people that are more experienced, smarter than the manager, and that have different viewpoints than him. Ultimately he makes a decision with their inputs and that helps him get everyone on board, but it also helps the manager to make better decision. The decision that is based on diverse information is not only good, but also helps in changing the organization. In a volatile and complex world, predicting the future with precision is a risky business. The manager can be sure, however about four global megatrends that are reshaping the environment and influencing business priorities-

- Diversity of markets
- Diversity of customers
- Diversity of ideas
- Diversity of talent

The simultaneous shifts are the new context. For managers who have perfected their craft in a more homogeneous environment, rapid adjustment is in order. Of course, the core aspects of management such as setting direction and influencing others are timeless, but one sees a new capability that is vital to the way management is executed. One can call it inclusive management. This not only helps him get adapted to a diverse environment, but also that understanding and being adept at inclusive management will help him thrive in the increasingly diverse

environment. According to Francesca Gino, professor of business administration at Harvard Business School, increasing awareness of inclusive decision making can help fight the perils of conformity and sparks an ongoing organizational conversation that keeps diversity top of mind. He further adds that while it is hard to change how the brains are wired, it's possible to change the context of decisions by architecting the composition of decision making teams for more diverse perspective.

Erik Larson, Cloverpop founder and CEO, says that diverse teams bring a broader perspective, identify new choices, reduces bias and improve accountability. He says that even if one thinks a diverse group of colleagues are making decision at work, it's good idea to keep track of which members are participating in decision- making teams. There's a good chance your company isn't using its diverse workforce to make decision but it's difficult to change something you're not aware of, he adds.

## **2. CONCLUSION:**

Thus, the importance of the philosophy of Syadvad in decision making cannot be overemphasized. It's time the wisdom is taken out from the great philosophies and scriptures and imbibed in our day to day life to meliorate our management decisions. This philosophy of Syadvad teaches inclusion in the true sense of the term. The concept of nayas captures the true essence of relativity, and educates that only in encompassing the diverse do we reach the whole. Also, new researches have established that : Diversity + Inclusion = Better Decision at Work. The simple concept of inclusive decision making can bring about faster change. Erik Larson used the Cloverpop decision making database to research on inclusive decision making to understand how much improvement is possible. His study analyzed approximately 600 business decisions made by 200 different business teams in a wide variety of companies over two years. The research shows a direct link between inclusive decision making and better business performance;

- Inclusive teams make better business decisions up to 87% of the time.
- Teams that follow an inclusive process make decisions 2 times faster with ½ the meetings.
- Decisions made and executed by diverse teams delivered 60% better results.

Laura Sherbin, CFO and Director of Research at the centre for talent innovation, says that diversity and inclusion must go hand-in-hand to drive results. Cloverpop's research bolsters the case that employers who build diverse and inclusive teams see the best outcomes. According to the research, teams outperform individual makers 66% of the time, and decision making improves as team diversity increases. Compared to individual decision makers, all male teams make better business decisions 58% of the time, while gender diverse teams do 73% of the time. Teams that also include a wide range of ages and different geographical locations make better business decisions 87% of the time. According to Professor Francesca Gino, Harvard Business School, the research highlights the potential value of team diversity as a practical tool for architecting decision-making process. He says that diverse groups are more likely to encounter operational friction when executing business decisions. In short, less diverse teams make worse decisions, and then diverse teams struggle to put their decisions into actions. The worst situation is to have an all- male team make a decision that is executed by a gender –diverse group. The least diverse group underperformed by 15%. In contrast, our analysis found that the most inclusive decision making and execution team performed 60% better than average. Unfortunately, non inclusive decision making is all too common. It is even worse among the less diverse companies in the Silicon Valley's technology industry. According to Aileen Lee, founder of cowboy ventures, if women and diverse people are not involved in decision making at all levels, then one is putting one's company in vulnerable position. On the flip side, this is a tremendous opportunity for companies to use inclusive decision making to improve business performance. It's the most significant business activity-Bain and company research shows that decision making effectiveness is 95% correlated with financial performance. Making improvement to your company's decision making gives a sure boost to ones bottom line. These data driven insights are a call to arms. Leaders can use inclusive decision making to drive meaningful improvements in months by focusing on people already employed in their organizations. Thus, the philosophy of syadvad completely fits in today's times, and can be so relevant in improving decision-making.

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**WOMEN EMPOWERMENT THROUGH MGNREGA: WITH SPECIAL  
REFERENCE TO UDAIPUR DISTRICT OF RAJASTHAN**

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**Abstract:** *There are various employment programmers generated by our government but MGNREGA found to be the best job guarantee scheme of India. The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), also known as Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) is Indian legislation enacted on August 25, 2005. The MGNREGA provides a legal guarantee for one hundred days of employment in every financial year to adult member of any rural household willing to do public work-related unskilled manual work at the statutory minimum wage. It is also committed to ensure that at least 33% of the workers shall be women. The Act aims to provide livelihood security to rural households and enhance the buying capacity of rural individuals and provides an opportunity for rural women to be economically sound and quite self dependent.*

*Throwing light on the facility of the scheme in empowering women, the paper tries to enunciate the employment and involvement of women in the employment scheme and also aims to spot the impact of MGNREGA on empowering rural women with some policy measures in Udaipur district of Rajasthan. The present paper is based on secondary data, which has collected from the website of MGNREGA, various journals and other sources.*

## 1. INTRODUCTION:

Empowering means enabling people especially women to have control over various economic and social resources and make them able to make decisions on their own to have control over their lives and better their socio-economic and political conditions. "Empowerment" implies a state of mind and attitude of a person. Empowerment is a process which strengthens the competence, capabilities and abilities of people, in general and the oppressed sections in particular. In fact, empowering women and other marginalized groups is essential for the progress and prosperity of nation. Women Empowerment emerges in the form of awareness in women, enables them to face challenges of their life boldly, make them able to develop decision making power and overcome the constraints in their life, which are still the challenges and a way so far for the rural women.

Women comprise over the half of the population in the Indian society. The change in women's contribution to the society is one of the most striking experiences of the country. But women have yet to enjoy the quality of life which they are entitled in theory. Women of rural background have no sound social and economic status, are mostly domesticated and discriminated against the male society and have no employment opportunities which make them economically empowered. Because of the lack of employment opportunities, they are also forced to migrate in search of employment. It can also be seen from our past that rural women are mainly domestic and discriminated; the government enacted various employment schemes which played an important role in empowering rural women and shortening gender discrimination. In this regard, MGNREGA (Mahatma Gandhi National Rural Employment Guarantee Act) found to be best job opportunity to rural households which provide employment to rural individuals especially to women at their place only and increasing their purchasing power. Based on the experience of various employment and poverty alleviation programmes, the MGNREGA Act is enacted by government to reinforce the commitment towards livelihood security in rural areas. This act committed to ensure employment to at least 33% of rural women workers and playing a significant role in empowering rural women.

The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), also known as Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) is Indian legislation enacted on August 25, 2005. The MGNREGA provides a legal guarantee for one hundred days of employment in every financial year to adult members of any rural household willing to do public work-related unskilled manual work at the statutory



minimum wage. The Ministry of Rural Development (MoRD), Govt. of India is monitoring the entire implementation of this scheme in association with state governments. The objective of the Act is to enhance livelihood security in rural areas by providing at least 100 days of guaranteed wage employment in a financial year to every household whose adult members volunteer to do unskilled manual work. The Act covered 200 districts in its first phase, implemented on February 2, 2006, and was extended to 130 additional districts in 2007- 2008. All the remaining rural areas have been notified with effect from April 1, 2008.

The flagship programme of government aims equal opportunities to men and women with the disbursement of equal wages which has shown an important characteristic of this scheme. This employment act provides and enhances women abilities to earn and extend their horizons which were earlier limited to their households only. The act mandates that at least one third of the workers should be women, so there is abundant scope for women's participation. MGNREGA has been working and more focusing on the rural development with an objective of eradicating poverty and women empowerment. Therefore, the present paper tries an attempt to see the impact of MGNREGA on the life of rural tribal women in enhancing their empowerment, of Udaipur district of Rajasthan as the district lies in southern Rajasthan and is inhabitant by tribals, those who have no proper source of income and have no employment opportunities.

## 2. REVIEW OF LITERATURE:

**Durand, Sahoo, Kar, Ahangar, Arora, Karthika, Borah and Xavier** concluded in their studies conducted in states of Odisha, Kerala, Uttar Pradesh, Assam etc that there is a positive impact of MGNREGA on the lives of women in different ways whether it is enhancing the economic standard and self confidence or develop the ability to take decisions in the household. This programme is working in the way of empowering women as maximum beneficiaries of this scheme are women. Overall it is a scheme for the development of rural people. Mostly vulnerable sections of the society especially women are benefitted socially and economically as MGNREGA is found to be milestone in this context.

### Objectives

- i) To show the impact of MGNREGA on Women Empowerment in Udaipur district of Rajasthan.
- ii) To find the involvement of women in MGNREGA with their registration and person days.

## 3. RESEARCH METHODOLOGY:

- **Selection of study area:** For the present study, Rajasthan state is selected purposively and within the state, Udaipur district is also purposively selected because the district comes under tribal belt as most of the people are still beyond the reach of earning their livelihood and become economically sound especially women.
- **Collection of data:** The present study is based on secondary data collected from journals, reports, website of mnrega and other available sources in general as well as particular.
- **Data Analysis:** The data is analyzed by using statistical tools like percentages, averages, growth rates and the hypothesis showing involvement of women in MGNREGA tested by simple regression.

## 4. RESULTS AND DISCUSSION:

This section is divided into two parts, first showing the growth rate of women workers in MGNREGA though their registration under the scheme and person days and second shows the involvement of women:

- i) **Impact of MGNREGA on Women Empowerment :**

**Table1. Registered Women in Blocks of Udaipur District**

S.No.	Blocks	2015-16		2016-17		Growth Rate
		No. of Reg. women	% of Women	No. of Reg. women	% of Women	
1	Jhallaara	29292	51.47	30682	50.41	4.74
2	Kurabad	31525	52.44	32074	52.47	1.74
3	Lasadia	24933	49.70	26703	49.67	7.09
4	Phalasiya	30409	50.06	32588	50.05	7.16
5	Rishabhdev	35169	51.62	37149	51.61	5.62
6	Sayra	29873	50.20	30348	50.26	1.59
7	Semaari	34958	52.27	36226	52.22	3.62
8	Kotra	62790	48.97	66759	49.12	6.32
9	Kherwara	56811	51.02	61018	51.04	7.41



10	Girwa	47680	52.97	48756	52.96	2.25
11	Gogunda	31747	49.57	32725	49.61	3.08
12	Jhadol	32736	50.03	34876	50.08	6.53
13	Badgaon	30106	50.14	30749	50.17	2.13
14	Bhinder	59428	49.99	61016	50.05	2.67
15	Mavli	50352	50.49	51384	50.58	2.04
16	Sarada	49661	51.57	48294	51.59	2.83
17	Salumber	37371	50.32	39152	50.36	4.76

Source: [www.nrega.nic.in](http://www.nrega.nic.in)

Table 1 shows the number of registered women in MGNREGA during 2015-16 & 2016-17. The figures indicates that the women registration is increased during the years, which highlight the positive impact of the programme as people are becoming aware and grasp the opportunity to enhance their economic conditions especially women community. It is clear from the table that highest registration is experienced in Girwa block of Udaipur during 2015-16 & 2016-17 which is 52.97%. More over all the blocks of the district witness that half of the registered workers in MNREGA are women underline the importance of programme in empowering women. The rate of growth is also positive showing the augmented interest of women with highest growth rate of 7.41% found in Kherwara block next comes Phalasia with 7.16% .This is evident that in the blocks having high incidence of poverty, MNREGA is becoming a supporting scheme.

**Table2. Person Days of Women in Blocks of Udaipur District**

S.No.	Blocks	2015-16		2016-17	
		Person Days of Women	% of Women	Person Days of Women	% of Women
1	Jhallaara	309882	72.49	318366	70.51
2	Kurabad	321058	76.94	306023	75.80
3	Lasadia	277680	54.06	364955	54.37
4	Phalasiya	271981	57.78	232760	56.69
5	Rishabhdev	472544	71.96	360095	71.32
6	Sayra	385035	76.02	340623	76.79
7	Semaari	368907	65.19	361941	62.22
8	Kotra	504931	50.44	350001	49.07
9	Kherwara	974324	72.68	893943	71.30
10	Girwa	536549	72.14	331251	72.09
11	Gogunda	559153	70.94	436214	72.02
12	Jhadol	337700	66.27	431246	65.12
13	Badgaon	123875	79.07	119086	80.46
14	Bhinder	405845	74.07	416670	71.62
15	Mavli	276196	87.65	286993	86.98
16	Sarada	427649	60.62	364231	58.79
17	Salumber	267278	69.62	271306	68.34

Source: [www.nrega.nic.in](http://www.nrega.nic.in)

Table.2 shows the person days of women in MNREGA during 2015-16 and 2016-17 indicating the active participation of women in employment with the highest 86.98% women working days in Mavli block of Udaipur district in 2016-17, increased from 87.65% in 2015-16. The data shows the greater involvement and interest of women in working with MNREGA for their upliftment and social and economic betterment.

**ii) Participation and involvement of women in employment by a simple regression model:**

Here we have used simple regression model to find out the relation between generated person days of women and registered women in MGNREGA. Following model equation has been used.

$$Y = a + bX + U. \text{ Here}$$

Y= Person days of Women

X= Registered Women in MGNREGA.

Positive relationship has been hypothesized between both the variables. Following model has been estimated here

$$\begin{array}{lll} Y = a + bX, & R^2 = .45 & F = 11.44 \\ = 10.11 + .45(X) & R^2 = .44 & P \text{ value} = 0.0006 \\ (2.44*) & & \end{array}$$

Our model is good as the value of  $R^2$  and  $R^2$  is quite high .45 % variations in dependent variable have been explained by independent variable. F value is quite high which shows the goodness of fit. Our null hypothesis is  $B = 0$  i.e. explanatory variable does not led significant impact on dependent variables rejected as P value is less than level of significance (0.05). It can be concluded that explanatory variable is significantly affecting the dependent variable. T value is 2.44 which is significant at 5 percent level of significance.

## 5. CONCLUSION:

As a conclusive note, it is found that MGNREGA has become a milestone in Rajasthan state by providing rural society a platform towards improvement and upliftment on social and economic grounds. This is transforming rural society by involving women workers on major part which helped in downgrading gender discrimination, reducing poverty, generating income and making livelihoods for the poor. It is experienced that MGNREGA has a positive impact on women empowerment in Udaipur district of Rajasthan analyzing the dynamic contribution and increased share of women in employment in MGNREGA. Indeed, it is a right-based programme which has a potential to strengthen social security and transformations in rural India.

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## Website

- [www.nrega.nic.com](http://www.nrega.nic.com)

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## EFFECTS AND IMPLICATIONS OF GOODS & SERVICES TAX (GST) IN INDIA

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**Abstract:** GST also known as the Goods and Services Tax is defined as the huge indirect tax structure designed to support and enhances the economic growth of a country. More than 150 countries have implemented GST. The idea of GST was borne by Vajpayee government in 2000. GST command may hamper the growth and development of the country. The main objective behind this study is to know the Impact of Goods and Services Tax (GST) in India, to study the different aspects of Goods and Services Tax system in India and to study the Impact of Goods and Services Tax (GST) on Indian Economy. The paper is based on secondary data sources which were collected from magazines, newspapers and authorized websites. From all over study, I concluded that GST has certain positive impacts like; GST will also help to build a transparent and corruption free tax administration. GST also has an optional scheme of lower taxes for small businesses with turnover between INR 20 to 50 lakhs. It is called the composition scheme. It has now been proposed to be increased to 75 lakhs and also there are negative impacts like; some retail products currently have only four percent tax on them and after GST, garments and clothes could become more expensive. Three major tax revenue earning sectors petroleum products, alcohol and electricity do not fall under GST. The state government will levy the tax on these sectors. The inclusion of these sectors in GST would be done mostly on the basis of the tax revenue earned by the state governments from GST. Services sector like telecom, restaurants would have a negative impact created by a higher tax rate of 18% from present 15%. Therefore, GST gives mix impacts in India.

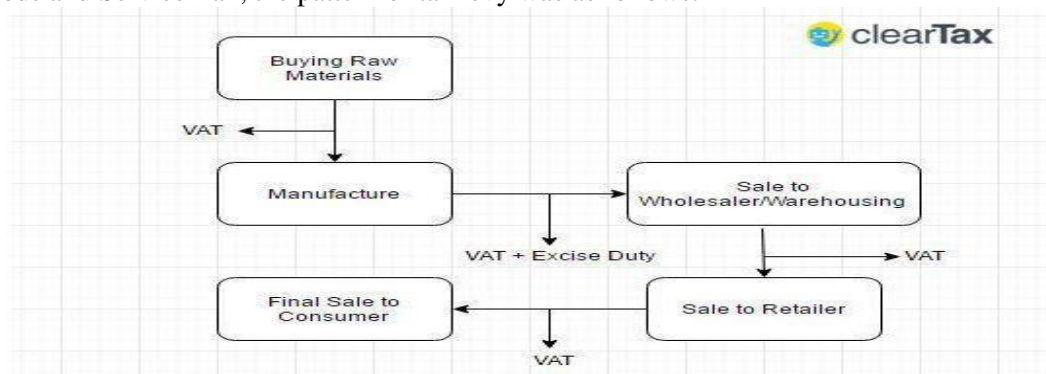
**Key Words:** Goods and Services Tax (GST), indirect tax and Indian economy.

### 1. INTRODUCTION:

**Goods and Services Tax (GST)** Was introduced in India as on 1 July 2017 and was applicable throughout India which replaced multiple cascading taxes levied by the central and state governments. It was introduced through Constitution (One Hundred and First Amendment) Act 2017, following the passage of Constitution 122nd Amendment Bill. The GST is governed by a GST Council. The Chairman of GST Council is the Finance Minister of India. Under GST, goods and services are taxed at the rates, 0%, 5%, 12%, 18% and 28%. There is a special rate of 0.25% on rough precious and semi-precious stones and 3% on gold. In addition, cess of 15% or 28% GST applies on few items like aerated drinks, luxury cars and tobacco products. GST was initially proposed to replace indirect taxes. It is to be noted that France was the first country to implement GST.

Goods & Services Tax Law in India is a comprehensive, multi-stage, destination-based tax that will be levied on every value addition. In simple words, GST is an indirect tax levied on the supply of goods and services. GST Law has replaced many indirect tax laws that previously existed in India.

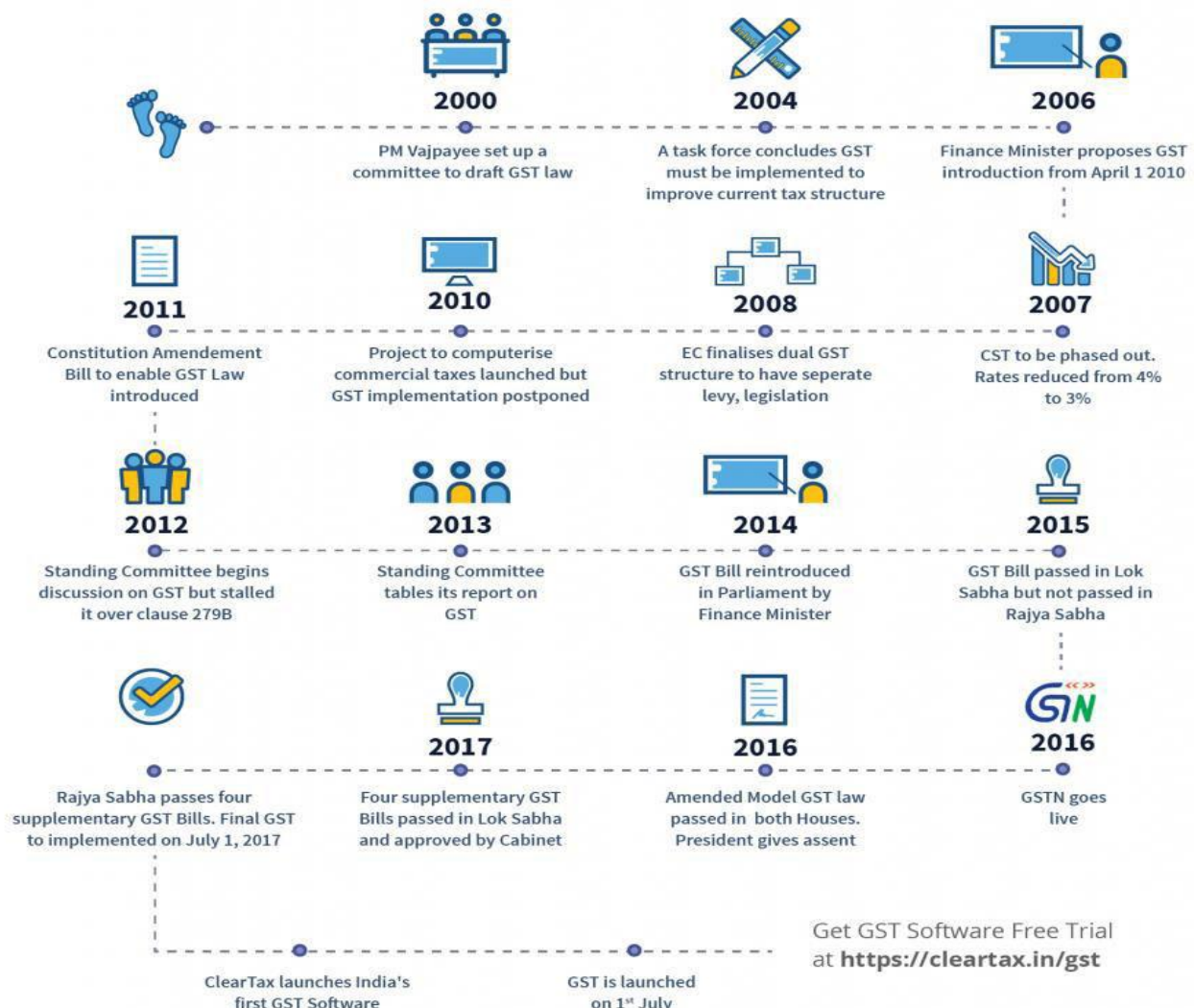
So, before Goods and Service Tax, the pattern of tax levy was as follows:



## 1.1 History of GST:

# History of GST

clearTax



## 2. OBJECTIVES:

- To study the Impact of Goods and Services Tax (GST) in India.
- To study the different aspects of Goods and Services Tax system in India.
- To study the Impact of Goods and Services Tax (GST) on Indian Economy.

## 3. THE IMPACT OF GST IN INDIA:

Our GST council has finalized the rates for all the goods and major service categories under various tax slabs. GST is expected to fill the loopholes in the current system and boost the Indian economy. This is being done by bring together the indirect taxes for all states throughout India.

- The tax rate under GST are set at 0%, 5%, 12%, 18% and 28% for various goods and services, and almost 50% of goods & services comes under 18% tax rate. But how is our life going to change post GST? Let's see how GST applicable on some day-to-day good and services will have an impact on an end user's pocket.

### Footwear & Apparels/Garments:

Footwear costing more than INR 500 will have a GST rate of 18% from an earlier rate of 14.41% rate. but rates for the footwear below INR 500 has been reduced to 5%. So, you need to sale out more for buying a footwear above INR 500/- and with respect to the ready-made garments, the rates have been reduced to 12% from an existing 18.16% which will make them cheaper.



### **Cab and Taxi rides:**

Now, taking an Ola or an Uber will be cheaper because the tax rate has come down to 5% from an earlier 6% for a cab booking made online.

### **Airline tickets:**

Under the GST, tax rate for economy class for flight tickets is set at 5% but the tax for business class tickets will have a higher tax rate of 12%.

### **Train Fare:**

There will not be much of an impact. The effective tax rate has increased from 4.5% to 5% in GST. But, passengers who travel for business trips can claim Input Tax Credit on their rail ticket which can help them to reduce expenses. People travelling by local trains or in the sleeper class will not be affected, but first-class & AC travelers will have to pay more.

### **Movie Tickets:**

Movies tickets costing below INR 100 will be charged a GST rate of 18% but prices above INR 100 will have a higher tax rate of 28%.

### **Life Insurance Premium:**

The Premium Amounts on policies will rise; with an immediate impact can be seen on your term and endowment policy premiums as the rates have been increased under GST across life, health and general insurance.

### **Mutual funds Returns:**

GST impact on your returns from mutual funds investments will largely be marginal as the GST will be charged on the TER i.e. Total Expense Ratio of a mutual fund. The TER is commonly called as expense ratio of a mutual fund company, and the same is set to go up by 3%. The return what you get as an investor will be reduced to that extent unless the respective mutual fund company i.e. AMC absorbs it but that anyhow will be a marginal difference.

### **Jewellery:**

The gold investment will become slightly expensive because there will be 3% GST on gold & 5% on the making charges. The earlier tax rate on gold was around 2% in most of the states and the GST is increased from the existing rate to around 2% to 3%.

### **Buying a Property:**

Under construction properties will be cheaper than ready-to-move-in properties. The GST rate for an under-construction property is 18% but the effective rate on this kind of property will be around 12% due to input tax credits the builder will avail of.

### **Education & Medical Facilities:**

Education and Medical sectors have been kept outside the GST ambit and both the primary education & healthcare is exempt from GST. It means a consumer will not pay any tax for the money you spent on these services. But due to increase in the rate of taxes for certain goods & services as procured by these organizations, they may pass on the additional tax burden to the consumers.

### **Hotel:**

If room tariff is less than Rs 1,000, then there will be no GST, but anything above Rs 5,000 will attract 28% tax.

### **Buying a Car:**

Most of the cars in the Indian market will become slightly cheaper, except for the hybrid cars because the GST rate will be 28% tax on all the vehicles irrespective of their make, engine capacity or model. However, over and above this 28%, an additional cess will be levied which can be 1%, 3% or 15 %, depending on the particular car segment.

### **Mobile Bills:**

People will have to pay more on mobile phone bills as GST on telecom services is now 18%, as opposed to the earlier tax rate of 15%. However, telecom companies may absorb this 3% rise due to competition.

### **Restaurant Bills/Eating Out:**

Your restaurant bill would depend on whether you dined at an AC or Non-AC establishments which do not serve alcohol. Now dining at five-star hotels will be charged at 18% GST rate and the Non-AC restaurants will be charged 12% and a 5% GST will be charged from small hotels, dhabas and restaurants that do not cross an annual turnover of INR 50 Lakh.

### **IPL & other related events:**

Events like IPL i.e. sporting events will have a 28% GST rate which is higher than the earlier 20% rates. This will increase the price of your tickets. And the GST rate for other events like theatre, circus or Indian classical music shows or a folk dance performance or a drama show will be at 18% GST rate, this is lesser than the earlier tax rate.

### **DTH and cable services:**

The money you pay towards your DTH (Direct-To-Home) connections or to your cable operator will reduce a bit as the rate is fixed at 18%, which is lower than the earlier taxes which were comprising of entertainment tax in the range of 10% to 30%, apart from the service tax of 15%.



### **Amusements Parks:**

The ticket price for amusement parks and theme parks will increase as the earlier service tax of 15% will become 28% under the GST.

## **4. IMPACT OF GST ON THE INDIAN ECONOMY**

GST the biggest tax reform in India founded on the notion of “one nation, one market, one tax” is finally here. The moment that the Indian government was waiting for a decade has finally arrived. The single biggest indirect tax regime has kicked into force, dismantling all the inter-state barriers with respect to trade. The GST rollout, with a single stroke, has converted India into a unified market of 1.3 billion citizens. Fundamentally, the \$2.4-trillion economy is attempting to transform itself by doing away with the internal tariff barriers and subsuming central, state and local taxes into a unified GST.

The rollout has renewed the hope of India’s fiscal reform program regaining momentum and widening the economy. Then again, there are fears of disruption, embedded in what’s perceived as a rushed transition which may not assist the interests of the country.

Will the hopes triumph over uncertainty would be determined by how our government works towards making GST a “good and simple tax”. The idea behind implementing GST across the country in 29 states and 7 Union Territories is that it would offer a win-win situation for everyone. Manufacturers and traders would benefit from fewer tax filings, transparent rules, and easy bookkeeping; consumers would be paying less for the goods and services, and the government would generate more revenues as revenue leaks would be plugged.

### **GST: The Short-Term Impact**

From the viewpoint of the consumer, they would now have to pay more tax for most of the goods and services they consume. The majority of everyday consumables are now drawn the same or a slightly higher rate of tax. Furthermore, the GST implementation has a cost of compliance attached to it. It seems that this cost of compliance will be prohibitive and high for the small scale manufacturers and traders, who have also protested against the same. They may end up pricing their goods at higher rates.

## **5. CONCLUSION:**

In short, GST impacts both the ways i.e. Positive & Negative. There are certain positive impacts of GST in India are; GST will also help to build a transparent and corruption free tax administration. GST also has an optional scheme of lower taxes for small businesses with turnover between INR 20 to 50 lakhs. It is called the composition scheme. It has now been proposed to be increased to 75 lakhs. This will bring respite from tax burdens to many small businesses. Removing cascading tax effect, simpler online procedure under GST, defined treatment for E-commerce and regulating the unorganized sector. There are negative impacts like; some retail products currently have only four percent tax on them and after GST, garments and clothes could become more expensive. Three major tax revenue earning sectors petroleum products, alcohol and electricity do not fall under GST. The state government will levy the tax on these sectors. The inclusion of these sectors in GST would be done mostly on the basis of the tax revenue earned by the state governments from GST. Services sector like telecom, restaurants would have a negative impact created by a higher tax rate of 18% from present 15%. Therefore, GST gives mix impacts in India.

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## **Understanding Recent Trends in Anthropology of Water: A Review**

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**Abstract:** *Water is a unique resource as it transcends the dichotomy of nature v/s culture. It is as much as cultural as much as it is natural. Its role in the hydrological cycle and other biological processes points towards its significance to the physical environment. But this does not imply that social and cultural connotations of water can be relegated. There is a growing concern to understand water from interdisciplinary perspectives highlighting its essentiality to social institutions like economic, political, religious, etc., as this natural resource is central to the life and livelihood of the people. Anthropologists are known to conduct long term based ethnographic studies that can complement the scientific and technical understanding of water crisis. This paper brings forth the emerging themes of water based studies in anthropology. The nuanced, layered and deeper understanding of concepts of water and its usages can provide the better picture of human-environment inter-relations. In other words, by using the lens of anthropology we can visualize the intricacies and complexities inherently water share in the lives of people as a 'social construct'. This article aims to review the emerging literature on water issues and tries understand them using anthropological perspective.*

**Key Words:** *Water, Nature, Culture, Anthropology*

### **1. INTRODUCTION:**

*'When the well is dry we know the worth of water' – Benjamin Franklin (1846) cit. in Strang (2004)*

The above mentioned epigram of Benjamin Franklin beautifully depicts that there is a heightened global shift to consider water from taken-for-granted resource to a focal point of range of conflict and disputes all over the world. Though water exists as a physical entity retaining its universal characteristics, human interactions with water are varied and socio-culturally shaped. The visions, colours, sounds, smells, uses and meanings attributed to water are context dependent and vary from person to person, religion to religion and culture to culture.

The goal of this paper is to go beyond the consideration of water as a practical necessity for life, a universal resource by reflecting upon the multiple ways in which people relate meaningfully to their waters (locally available) through their learnt socio-cultural experiences. Anthropology can offer significant insights into social and cultural constructions of water by taking into account the meanings people attribute to the presence of water (or its absence). The nuanced, layered and deeper understanding of concepts of water and its usages can provide the better picture of human-environment inter-relations. In other words, by using the lens of anthropology we can visualize the intricacies and complexities inherently water share in the lives of people as a 'social construct'.

### **2. OBJECTIVE OF THE PAPER:**

The main aim of this article is to review the existing literature on a range of water issues pertaining to its appropriation, ownership and distribution among various users by using anthropological perspective.

### **3. METHODOLOGY:**

This paper reviews the articles pertaining to water issues, published in national as well as international journals.

This paper also covers the edited books and monographs related to varied water issues.

### **4. ANTHROPOLOGICAL UNDERSTANDING OF WATER:**

Water is a unique resource as it transcends the dichotomy of nature v/s culture. It is as much as cultural as much as it is natural. Its role in the hydrological cycle and other biological processes points towards its significance to the physical environment. But this does not imply that social and cultural connotations of water can be relegated. There is a growing concern to understand water from interdisciplinary perspectives highlighting its essentiality to

social institutions like economic, political, religious, etc., as this natural resource is central to the life and livelihood of the people.

Emphasizing the social connotation of water, Orlove and Caton (2010: 402) argue in the favor of understanding it as a 'total social fact' borrowing the term from Mauss (1990:3). The term 'total social fact' implies a 'social phenomenon that cut across virtually all domains of society' (Orlove and Caton, 2010:402), for example economic, political, religious, moral and aesthetic dimensions. This perspective has been endorsed by other scholars from time to time (Strang, 2004, 2009; Baviskar, 2007; Lahiri-Dutt and Wasson, 2008; Wagner, 2013).

Wagner (2013, p. 2) extrapolates the idea of Orlove and Caton (2010) to understand water not only as a 'total social fact' but in a broader sense as a 'total ecological fact'. He emphasizes the totality of water in ecological term as circulating through 'complex hydrological cycles, it establishes connections among all life forms and between animate and inanimate worlds (ibid).

Wagner (2013) proposes that water has a social life following Appadurai's influential work '*The Social Life of Things*' where he asserts that following the "things" themselves will "illuminate" their "human and social context" (Appadurai, 1986:5). In the same volume, Kopytoff suggests cultural behaviour can be studied by complementing biographies of people with the biographies of things. This is in concordance with the theory that things also have an agency in the social systems (Latour, 2005). Wagner's (2013) work '*The Social Life of Water*' celebrates this fact. He draws our attention towards the actor network theory (Latour, 2005) that states- important actors within complex actor networks are human as well as nonhuman. It is the goal of the researcher to determine which the most important actors are in a given system and which are less. According to the simplest understanding water is an inanimate object like oil, coal gold etc. but considering the generative role water plays in biological and ecological processes it can be regarded as animate. If we follow Latour's argument that social is not something given but rather something we assemble on day-to-day basis, then water can be assigned the same agency in social system which can be assigned to human beings, not specifically in terms of intentionality but in terms of the impacts of a given actor within the network.

Veeravalli () describes the agency of water in east African setting. Differential rainfall in Kenya affects the degree of inequality of access to water. Since times of ample rainfall are marked by secured access to water for the prosperous families who have built water storage tanks. She depicts that during prolonged periods of scanty rainfall, the source of inequality between poor and rich disappears as both resort to same alternatives sources of water.

## **Features of Water**

The two prominent features of water which often get reflected in anthropological accounts are its connectivity and materiality (Orlove and Caton, 2010). 'Water connects domains of social life' which in turn shaped by the complexity of social organizations (Hannerz, 1992). In the words of Strang (2004, p.21) 'water is always a metaphor of social, economic and political relationships...a barometer of the extent to which identity, power and resources are shared'. To understand the totality of connections or connectivity that water may have in a given society from holistic point of view, Hastrup's (2016) term 'waterworld' is significant. The rich ethnographic description of a waterworld by Raffles (2002) beautifully shows how a major waterway has changed over the course of time and how it is imagined as a politically fraught space.

The materiality of water is expressed in terms of quantity and quality of water (depending upon the physical and chemical properties of it). However human experiences of these aspects of water are socially constructed as asserted by Orlove and Caton (2010, p.403). For example the research work of Wilk (2006) explores the historical transitions in understanding of different meanings associated with drinking water across the globe. Another ethnographic work by Alley (2002) unravels the Hindus belief in regeneration and reinvigorating power of Mother Ganga despite having the knowledge of its water being highly polluted. However Shiva (2002, p.132) negates the claims of water of the Ganga being highly polluted, by citing Dr. F.C. Harrison who confirms on the basis of modern bacteriological research that cholera germs die in Ganges water within three to five hours.

## **Themes for Water Studies**

The main themes that emerge from the ongoing debates on complex water issues ranging from its appropriation, control, varied use can be summed up in following broad and overlapping themes (Orlove and Caton, 2010):

### **I. Value: As Socio-Cultural Constructs**

Human engagements with water are culturally mediated and so are the values/ meanings assigned to it by them. This is in concordance with Escobar's (1996) argument that nature is constructed through history, economics, technology, science and myths of all kinds as parts of 'traffic between nature and culture' (Haraway, 1989:1). In the context of having close understanding of societies, the role of anthropologists assume greater significance to bring out the diverse ways in which water is understood and used in diverse social settings. The perception of water through sensory faculties (sight, touch, taste, hearing and smell) with

which humans are endowed is also 'mediated through social products and practices having specific cultural value' (Orlove and Caton, 2010). Boas can be considered as the first anthropologist whose ethnographic work dealt with the subjectivity of perception of water color among the Inuit of Baffin Island (cited in Barnard, 2000). Limbert's (2001) ethnography of "senses of water" in an Omani town is a brilliant ethnographic account. Water may have positive as well as negative values associated with it. Water acquires positive value in terms of its role in generation and sustenance of life and livelihood but can be viewed as negative in terms of loss of lives and sufferings in hazards like flood (e.g. the doctoral work of Minakshi (2012) examines impacts of Kosi flood on women's health), draught, water borne diseases (e.g. ethnographic work of Smith (2013) on dengue). Even the absence of water can evoke distress and anxiety among the users and its continued scarcity leads to sufferings. This is brilliantly examined in the medical anthropological work of 'social origin' of bodily distress in Mexican communities by Ennis-Mcmillan (2001).

## II. Equity: Human Rights v/s Commoditization

Distribution of this finite resource among the different members of a society is skewed and gets sharpened along the axes of class, caste, gender, ethnicity, religion. Two contradictory perspectives emerge with respect to commoditization of water. The champions of 'basic human rights to water' (Gleick, 1999) emphasize the universality of human demand for water and assert that it is the responsibility of welfare states to ensure water supply for its citizens. On the other hand proponents of water commoditization argue that pricing will reduce water wastage and promote its conservation. In the contemporary globalized market economy that controls the nature and natural resources, the basic requirement of life, water is not spared and in the consumerist approach it is reduced to meager H<sub>2</sub>O: 'not water, but a stuff which industrial society creates' (Illich, 1986). Water is recreated as an economic product of the 'water industry', which leads to treating the water resources as 'water banks' where economic unit of water merely await allocation and expenditure (Strang, 2009: 44). This way water enters into the market as 'fictitious commodities' (Polanyi, 1957). Worster (1992) summarizes this trend of commoditization of nature and water resources as follows:

*Water is no longer valued as a divinely appointed means for survival, for producing and reproducing human life, as it was in local subsistence communities...it has now become a commodity that is bought and sold and used to make other commodities that can be bought and sold and carried to the marketplace... (p.52)*

It indicates the economic valuation of our water consumption but differences might arise in terms of who is the judge (Hanemann 2006). Lansing et al (1998) bring out the comparisons of perspectives of two groups-an Indian tribe and a hydropower plant in assigning the value to the Skokomish River water. The former places importance to the river water in daily life as a source of marine products and abode of ancestral spirits while the later views river as only the source for hydropower generation.

Bakker (2004) aptly termed water as an 'uncooperative commodity' whose valuation is not limited to just economic term but extends beyond it to other realms. This is in continuity with the declaration of United Nations Committee on Economic, Cultural and Social Rights in 2002, that access to water is a human right and 'water is a social and cultural good, not merely an economic commodity (Rose, 2004 cit. in Strang, 2009: 45).

## III. Politics of Water/ Hydro politics and Disputes

Water is bound to enter the realm of 'politics' owing to global water shortages and poor quality of water. The vice-president of the World Bank, Ismail Serageldin predicted in 1995 that "if the wars of this century were fought over oil, the wars of the next century will be fought over water" (cit. in Shiva, 2002: ix). The term 'hydropolitics' (Ohlsson, 1996) is derived from the concept of geopolitics and 'refers to the role that natural resources play as objects of military action because they constitute defining factors of a nation's power' (Lahiri-Dutt and Wasson, 2008: xxx). The growing number of conflicts and contestations over the struggles for water appropriation within the state or between the states indicate the 'politicization' of water. The complex issue of water sharing between the states or nations in the backdrop of depletion and degradation of water resources pave the way for unresolved conflicts for e.g. the dispute among Andhra Pradesh, Maharashtra and Karnataka over the Cauvery water sharing. The research work of Guillet (1998) shows that water laws often become bone of contestation between regional customary laws and nationalist reforms. In the Indian context Iyer (2009) has prolifically written about the water and laws. The river interlinking project has been politicized from time to time and has been projected as panacea of water crisis as it envisages transferring water from abundant regions to regions facing water shortages. Many scholars have raised their concerns against this mega project of Government from the point of social, environmental equity and sustainability (Bandyopadhyay, 2009; D'souza, 2008; Iyer, 2007).

Household water supply in rural as well urban areas depend upon the infrastructure of water pipes, hand pumps etc. and more often the location of water supply system become politicized. Anand's (2011) work



provides a rich urban ethnographic description of infrastructure and politics of water supply in Mumbai. This analyzes the ways in which people have to exert pressures through political leaders, municipal department engineers and officers to ensure regular water supply in their settlement colonies in Mumbai.

#### **IV. Governance of Water**

The concept of governance has diverse connotations and there exist several alternative conceptualizations of governance (e.g. UNDP and World Bank) that recognize the plurality of actors involved. In a broader sense, governance implies exertion of legitimate authority in the application of government power and public affairs management (Ballabh, 2008: 6). However in present times there is greater emphasis on aspects of decentralization, participation, accountability, responsiveness, social equity and justice. Several models are emerging with respect to governance of water at broader policy level as well as at different sectors of economy. Ballabh (2008) mentions five such models for water governance with respect to India:

- a) The first model focuses on rolling back the state in favor of economic reforms of privatization and globalization (e.g. turnover the public tube wells etc.)
- b) The second model deals with critically questioning the state, the state projects, practices and discourses ingrained in social movements demanding the participatory democratic politics (e.g. the Narmada Bachao Andolan).
- c) The third model involves greater role acquired by NGOs to implement the state policies and programs on the ground and function as a state service contractor (e.g. water shed development programs).
- d) The fourth model emphasize on synergy between the state and community and brings them together in partnership with varying degrees of emphasis on one or the other (e.g. participatory irrigation management PIM).
- e) The fifth model focuses on decentralization of state by the means of constitutional amendments (e.g. establishment of Panchayati Raj Institutions and 73<sup>rd</sup> constitutional amendment, 1992).

These models are applied in varying degrees and forms with relation to water governance in India. The agenda is to acknowledge the plurality of actors involved and state is withdrawing from its dominant position in development discourse.

#### **V. Knowledge Systems: Indigenous/Local Knowledge v/s Scientific Knowledge**

How people manage their water resources depends upon their knowledge systems- be it scientific knowledge or traditional indigenous or local knowledge. Many a times these two knowledge systems may find at loggerheads. Anthropological accounts play an important role in bringing out the indigenous knowledge and wisdom at the forefront that challenges the hegemony of scientific discourse of nature and water. The ethnographic work of Mehta (2005) is significant in this respect as it questions the scientific understanding of naturalized water scarcity in Kutch that favors construction of Sardar Sarovar Project as the panacea for local people neglecting their indigenous ways of coping with water scarcity. Down's (1965) detailed ethnographic account focus on indigenous understanding of water by a pastoralist extended Navajo family. The work describes the challenges faced by them during drought and their coping mechanisms include activating the relations between them and other extended families.

The above discussed themes are not clearly separated from each other and exist as overlapping categories. For e.g. the knowledge system and values pertaining to water wisdom in a particular society are intertwined. Similarly the issue of water governance and policies is also linked with issue of equity. So rather taking these themes individually, many studies span around two or three themes discussed above.

#### **5. CONCLUSION:**

Considering the pervasiveness of water conflicts and disputes over complex issues of its appropriation, distribution, uses across the communities on global scale urge for the anthropological engagement to provide a nuanced and much closer understanding of these issues. Anthropologists are known to conduct long term based ethnographic studies that can complement the scientific and technical understanding of water crisis.

There is no one solution available for all the world's water problems. Each situation requires specific solution based on combination of approaches: technological, economic, and political. Ethnographic studies of waterworlds covering the aspects of waterscapes and water sheds can examine the wide range of people, government and non-government agencies and processes involved to address water problems. In this way anthropology of water combining

with the approaches of political ecology, infrastructure and material culture can play a pivotal role to provide better understanding of intertwined aspects of society, nature and development.

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## National Conference on Recent Trends in Research

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### Meaning of Happiness

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**Abstract:** Definition of happiness may vary from people to people but it is true that it is a feeling that enlightens your heart and soul. It takes you somewhere from your state of mind. It takes away all your sufferings and grief. For a kid happiness could be playing with his favorite toy. For a woman happiness could be giving birth to a child. For a man happiness could be getting promotion and bonus, it could be winning a trophy or getting a job, having a big house or buying a new car. These all are those small things which make you feel that you are happy. Being happy is not just a feeling you perceive but, it makes your surrounding happy, your loved ones happy. It paints the negative gallery of your life with positive and vibrant colors of life. Those colors which gives your life a meaning, a reason for you to live, to survive in this world. Nothing sustains forever, one day everything will be finished, the only thing that lasts forever is the way you have lived your life and the way you spread and share happiness with others. Be grateful of what almighty has given you. Celebrate each and every moment of your life whether it's joyous or sorrowful. Every person in this world always keep on finding the ways to get happiness because it is something which gives you eternal peace. If you seek happiness in helping others, do it. If you seek happiness in caring others, go for it. If you seek happiness in doing anything which is right, make it definitely. The meaning of happiness lies in spreading the three attributes of life that is love, care and trust. Hence, Happiness justified.

**Key Words:** happiness, colors, life, eternal peace,

#### 1. INTRODUCTION:

A feeling that comes to you when you feel everything is going your way. A feeling that makes you feel the world is all yours. A feeling that makes you feel that your time has started. A feeling that makes you forget all your sorrows and grief. A feeling that makes you forget everything and enjoy the moment that feeling is none other than HAPPINESS. The feeling for which human being is surviving and seeking to have it in their hands. The reasons for this happiness could be anything in this world, could occur anywhere but will not sustain because it is a part of life, another part is also there, the sad one, just like the two sides of a coin. The happiness part for which human being begs and the sad part from where he tries to escape. But the one who stays calm, strong and quite in every situation could only have that happiness in near future.

*Its like Tolstoy said. Happiness is an allegory, unhappiness a story* <sup>1</sup> - Haruki Murakami

#### 2. METHOD:

Happiness is more than a simply positive mood. Many scientists, psychologist even philosophers have defined it in their own way but the only essence that they found is ones comfort and eternal peace. Most Probably people judge your happiness through your money, your bank balance, your marital status, your belongings, big house, big car etc. but the thing is money can buy you a bed but not sleep, it can buy you food but not hunger. They judge you by your money which influences a lot that how much happy you are. It is sometimes true that money is important to happiness but to a certain limit, beyond that it cannot.

*I felt my lungs inflate with the onrush of scenery-air, mountains, trees, people. I thought, "this is what it is to be happy"* <sup>2</sup> - Sylvia Plath.

Happiness can have many forms, many perceptions and many definitions. For a kid happiness could be playing with his favorite toy, for a woman happiness could be giving birth to a child, for a man happiness could be getting promotion and bonus, it could be winning a trophy or getting a job, having a new house, buying a new car. It could be felt when falling in love, driving on a pretty road, having hot shower in winters, lying on bed and listening to the rain outside, watching the sunrise and sunset at beach, having someone tell you that you are beautiful or good looking, laughing out loud on a joke, playing with a puppy, having someone play with your hair, meeting your friends



after so long, making new friends or spending time with old ones, waking up and realizing that you have still few hours left to sleep, holding hands with someone you care about, knowing that somebody misses you, getting a hug from someone you admire the most, finding money in your coat from last winters it could be anything for anyone. It is individual ways of thinking and expressing feelings

*Of all forms of caution, caution in love is perhaps the most fatal to true happiness<sup>3</sup> - Bertrand Russell.*

Happiness, a feeling which when one possess makes not only himself happy but makes all those happy who are their loved ones. Because when one smiles, it makes others smile just like the lamp that brightens the room, a gleam of sun that overpowers the darkness.

*The only way to find true happiness is to risk being completely cut open<sup>4</sup> - Chuck Palahniuk.*

Happiness "You feel it more when you share it more". Its not the way you laugh or how beautifully you smile it's the feeling that builds up your happy soul. That's when you are really happy. Happiness is something which can never be searched for .Some people find happiness when they are satisfied, or they received what they want. But what actually happiness means is when our efforts makes someone happy and this is what life is all about helping, caring and loving others .it is universal truth that one day everyone has to die, people have come and people have gone but only those who have lived their life for the welfare of others are only remembered till ages by the people.

*It isn't what you have or who you are or what you are doing that makes you happy or unhappy. It is what you think about it<sup>5</sup> - Dale Carnegie.*

Happiness is that feeling you get one of your want gets fully satisfied. Happiness is that part of our life which we need everytime. We should find happiness everywhere in the world of sorrows and pain. We should be humble and polite, we should be happy for the things we are doing. Happiness is like a flower as it gets nourishes it get more fragrance.

*There is nothing like deep breaths after laughing that hard. Nothing in the world like a sore stomach for the right reasons<sup>6</sup> - Stephen Chbosky.*

Happiness is meeting school friends after a long time. Happiness is helping mother and reduce her workload. Happiness is your own creation. Once you learn how to create it you will never be alone or never be in worries .Happiness is giving time to your grandparents and to learn and listen their experience and to listen the childish memories of parents. Happiness is helping your father and to reduce his worldly tensions .Happiness is nothing but something that is created by you.

*Happiness in intelligent people is the rarest thing I know<sup>7</sup> - Ernest Hemingway.*

To be happy, one must love to suffer", Rightly pointed out by Woody Allen. Sufferings are a part of human life. We all in our lives feel depressed in a moment or other. The reasons are quite common - expectations, downfall, others' actions, unfulfilled desires etc. There are times when negativity dominates our mind and we reach an impasse. But the truth is it's all in a person's mind. Long-lasting happiness comes from accepting the situations as they are, moving on and then striving for your dreams with double hard work. Temporary satisfaction can't be termed as happiness. It ends as our moment of happiness ends, and it becomes a part of our past. This kind of happiness is a myth. The purpose of life is a life of purpose and not happiness of destructible moments.

*Its so hard to forget pain, but its even harder to remember sweetness. We have no scar to show for happiness. We learn so little from peace<sup>8</sup> - Chuck Palahniuk.*

True happiness is living a life of purpose ,it is loving what you do .True happiness is having a pure, strong connection with almighty that becomes a constant source of power .It is being generous ,and giving to society as much as you can. True happiness is all about loving yourself and to have a deep connection with your soul Happiness is a heart felt emotion which cannot be achieved or gain by doing sort of things. When we do something amazing , we create something, do something for others that time we felt something, a feeling of joy and smile come to our face that particular feeling is happiness

*Time you enjoy wasting is not wasted time<sup>9</sup> - Marthe Troly-curtin.*

Smile is a curve which makes everything straight. If happiness was a full time job, we should own the company. Happiness doesn't implies to laugh at every spur of time, but it simply suggests to be positive and satisfied in all walks of life There are times when life unfolds situations and circumstances where being happy is a tough job but its well said, "life is like a mirror if you will smile at it life reflects back with a smile too.

*Love is that condition in which the happiness of another person is essential to your own<sup>10</sup> -Robert A. Heinlein.*

### 3. CONCLUSION:

Money cannot buy happiness for you , but yes we can find happiness in small small things that happens in our day to day life. It is not all about laughing loud or smiling unnecessarily it is all about spreading love and caring for those whom you admire the most. Happiness is a feeling that gives your life a meaning and the real essence of life lies in three attributes of life that is love, care and trust.

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**A Study on Investor's Behaviour toward the Equity Market with reference  
to Public Announcement: A Study of North Gujarat Region**

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**Abstract:** The stock market refers to the collection of markets and exchanges where the issuing and trading of equities (stocks of publicly held companies), bonds and other sorts of securities takes place, either through formal exchanges or over-the-counter markets an individual investor who makes investments in his own name and can act on behalf of others. The main objective of this study is to analyses the investor behavior with respect to the public announcement. The study covered north Gujarat region by taking 300 investor's as a samples. The study covered analytical tools such as descriptive statistics, chi square and independent sample t test. The result concluded that currently the investors very aware about the public announcement and investors give moderate importance to the public announcement for their investment decision. The male & female have a difference in knowledge regarding the public announcement.

**Key Words:** Investor's Behavior, Public Announcement, Stock Market, North Gujarat Region .

**1. INTRODUCTION:**

The stock market is the market in which shares are issued and traded either through exchanges or over-the-counter markets. It is also known as an equity market, which is one of the most vital areas of a market economy as it provides companies with access to capital and investors with a slice of ownership in the company and possibility of gain based on future performance of company. In the past, stock market was the open place, where brokers buy and sell on behalf of investors. But now a day, most trades in the stock market are executed electronically in other word it is a virtual market, and even stocks are stored in the electronic form known as Demat, not as physical certificates. Trading software is available to trade in the market anywhere. The government, industry and the regulatory body of the country keep a close watch on the happenings of the stock market. Most of the trading in the Indian stock market takes place on its two stock exchanges: the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE). The BSE has been in existence since 1875. The NSE, on the other hand, was founded in 1992 and started trading in 1994. However, both exchanges follow the same trading mechanism, trading hours, settlement process, etc. At the last count, the BSE had about 4,700 listed firms, whereas the rival NSE had about 1,200. Out of all the listed firms on the BSE, only about 500 firms constitute more than 90% of its market capitalization; the rest of the crowd consists of highly illiquid shares. Almost all the significant firms of India are listed on both the exchanges. NSE enjoys a dominant share in spot trading, with about 70% of the market share, as of 2009, and almost a complete monopoly in derivatives trading, with about a 98% share in this market, also as of 2009. Both exchanges compete for the order flow that leads to reduced costs, market efficiency and innovation. The presence of arbitrageurs keeps the prices on the two stock exchanges within a very tight range<sup>1</sup>. Many authors have discussed behavioral finance as it captures the influence of investors' psychology and the subsequent effect on markets. Behavioural finance is interesting because it helps to explain why and how markets might be inefficient (Sewell, 2001). Selden (1912) wrote a book Psychology of the Stock Market, he said, "This book is based upon the belief that the movements of prices on the exchanges are dependent to a very large degree on the mental attitude of the investing and trading public." He has also added that the opinion in the stock market measures in money not by population. It is a significant piece of news given to the public by corporate bodies. For example, if a company declares dividend, the announcement occurs when the day the news is given to the media to report to the public. As the announcement may affect the company's stock price, many analysts observe stock performance on the announcement date and consider it is a gauge of how the market will treat the news.

<sup>1</sup> <https://www.investopedia.com/articles/stocks/09/indian-stock-market.asp>

An individual investor who makes investments in his own name and can act on behalf of others, for example, stock brokers or mutual fund managers make investments for others or else an investor can make investments for one's own personal account. An individual investor is a person who manages his/her own money in order to achieve personal financial goals. Individual investor who consider investing in individual stock have a lot of information to process; they are bombarded with a flood of information, some of which might be relevant for their decisions, some of which might be not perhaps instead of trying to obtain that information, people simply follow their gut-feelings or a fad and are thus "behavioural" trader. Theoretical research as well as empirical evidence offers mixed results regarding individual investor trading strategies and motives behind them. Empirical investigations into the individual investor behaviour have thus focused on analyses of data. This study is able to gather detailed data on individual investors' investment behavioural pattern. This is the main motivation behind the study. The other driving force behind the study was the need to advance the motives for trading by individuals, particularly concerning the utilization and responsiveness to information. This study was conducted on experimental basis necessary to directly examine the relationship between individual investors' investment behavioural pattern and corporate announcement. As these issues are of particular importance in the financial markets-this study is to investigate directly to relevant decision processes (S. KALA 2011).

## 2. REVIEW OF LITERATURE:

Sr. No.	Name of the Author	Industry/ Market/City Covered	Methodology Used (Tests)	Results Found
1	Luu Thi Bich Ngoc (2014)	Ho Chi Minh Stock Exchange	Cronbach's Alpha, Standard Deviation, Factor analysis	There are five behavioral factors of individual investors at the Ho Chi Minh Stock Exchange like Herding, Market, Prospect, Overconfidence-gamble's fallacy, and Anchoring-ability bias.
2	Mitesh Patel and Ritesh Patel (2012)	Ahmedabad City	Factor analysis, one way ANOVA and chi-square test.	Percentage of income invested in the equity market is dependent on monthly family income, behavior in bearish market is dependent on investment experience and stock market Prediction is dependent on education qualification.
3	Dr. V. Shanmugasundaram and Mrs. N. Jansirani (2012)	Tamil Nadu	Chi Square test	Investor decisions are influenced by psychological factors and behavioural dimensions. However, this research brings forth certain peculiar characteristics of Indian investors notably living in Tamilnadu.
4	Heena Kothari (2013)	Indore City	Average, Standard Deviation and Reliability test	The savings of the people are invested in assets depending on their risk and return demands, Safety of money, Liquidity, the available avenues for investment, various financial institutions, etc.
5	Caterina Lucarelli and Giulio Palomba (2007)	Chinese Stock Exchanges	t-test, Godfrey test, Hausman test, Jarque-Bera test	Chinese shareholders and stock markets are mostly driven by emotional behavior. Stock market returns are barely influenced by the overall Chinese economic booming, but reveal the presence of speculative influences.
6	Gad and El Din (2013)	Egyptian Stock Market	Correlation, Regression	The study found that investor's in Egypt prefer to receive dividends. If the company cannot pay cash dividends, they prefer to receive stock dividends compared to not receiving dividends at all.
7	Dr. Agha Nuruzzaman (2013)	Kerala	Chi-square test, Reliability test	Retail investors are prone to self-attribution bias which causes a tendency among them to make wrong decisions. They tend to use purchase price as the reference point and make decisions based on it.
8	Deepak Sood and Navdeep Kaur (2014)	Ludhiana (Panjab)	Descriptive statistics, one sample t test	The impact of gender upon selection of investment options here reveals a clear picture that most of the male investors like to invest in PPF, LIC DS and RE and Female investors want to invest in PPF and LIC.
9	Priti Mane (2016)	India	Chi Square Test	The study found out that most of the people are hesitant in going for new age investments like mutual funds and prefer to avert risks by investing in less riskier investment options



10	Bhushan Singh and Dr. Mohinder Singh (2015)	India	Correlation	Various demographic characteristics exert some amount of influence on the savings and investment behavior of rural households in varied ways.
11	Parimalakanthi & Kumar (2015)	India	Factor Analysis, t-test, ANOVA	Education on investment is necessary to the investors in Coimbatore.
12	Gupta and Shrivastava (2017)	Raipur City, India	Descriptive Statistics, Chi Square	The personality traits of investors affected the psychological biases and both factors in combination effected the financial decisions of the investment avenues available in the stock market.

### 3. RESEARCH METHODOLOGY:

The main objective of this study is to analyse the investor behavior with respect to the public announcement. The research design of this study is descriptive research design. Non probability convenience sampling is used in this study. The study covered north Gujarat region by taking 300 investor's as a samples. The secondary data collected from the sources which contain the websites, magazines, software and books. The study covered analytical tools such as descriptive statistics, chi square and independent sample t test.

### 4. RESULT AND DISCUSSION:

#### 4.1 DEMOGRAPHIC INFORMATION:

Table 1: Demographic Information

	Particulars	Respondents
Gender of the Respondent	Male	200
	Female	100
Age of the Respondent	Below 20	3
	20-30	100
	31-40	120
	41-50	50
	51-60	19
	Above 60	8
Occupation of the Respondent	Government Employee	40
	Employee in Private Sector	150
	House wife	12
	Self Employed	90
	Student	8
Education of the Respondent	Till HSC	15
	Undergraduate	50
	Graduate	110
	Post Graduate	118
	Other	7
Monthly Income of the Respondent	Below 10,000	11
	10,000-20,000	80
	20,001-30,000	100
	30,001-40,000	40
	40,001-50,000	30
	50,001 – 75000	20
	75,001 – 100000	7
	More than 100000	12

#### 4.2 KNOWLEDGE REGARDING PUBLIC ANNOUNCEMENT:

Table 2: Knowledge regarding public announcement

Particulars	Respondents	%
Extremely Aware	108	36.00
Very Aware	116	38.67
Moderately Aware	38	12.67
Slightly Aware	19	6.33
Not at all Aware	19	6.33
<b>Total</b>	<b>300</b>	<b>100</b>
Mean	2.08	
S.D.	1.14	

The objective behind this question is to know the level of knowledge of the investor's regarding the public announcement. The result shows that 108 (36%) respondents extremely aware about the public announcement. While 116 (38.67%) respondents very aware about the public announcement. 38 (12.67%) respondent's moderately aware of public announcement. 19 (6.33%) respondents slightly aware about the public announcement and 19 (6.33%) respondents not at all aware of public announcement. Overall result shows that, currently the investors very aware (Mean = 2.08, S.D. = 1.14) about the public announcement

#### 4.3 LEVEL OF IMPORTANCE TO PUBLIC ANNOUNCEMENTS FOR INVESTMENT DECISION:

Table 3: Importance regarding public announcement

Particulars	Respondents	%
Highly Important	71	23.67
Important	87	29.00
Moderately Important	53	17.67
Slightly Important	56	18.67
Not Important	33	11.00
<b>Total</b>	<b>300</b>	<b>100</b>
Mean	2.64	
S.D.	1.32	

The objective behind this question is to know the importance of investors to Public announcements for their investment decision. 71 (23.67%) respondents give highly important to public announcements while their investment decision. 87 (29%) respondents give importance to public announcements while their investment decision. While 53 (17.67%) respondents give moderately important to public announcements while their investment decision. 56 (18.67%) respondents give slightly importance to public announcements while their investment decision and 33 (11%) respondents do not give any importance to public announcements while their investment decision. Overall, investors give moderate importance (Mean = 2.64, S.D. = 1.32) to the public announcement for their investment decision.

#### 4.4 DESCRIPTIVE STATISTICS:

Table 4: Descriptive Statistics

	Mean	Median	Mode	SD	Variance	Skewness	Kurtosis
Gender	1.12	1	1	.322	.103	2.400	1.786
Age	2.90	3	2	1.043	1.087	1.057	.698
Occupation	2.56	2	2	1.130	1.278	.544	-.956
Educational Qualification	3.38	4	4	.835	.697	-1.079	1.271
Monthly Income	3.54	3	3	1.667	2.777	.989	.477

## INTERPRETATION:

The above table shows descriptive statistics of demographic variable of the study. The table shows that mean, median and mode are different from each other's which means that data are not normally distributed. The skew is a measure of symmetry. Here, it was found that Skewness of distribution is a not 0.00. A normal distribution has skew = 0. So it can be said that this distribution is not symmetric. Kurtosis is a measure of peakedness and the fat tails that associate with less density in the middle; a normal distribution has kurtosis = 3.0 or excess. Here kurtosis is less than 3.00. So it can be said that this distribution is not symmetric distribution.

## 4.5 CHI SQUARE TEST:

Table 5: Chi Square Analysis

Sr. No.	Null Hypothesis	Calculated Value	Significance Value	Result
H <sub>01</sub>	Perception regarding public announcement influence the stock price is independent on gender of the respondent	0.248	0.619	Accepted
H <sub>02</sub>	Perception regarding public announcement influence the stock price is independent on age of the respondent	1.826	0.873	Accepted
H <sub>03</sub>	Perception regarding public announcement influence the stock price is independent on occupation of the respondent	2.833	0.583	Accepted
H <sub>04</sub>	Perception regarding public announcement influence the stock price is independent on educational qualification of the respondent	2.712	0.607	Accepted
H <sub>05</sub>	Perception regarding public announcement influence the stock price is independent on monthly income of the respondent	5.484	0.601	Accepted
H <sub>06</sub>	Perception regarding public announcement influence the stock price is independent on district of the respondent	4.64	0.200	Accepted

Here the test is done to check whether perception regarding public announcement influence the stock price or not. At the 5% significance level and with 3 degrees of freedom the significance value is more than 0.05 for all. So, we fail to reject the null hypothesis, which shows that perception regarding public announcement influence the stock price is independent.

## 4.6 INDEPENDENT SAMPLE T TEST:

Table 6: Independent Sample t test

Sr. No.	Null Hypothesis	t Value	Significance Value	Result
H <sub>01</sub>	There is no significant difference in knowledge regarding the public announcement between male and female of the respondent	1.909	0.047	Rejected
H <sub>02</sub>	There is no significant difference in level of importance to public announcements while investment decision between male and female of the respondent	0.338	0.736	Accepted
H <sub>03</sub>	There is no significant difference in opinion regarding the level of influence for the dividend announcement between male and female of the respondent	0.266	0.790	Accepted
H <sub>04</sub>	There is no significant difference in opinion regarding the level of influence for the financial result announcement between male and female of the respondent	0.519	0.604	Accepted

The Independent Sample t test is used to check the perception difference among the investors. These results suggest that male & female have a difference in knowledge regarding the public announcement.

## 5. CONCLUSION:

The stock market is the market in which shares are issued and traded either through exchanges or over-the-counter markets. Many authors have discussed behavioural finance as it captures the influence of investors' psychology and the subsequent effect on markets. Behavioural finance is interesting because it helps to explain why

and how markets might be inefficient. An individual investor who makes investments in his own name and can act on behalf of others, for example, stock brokers or mutual fund managers make investments for others or else an investor can make investments for one's own personal account. An individual investor is a person who manages his/her own money in order to achieve personal financial goals. The result concluded that currently the investors very aware about the public announcement and investors give moderate importance to the public announcement for their investment decision. The male & female have a difference in knowledge regarding the public announcement.

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## National Conference on Recent Trends in Research

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### Food Security Concerns in Central Asia A Case Study of Tajikistan

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**Abstract:** This paper surveys the status of food situation in terms of its availability and accessibility like factors, particularly in central Asia of Tajikistan. Indeed, it is mainly stressed on major factors of food security that directly or sometimes indirectly effects the entire situation of food habitat of Tajikistan people. By concerning the issue here, it takes more important when we study (other resources of water, energy) in such country with comparison to others. In briefly, we may investigate such issue into four sections. The first section is generally discussed the background of Tajikistan, which finds as a mountainous landlocked country with limited space for agriculture. Due to such topography, it is vulnerable to multiple of hazards ranging from floods and droughts to avalanches and earthquakes. In the second section, we define the term 'food security' in a broader way. As (FAO, 1997) emphasized that food security means that 'people at all time have both physical and economic access to the basic food they need'. It is further modified with the efforts of (World Bank, 1986) that all people access food security at all time to enough food for an active and healthy life. While in the third section, we principally go through all major food security indicators (prevalence of undernourishment; depth of hunger; critical food poverty; food availability and accessibility of food) one by one. Here we find major concern of (Chung et al., 1997) who pointed out that there is number of socio-economic indicators (e.g. poor quality land, staple food, vegetable and migration etc.) helped to measure household food insecurity. In the last fourth section, we conclude that food deficiency can be measured under prevalence of undernourishment and food accessibility should be considered as economic accessibility means that purchasing power to buy the food.

**Key Words:** Food Availability, Accessibility, Tajikistan and World Bank

#### 1. INTRODUCTION

This section discusses topography of Tajikistan. It is a mountainous landlocked country, which shares 1,206 km of its borders with Afghanistan in the South, 406 km with China in east, 871 km with Kyrgyzstan in the northeast, 1,161 km with Uzbekistan in the northwest and west. Tajikistan occupies the western slopes of the Pamir Mountains and Southern part of the fertile Fergana valley (Middleton and Thomas 2008). The country ranks among the world's poorest, 64% of the population lives under the poverty line (Warikoo et, al. 2004). Tajikistan has four geographical regions that are quite distinct in terms of the landscape, climate and soil found there. These are (1) The Northern Region (2) The Central Region (3) The Southwestern Region (4) The Eastern Region. In the early (1990s), after the dissolution of USSR, five independent states (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan) came into view on the map of Central Asia. They have experienced major socio-economic shocks that have resulted in increased food insecurity, malnutrition and poverty. Tajikistan is as mountainous and landlocked country, home to very few industries (aluminum production continues to dominate the country's GDP) and the source of only limited exports. The mountainous nature of the small republic means that only 7% of the land is usable for agricultural purposes (Fumagalli, 2008). The United Nation Development Programs ranks the country at the 122<sup>nd</sup> place in its Human Development Index. Tajikistan remains in a state of poverty. Low wages and high unemployment encourage migration of many Tajiks to Russia and other neighboring countries. It is estimated that between 800,000 and 1.5 million Tajiks have migrated to Russia, Turkey, Dubai, or other Central countries (McKinney et, al. 2004: 2). During the growing seasons from (1999) through (2002), Tajikistan suffered from the same devastating drought that affected neighboring Afghanistan. The country has also experienced a variety of economic and social shocks since (2006) that have caused severe setback to the agricultural sector, reducing both the use of land and its productivity particularly in rural mountainous areas with limited or no access to irrigation systems.

#### 2. FOOD SECURITY:

The concept of 'Food Security' is complex, multidimensional. We can see at international, national, regional, household and even at individual levels. The world food conference of 1974 was mainly concerned with global food security and believes that world food crisis was a common responsibility of all nations and international approaches

are necessary to achieve world food security (Sarris, A et al. 1976). Fluctuations in food supplies over time and unstable food prices are the basic problems of food security, which require international and national solutions such as inter-regional grain reserves of buffer stocks, grain insurance and others (Johnson, 1976). Food security is generally understood to imply arrangements whereby the people would be assured of a minimum level of food grains supply in a year with both normal as well as poor harvest, implying the physical supply of a minimum level of food grains during all periods including those of harvest failures (Reutlinger, 1977). Subsequently, it was realized that physical availability alone would not ensure economic access to food for all population but satisfactory production levels and stability of supplies should be matched by reduction in poverty and an increase in the effective demand to ensure economic and physical access for the poor (FAO, 1997). As such the concept of food security at the individual and household levels was taken up (Frankenberger, et al. 1998). Hence, according to (FAO, 1997) the basic concept of food security implies that “people at all times have both physical and economic access to the basic food they need” but the (WB, 1986) has modified it indicating that “food security is access by all people at all times to enough food for an active and healthy life”. Its essential elements are availability of food and the ability to acquire it. The World Bank has made a distinction between chronic and transitory food insecurities (Alamgir et al. 1991). The former refers to persistent inadequate diet caused by the inability to acquire food either by purchase or by produce of their own, while the latter refers to a temporary decline in the household’s access to enough food due to instability in food prices, food production and household income. Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. This definition emphasizes three critical dimensions of food security:

- Physical supply of desired food in sufficient quantity
- An economic access indicating close link of purchasing power to food security
- Stability in supply, which include access to global food market (Bhattacharya, 2001)

A more comprehensive explanation of food security includes livelihood security for each household ensuring both physical and economic access to balanced diet, safe drinking water, environmental sanitation, primary education and basic health care (George, 1999). There are many Definitions of Food Security. Maxwell and Smith had counted more than 200 definitions of security. The food security concept has gradually been developed as a guiding concept for FAO’s evolving food policy by FAO. The general definition of food security that was inspired by FAO is related to the personal right to sufficient food for a person and a nation, discounting no food uses. According to the food Security concept gradually emerged in the mid 1970’s when the initial focus was on food supply problems. Food Security was defined in 1974 as: ‘availability at all times of adequate world food supplies of basic food stuffs to sustain a steady expansion of food consumption and to balance fluctuations in production and prices.’ In 1983, FAO expanded its concept to include securing access by vulnerable people to available supplies, implying that attention should be balance between the demand and supply side of the food security equation: ‘ensuring that all people at all times both physical and economic access to the basic food that they need’. The commoditization of inputs and food markets widened the existing social gap, giving support to large-scale industrial agriculture and expelling millions of peasants from their land. An influential report (World Bank, 1986) on poverty and hunger addressed the temporal dynamics of food insecurity and introduced the ‘distinction between chronic food insecurity, associated with problems of continuing or structural poverty and low incomes, and transitory food insecurity, which involved periods of intensified pressure caused by natural disasters, economic collapse or conflict’ (IFPRI, 2011). In the mid 1990s this definition was widened as to incorporate food safety and also nutritional, balance, reflecting concerns about food composition and minor nutrient requirements for an active and healthy life. Food preferences socially or culturally determined now became a consideration. The potentially high degree of context specificity implies that the concept had both lost its simplicity was not itself goal, but an intermediating set of actions that contribute to an active and healthy life. In UNDP’s 1994 human security concept, food security was one of its seven aspects. In 1996, the World Food Summit adopted an even more complex definition, food security at the individual, household, national, regional and global level is achieved when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. In 2001, the FAO again refined this concept in: The state of Food Insecurity 2001. Food Security is a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. This definition comprises of four key dimensions of food supplies these are availability, stability, access, and utilization. The new emphasis on consumption was influenced by (Sen, 1981) who stressed entitlements of individuals and food security.

### **3. MAJOR FOOD SECURITY INDICATORS:**

In this section, the main focus would be some indicators (prevalence of undernourishment; depth of hunger; critical food poverty; food availability and accessibility of food) that played an important role in the study of food security.

### 3.1 PREVALENCE OF UNDERNOURISHMENT:

Food deficiency as measured by the prevalence of undernourishment. In 2005 more than two people out of five were undernourished in Tajikistan (State Committee of Statistics Tajikistan, 2007). About 43% of the population had food consumption below the minimum dietary energy requirement (MDER) of the average Tajik. The Minimum Dietary Energy Requirement (MDER) is the amount of dietary energy of an average individual that is considered adequate to meet his daily energy needs for a minimum acceptable weight for attained height, light physical activity and in good health given his/her age and sex.

### 3.2 DEPTH OF HUNGER:

The 43 percent of undernourished people of Tajikistan had on average, a daily per person food consumption of only 1531 kcal, which was well below the Minimum Dietary Energy (MDE) of 1880 kcal/person/day and the national average Dietary Energy Consumption (DEC) of 2070 kcal/person/day. The rural food deprived people had higher average daily dietary energy consumption than in the urban areas. Thus, the urban Tajik has a higher daily food deficit of 401 kcal than 335 kcal for the rural Tajik.

### 3.3 CRITICAL FOOD POVERTY:

The Critical Food Poverty (CFP) is the part of the population whose income is lower than the cost of a macronutrient-balanced food basket equivalent to the minimum dietary energy requirement (MDER). The prevalence of critical food poverty estimated was 19% national level. It was different at sub national levels the highest levels of critical food poverty were observed in Dushanbe (43%) and the lowest levels were observed in the industrial area of Sogd (13%) and in households of small size with less than four people (11%).

### 3.4 FOOD AVAILABILITY:

Food availability is an integral part of the food security chain and is a function of domestic production of food grains and imports/ exports. Domestic production is the main source of food availability in an agrarian economy and imports can be used to ensure that prices of food do not escalate if the domestic food production falls short of the requirement. There are a number of aspects of food availability and these not only include current level of production, percentage contribution of food grains and cash crops to total production, changes in yield, but also the procurement and the existing buffer stock norms.

### 3.5 FOOD ACCESSIBILITY:

Food availability by itself does not ensure adequate access to food, through adequate food availability is necessary for food accessibility. If people have access to livelihood, they would in general have access to food and nutrition. Food accessibility does not mean just physical accessibility, which is provided to people by the government supported PDS (Public Distribution System) but more importantly it means economic accessibility i.e. purchasing power to buy the food. Agriculture provides food accessibility as majority of people is employed in agriculture and it helps in influencing the incomes and hence the purchasing power. Therefore we need to look at the aspects of rural employment, rural poverty and the sources of livelihood (land and non-farm sector) in order to assess the second parameter of food security i.e. food accessibility.

## 4. CONCLUSION:

In this way, we examined here that the food security as a non-traditional security threat to Tajikistan. The significance and rationale of the study gives a detailed background of the region highlight. It is a mountainous, landlocked country with limited space for agriculture where food security considers as a major problem. (Chung et al., 1997) has taken a number of socio-economic indicators such as (owning poor quality land or no land, holding distress sales of livestock productive and valued assets, taking loans, substitution of inferior quality staple food and vegetables, migration for search of work, working of pregnant and lactating mothers, etc.) for measuring household food insecurity, which (Barun et al., 1992) also suggested demand and supply of food at country level, direct comprehensive surveys of dietary intake at household level and anthropometric information at individual level to measure the food security.

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## National Conference on Recent Trends in Research

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### A Study on Performance of Managing Public Issues in Corporate Sector

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**Abstract:** *The liberalization and globalization of financial services has brought about drastic changes in primary market and the intermediaries associated with it. Merchant banking is one of the oldest as well as specialized financial intermediaries in the primary market in India. It is mainly a service activity concerned through providing non fund based services of arranging funds for the corporate sector rather than providing funds. Merchant banker as 'issue manager' toward the capital issues, plan, co-ordinate as well as control the whole issue activities and express different intermediaries to contribute toward the success of the issue. Issue management through merchant bankers mainly focuses on one essential function is management of public issues.*

*The present research work contain through the objective to study the performance of merchant banking in the management of public issues in corporate sector with respect to study the rules as well as regulation of SEBI, to evaluate the performance of merchant bankers. It further makes recommendations to merchant bankers for improving their performance in primary market activities.*

*The research work is based on secondary data and statistical tools have been employed for systematic analysis and for logical interpretation of empirical evidence. The study covers the period of ten years from 2006-07 to 2015-16.*

*The performance of Indian and foreign based individual lead merchant bankers has been Lead merchant bankers participate an important task in the determination of issue price for public issues. Fairness of issue price determined through the issuer and lead merchant bankers has been measured in this research work.*

**Key Words:** Merchant Banking, SEBI, Public Issues, Lead Merchant Banker.

#### 1. INTRODUCTION:

Before independence the foreign merchant bankers functioned in India through 'East India House'. It remained representing a group that produced several merchant bankers during the 19<sup>th</sup> century. But the merchant bankers had to face rigid competition from Persian Finance House and ultimately failed. Despite the opposition from East India Company, some new banks were founded such as: Orient Bank in 1845, Chartered Bank of India and also Chartered bank of Asia in 1853, Chartered Merchant Bank of India, London. London based merchant bankers had complete control over the management of these banks done their Managing Agents. The managing agency system developed through these merchant bankers provide major boost to trading and banking activities of foreign merchants in India. These banks acted as issue houses of securities, planning on behalf of long term investment, providing risk capital and take on preliminary investigation of projects in India. Indian managing agency houses were established taking place the British pattern and started as family business but later on, these were converted into partnership and public limited companies. These handling agency houses included Tatas, Birlas, BhadanisDalmias, Singhanias, Thapars, Narangs, Ruias, Poddars and JKs. (6)

After independence, Government of India adopted the model of planned economic development for the country and a need was felt to have a strong industrial base in the economy. After independence up to the year 1969 there were emergence of All India financial institutions like IFCI, ICICI, IDBI, LIC, UTI and commercial banks playing the role of merchant banking in the Indian financial system. The formal merchant banking service in Indian capital market remained initiated in 1967, when Reserve Bank of India (RBI) granted license to 'The National Grindlays Bank' to implement the services connecting to issue management. The Bank started merchant banking services by opening merchant banking Division within the bank in 1969. On the recommendations of Banking

Commission, State Bank of India (SBI) became the first Indian bank to start with the merchant banking activities in 1972-73 followed by other banks. The other commercial banks that followed the SBI were Central Bank of India, Bank of India and Syndicate Bank who started merchant banking services in 1977; Bank of Baroda, Chartered Bank and Mercantile Bank in 1978; Union Bank of India, UCO Bank, Canara Bank, Punjab National Bank and Indian Overseas Bank undertook merchant banking activities in late 1970s and the early 1980s. Among the development banks, ICICI started merchant banking activities in 1973, followed through IFCI (1986) and IDBI (1991).

Following the notification under section 6(1) (o) of the Banking Regulation Act, 1949, commercial banks were permitted during 1984 to set up subsidiaries for undertaking equipment leasing or investments in shares within the limits specified in section 19(2) of the above Act. The notification provided the real impetus to commercial banks and consequently a number of subsidiaries were established by them to undertake merchant banking activities.

SEBI, in exercise of the authorities conferred under section 30 of the SEBI Act, 1992 has made the different regulations for regulating the activities of merchant bankers, and has enacted SEBI (Merchant Bankers) Regulations, 1992. The objectives of the merchant banking regulations are as follows: "The merchant bankers regulations which seek towards regulate the raising of funds in the primary market would declare for the issuer a market for raising resources at little cost, effectively also easily, ensure a high degree of protection of the interest of the investors and provide for the merchant bankers dynamic and competitive market with high standard of professional competence, honesty, integrity as well as solvency. The regulations would encourage a primary market which is fair, efficient, and flexible as well as inspire confidence."

In the Indian setting the definition of the term Merchant Banker has remained specified in the Rule 2 (e) of SEBI (Merchant Bankers) Rules, 1992 as, "A Merchant Banker means any person who is involved in the business of Issue Management either by making arrangements regarding selling, buying or subscribing towards Securities as Manager, Consultant, Adviser or rendering Corporate Advisory Service in relation to such Issue Management". And the Banking Regulation Act, 1949 defines Banking under Sec/5 (b) as accepting, for the purpose of lending or investment of deposits of money commencing the public, repayable on demand or else and withdrawals by cheque, draft, order or otherwise.(5).

As per the International Financial and Capital Market Institution's valuation the Indian economy is one of the most dynamic economies in Asia. The Indian capital market is one of the largest in the developing world and comprises 24 stock exchanges transacting long-term debt; debentures and also equity shares both in electronic and physical forms. The rapid growth in the number and size of the issues made in the primary market in India made it imperative for a specialized merchant banking for our country which was working under the Indian Companies Act, 1956. The merchant banking services were offered along with other traditional banking services by the merchant banking institutions which were set up after recommendations of the Banking Commission in 1972. Prior to this the merchant services were being offered by the National Grindlays Bank (1967) and the City Bank (1970). The main service offered to the corporate enterprises was the management of public issues and specific aspects of financial consultancy. State Bank of India in 1973 followed by ICICI in 1974 started as merchant bankers emerged as leaders in merchant banking having done important business during the period of 1974-1987.

### Issue Management Activities of Merchant Bankers

Mobilization of funds from the capital market by way of public issues or offers for sale etc. calls an expert study as well as proper evaluation of the prevailing market conditions for which the companies seek the advice of merchant banks. Management of capital issues constitutes the most important aspect of the services of the merchant bankers in India. The managing agents for a particular corporate house used to manage public issues and also raise capital from the market with the help of stock brokers. From 1969 to 1992, and merchant bankers performed issue management activities in the judicial framework of Capital Issues (Control) Act, 1947. Under the SEBI (Merchant Bankers) Regulations, 1992, SEBI has made it mandatory for every public issue to be managed only by a registered merchant banker.

The public issue of corporate securities involves basically three functions

- (1) Origination of the issue
- (2) Risk bearing and risk prevention and also
- (3) Marketing of the securities.

The public issues are managed through the involvement of several intermediaries like underwriters, registrar to the issue, bankers to the issue, brokers, advertising agency, printers and legal advisers. Merchant banker as 'issue manager' towards the public issue plan, coordinate and control the whole issue activities and straight different intermediaries to contribute to the success of the issue. The public issue management activities thru merchant bankers remain regulated and monitored by SEBI through the guidelines and clarifications. The procedure of the managing of public issue by a merchant banker is divided into two phases: **Pre Issue Management** steps are Memorandum of Understanding with the issuer, obtaining stock exchange approval, acting as per SEBI guidelines, Appointment of other intermediaries like Registrar to the issue, Bankers to the issue, Underwriter, Advertising agency and Printers etc.

**Post issue management** activities of merchant bankers are Confirmation of minimum subscription (90% of total issue amount) including devolvement from underwriters. Supervision and co-ordination of allotment procedure, Ensuring dispatch of allotment letters and refund order. Listing of securities with stock exchange(s), To attend to the investors' grievances regarding public issue, Submission of post issue monitoring reports to SEBI.

## **2. OBJECTIVE OF STUDY:**

The main objective of the study has been on the performance of merchant bankers in the management of public issues in corporate sector.

## **COLLECTION OF DATA**

The present study is based on secondary data of public issues collected from the year of 2006-07 to 2015-16 from SEBI Annual Reports, SEBI Bulletins etc.

## **3. REVIEW OF LITERATURE:**

**Kailani** (1998) (15) in this research work examine the marketing strategies as well as performance of merchant bankers throughout the period 1990-91 to 1997-98. The study was based upon 77 merchant bankers. The researcher assessed the performance of merchant bankers by taking into account of both qualitative and quantitative dimensions. Although qualitative factors included ability in issue management and superiority of personnel and services to the clients, the quantitative factors involved number and amount of public issue controlled and the activity profile of merchant bankers (fund based or else non fund based). The variables taken for quantitative evaluation included projected also actual sales, profit before interest, depreciation as well as taxes, profit after tax and earnings per share. The study produce that the role of merchant bankers took become more diverse after the setting up of SEBI. Post liberalization era up to 1995 maxim a number of small financial companies entering into merchant banking business because of low entry barriers. Therefore, bad quality issues remained sold in large numbers. Further, high concentration of merchant banking business was originate amongst the top ten merchant bankers and only six merchant bankers provided all the post issue services. The author suggested for fixing the responsibility for fulfillment of promises made in the prospectus, improving the quality of disclosures in IPOs, necessity for grading the prospectus, mandatory participation of merchant bankers in the project as well as rating of merchant bankers.

**Gupta** (2002) (16) in his paper examined the performance of merchant banks in India on the basis of their different positions (lead manager, co-manager, and adviser) also different categories of ownership (Public, private and foreign). The researcher select the 104 working merchant bankers out of 164 registered with SEBI and covered the period from 1997-98 to 2001-02. The researcher resolved that the private sector merchant bankers performed well as compared to public sector and foreign merchant banks together as regards to public issues managed and the amount of funds raised. Although, public sector and also foreign banks performed identically as regards total number of public issues managed but the performance of foreign merchant bankers remained better than that of the public sector banks in terms of funds raised. The author pointed out that merchant banking was mostly restricted to the activity of issue management and other activities such underwriting, loan syndication, investment counseling and portfolio management were still not much emphasized. The researcher's recommendations involved the need or providing quality services, functional cum expert focused on organization and a team of specialists.

**Swedberg** (2005) (17) in his article analyzed the corporate scandals in the US during 2001-02, which involved the relationship of business analysts as well as the investment bankers. The business analysts, who were supposed to give unbiased advice toward investors about which shares to buy and sell, planned with the investment bankers and helped them to attract business through overly optimistic study resulting into worse long run performance of IPOs. The brokers, instead of becoming dependable to their clients (small investors) remained also committed to the investment bankers.

**Mayur** (2006) (18) in his research paper examined the determinants of public issue decision by the Indian companies. The study categorized these determinants into two categories. Company factors included age, size, risk, profitability, leverage and progress of the company. Macro-economic variables involved interest rates, stock market returns, stock market indices and liquidity. The IPO sample, which was categorized into two groups (IPO sample and Private sample), included all IPOs completed in Indian primary market as of 1999 to 2005. Private sample included all those companies that were eligible to do an IPO then remained private during the study period. The sample for the analysis consisted of 150 IPOs and 2000 private companies through the period under review. The study found that company size, profitability, age and leverage remained the important determinants regarding decision to go public. The study found strong evidence that Indian IPOs had not been inspired by financial needs. The larger and profitable companies were found more likely to go public. Leverage and age of the company be there found negatively related to the probability of IPO by the company. The study more found that the cost of credit, cost of disclosure, owners' diversification desire, listing cost, liquidity and market timing remained the issues influencing IPO decision.

**Krishnamurti** (2008) (19) in his paper examined the functioning of the grey market in the Indian IPOs by the purpose to examine the investors' ideas and after market performance of IPOs. Grey market trading contain trading (buying and selling) requests for a fee and trading owed shares through an IPO issue earlier they list on stock exchange. The data in use for analysis included 75 IPOs floated from May 1, 2007 to December 31, 2008. The latter grey market price to the listing day remained taken for analysis. Grey market premium (GMP) remained measured as the ratio of grey market price to offer price. The issues be there classified as low GMP if the GMP on the day before listing was below or equal to the middle for the sample and other issues were termed as issues through high GMP. The researcher found that large size firms with more incomes and asset value per share liked upper grey market premium. Grey market premium has also been found to be directly proportional to the issue size and reputation of the lead manager to the issue. The paper further found that afterward market returns ongoing correcting sharply from the listing day onwards once grey market prices were used as a base. The study resolved that grey market prices remained highly predictable and were related to the subscription level of investors and initial listing returns stayed positively and significantly connected to grey market premium.

#### **4. PERFORMANCE OF MANAGING PUBLIC ISSUES:**

The focus of the research paper is on the performance of merchant bankers in the primary capital market in India is managing public issues in corporate sector. It is mandatory under SEBI rules that every issuing company must appoint one or else more SEBI registered merchant bankers as lead manager(s) for the management of issue. Merchant bankers play a significant role by way of one of the arbitrators in the primary capital in India. They support companies in the total management of issue of securities.

Therefore, they are called 'Issue Managers' (Lead Managers). They undertake entirely activities associated toward capital issues as well as play different roles as lead managers, co-managers, underwriters, consultants and advisors to the issue. They too perform the duties as portfolio managers.

In the situation of book building process, the issuer appoints SEBI registered merchant bankers as book runner(s) and the lead merchant banker acts as the lead book runner and other qualified merchant bankers appointed by the issuer as well as lead managers are named as co-book runners. The book runners and other intermediaries associated through the book building process maintain records of the book building procedure however primary responsibility of maintaining proper books is that of lead book runner.

As an advisor to the issue, merchant bankers advise the company on the matters relating to the important of the issue, timing of the issue, pricing of the issue, structuring of capital also debt, marketing strategy of the issue as well as the selection of other intermediaries to assist in the process of raising funds. Regulation 19 of SEBI (Merchant Bankers) Regulations, 1992, by way of modified from time to time, places limitations on the appointment of lead managers. The number of lead merchant bankers may not exceed the following:-

<b>Size of Public issues (Rs. In crores)</b>	<b>No. of Merchant bankers</b>
Less than Rs. 50 crores	Two
Rs 50 crore but less than Rs. 100 crore	Three
Rs 100 crore but less than Rs 200 crore	Four
Rs 200 crore but less than Rs. 400 crore	Five
Rs 400 crores and above	Five or more as may be agreed by the

However, the limit to the maximum number of lead managers toward be appointed in a single issue remained omitted through amendment in this regulation as on April 19, 2006.

Further, clause 20 (1) of the above Regulations needs that where there are more than one lead managers/ lead merchant bankers to the issue, the responsibility of each of such merchant banker shall remain clearly resolute as well as a statement clearly defining such responsibilities shall be furnished to SEBI at least one month before the opening of the issue for subscription. Thus, it is in the interest of the issuing company toward achieve from the lead merchant banker a declaration of allocation of duties/ responsibilities which will be discharged through different merchant bankers.

This research paper evaluates the merchant bankers on the basis of their activities performed in managing, growing and development of capital issues as book runner lead managers/ lead managers, co-lead managers. The performance of merchant bankers has been evaluated in terms of number of issues handled in Indian and Foreign merchant banks respectively.

#### **Management of Public issues**

Consequent upon MS Shoes scandal, CRB fiasco and satyam scandals as well as sahara scandals SEBI took a number of measures in 2013-14 relating to primary market with the objective of safeguarding and stimulating investors' interest in capital issues. SEBI (Merchant Bankers) Regulations, 1992 was amended on 2006 to streamline



and strengthen the development of SEBI to impart more transparency to merchant banking activities in India. The amended Regulations eliminated different categories of merchant bankers to one and separated fund based and fee based activities of merchant bankers. Merchant bankers were prohibited from carrying on any fund based activity, such as acceptance of deposits, leasing and discounting of bills. A number of tough entry barriers remained imposed through SEBI to punish fly-by- night operators in the primary capital market. As a result of this, there was a sharp decline in the number of different categories of merchant bankers registered with SEBI as well as in the number of public issues since 2012-13. The number of merchant bankers registered with SEBI during the period under review has been shown in table 1.

**Table 1**  
**Number of Merchant Bankers Registered with SEBI**

Years	Numbers
2006-07	152
2007-08	155
2008-09	137
2009-10	164
2010-11	192
2011-12	200
2012-13	199
2013-14	197
2014-15	197
2015-16	189

**Source:** - SEBI Annual Reports, 2006-07 to 2015-16.

For the purpose of analysis as well as evaluation of performance of merchant banks in public issues the merchant banks which acted as lead manager(s) have been considered. The lead manager or BRLM is the manager to the issue, who remains responsible for provided that 'Due Diligence Certificate' to SEBI in accordance with SEBI (Merchant Bankers) Regulations, 1992 and also performs mainly pre issue obligations as lead manager.

Analysis of data has revealed that generally a single merchant banker has been appointed as lead manager to the issue. In case of several merchant banks in a single issue, one of the merchant bankers has acted as lead manager/BRLM to the issue. However, in some large sized issues, more than one merchant banker have been appointed as lead managers who have been jointly made responsible for furnishing due diligence certificate to SEBI. They also performed pre issue obligations jointly. In order to evaluate the number and amount of issues managed thru individual merchant banks, the amount of issues having multiple lead managers were apportioned equally to all lead managers and the number of that particular issue was assigned to the first lead manager in the list of such issues. Other merchant banks, which performed the role of co-lead manager / co-manager and the advisors to the issues, have been separately distributed with in the present study.

### Public Issues and Number of Merchant Banks Involved

The number of public issues floated by joint stock companies together with amount raised and the number of merchant banks involved in the management of public issues for the period from 2006-07 to 2015-16 has been presented in the table 2 and chart 1. A glance at the table 2 shows that a total of 662 public issues have been floated by companies which mobilized funds to the tune of Rs.3,75,290 crore. The largest number of 95 public issues was floated in the year 2015-16 and 91 issues during 2007-08 and 85 issues in the year 2008-09. It has been revealed in the table that primary capital market remained subdued during the year 2008-09 with respect to both number and amount of public issues. Year 2010-11 saw maximum amount of funds mobilized at Rs. 58,105 crore and Rs. 54,511 crore raised in 2007-08. The minimum amount of funds raised was in 2008-09, when Indian companies could raise Rs. 3,582 crore only.

**Table 2**  
**Merchant Banks Involved in Public Issues Floated by Joint Stock Companies**

(Rs. in Crores)

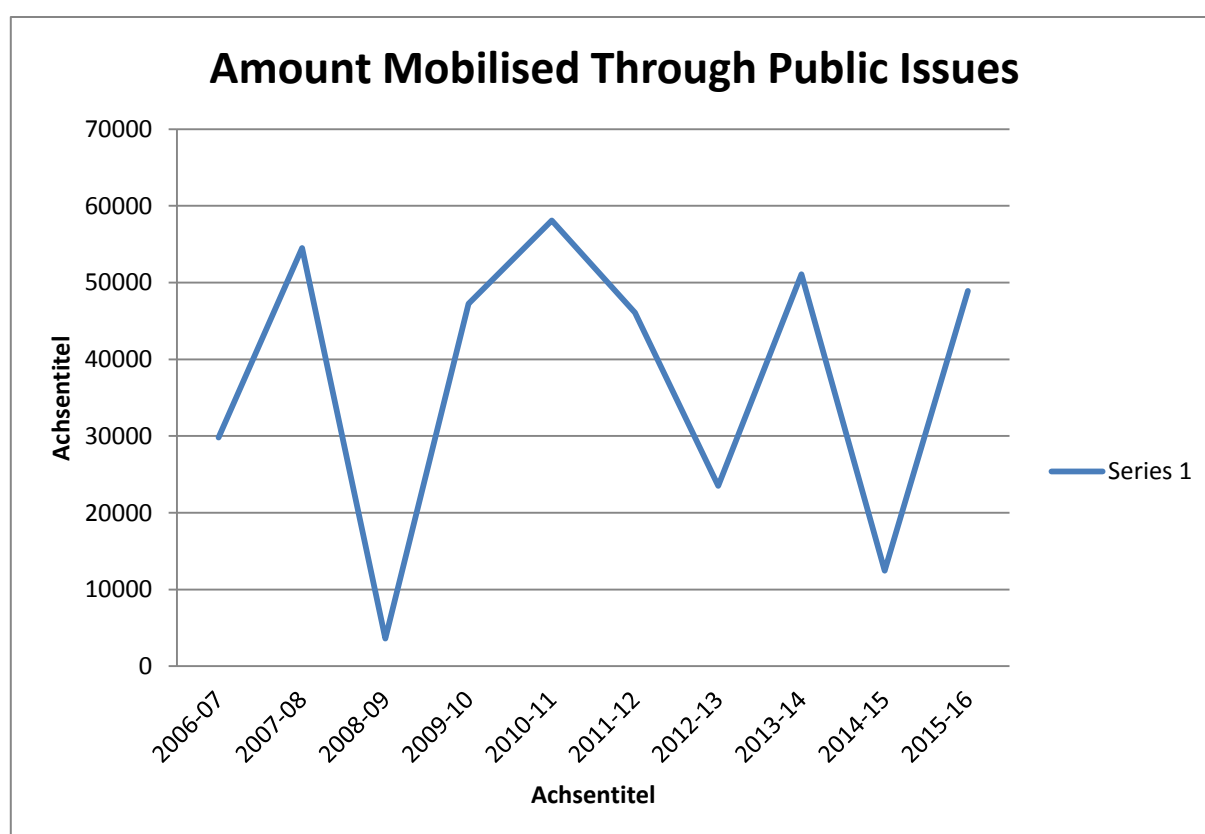
Years	Total Issues Floated	Total Amount (Rs. Crore)	Average Issue Size (Rs. Crore)	Merchant Banks Involved		
				As Lead Managers/ BRLM	As Co-Lead Managers/Co-Managers/Managers/ Advisor	Total Merchant Banks Involved
2006-07	85	29,797	350.55	37	9	46

2007-08	92	54,511	592.51	37	4	41
2008-09	22	3,582	162.82	18	8	26
2009-10	47	47,237	1,005.04	43	12	55
2010-11	68	58,105	854.49	62	12	74
2011-12	55	46,093	838.05	48	11	59
2012-13	53	23,510	443.58	34	10	44
2013-14	75	51,076	681.01	22	6	28
2014-15	70	12,452	177.89	22	8	30
2015-16	95	48,927	515.02	33	10	43
<b>Total</b>	<b>662</b>	<b>3,75,290</b>	<b>562.10</b>	<b>356</b>	<b>90</b>	<b>446</b>

**Source:** - Collected from offer documents, SEBI website also Prime Directories of relevant years.

After the introduction of SEBI (Merchant Bankers) Amendments Regulations, 2006, the number of merchant banks has increased and the qualified and professional bodies have remained in the field. This is evident from the table as well. In period of the study of first two years, the numeral of merchant banks intricate in primary capital market activities was higher than the number, although the resources mobilization was much higher in the latter years.

**Chart-1**



### Public Issues of Equity Managed by Indian and Foreign Merchant Banks

Entire merchant banks involved in the management of public issues of equity and deferred equity has been classified into Indian and foreign merchant banks. Table 3, Chart 2 and 3 present the year wise number of issues and the amount of equity issues handled by Indian merchant banks and foreign merchant banks operating in India. As showingthru the table, out of 528 equity issues floated throughout the period under review, as many as 442 were handled by Indian merchant banks while foreign merchant banks were the lead managers to 86 equity issues. However, 442 issuer mobilized an aggregate amount of Rs. 1,23,927.86 crore (55.49%) crore through Indian merchant banks also the amount of equity issues managed by foreign merchant banks were of Rs. 99,410.14 crore (44.51%). A glance at the average issue size of both categories of merchant banks depicts the higher average issue size in case of foreign merchant banks in all years. It displays the participation of foreign merchant banks in the management of comparatively large sized issues. The aggregate average issue size of foreign merchant banks was 932.21 crore while it was only 282.47 crore in case of Indian merchant banks.

Percentage share of Indian and Foreign merchant banks in the management of public issue of equity as well as year wise amount managed has also been shown in the following charts

**Table 3**  
**Public Issues of Equity Management by Indian and Foreign Merchant Banks**

*(Rs. in Crores)*

Year	Indian Merchant Banks			Foreign Merchant Banks			Total		
	No. of Issues	Amount Rs.	Average Amount Rs	No. of Issues	Amount Rs.	Average Amount Rs	No. of Issues	Amount Rs.	Average Amount Rs
2006-07	72	14,275.46 (47.91)	198.27	13	15,521.54 (52.09)	1193.96	85	29,797	350.55
2007-08	79	25,087.36 (46.02)	317.56	13	29,423.64 (53.98)	2263.36	92	54,511	592.51
2008-09	21	1,874.34 (90.03)	89.25	-	207.66 (9.97)	207.66	21	2,082	99.14
2009-10	30	24,525.26 (54.82)	817.51	14	20,211.74 (45.18)	1443.70	44	44,737	1016.75
2010-11	47	31,012.18 (63.74)	659.83	11	17,641.82 (36.26)	1603.80	58	48,654	838.86
2011-12	30	8,439.88 (80.52)	281.33	5	2,042.12 (19.48)	408.42	35	10,482	299.49
2012-13	29	4,525.82 (69.33)	156.06	4	2,002.18 (30.67)	500.55	33	6,528	206.82
2013-14	35	3,850.44 (44.29)	110.01	5	4,842.56 (55.71)	968.51	40	8,693	217.33
2014-15	43	1,906.84 (62.75)	44.35	3	1,132.16 (37.25)	377.39	46	3,039	66.07
2015-16	56	8,430.28 (56.90)	150.54	18	6,384.72 (43.10)	354.71	74	14,815	200.20
<b>Total</b>	<b>442</b>	<b>1,23,927.86 (55.49)</b>	<b>282.47</b>	<b>86</b>	<b>99,410.14 (44.51)</b>	<b>932.21</b>	<b>528</b>	<b>2,23,338</b>	<b>388.77</b>

**Note:** - Figures in parentheses show percentage of total amount mobilized through public issues.

**Source:**-Compiled from offer documents of Companies, SEBI Website and Prime Directories of relevant years.

**Chart – 2**

**Indian and Foreign Merchant Banks in Public Issues of Equity**

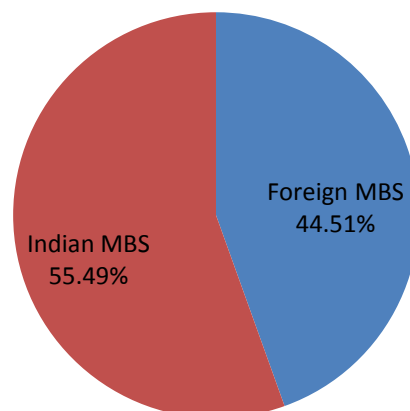
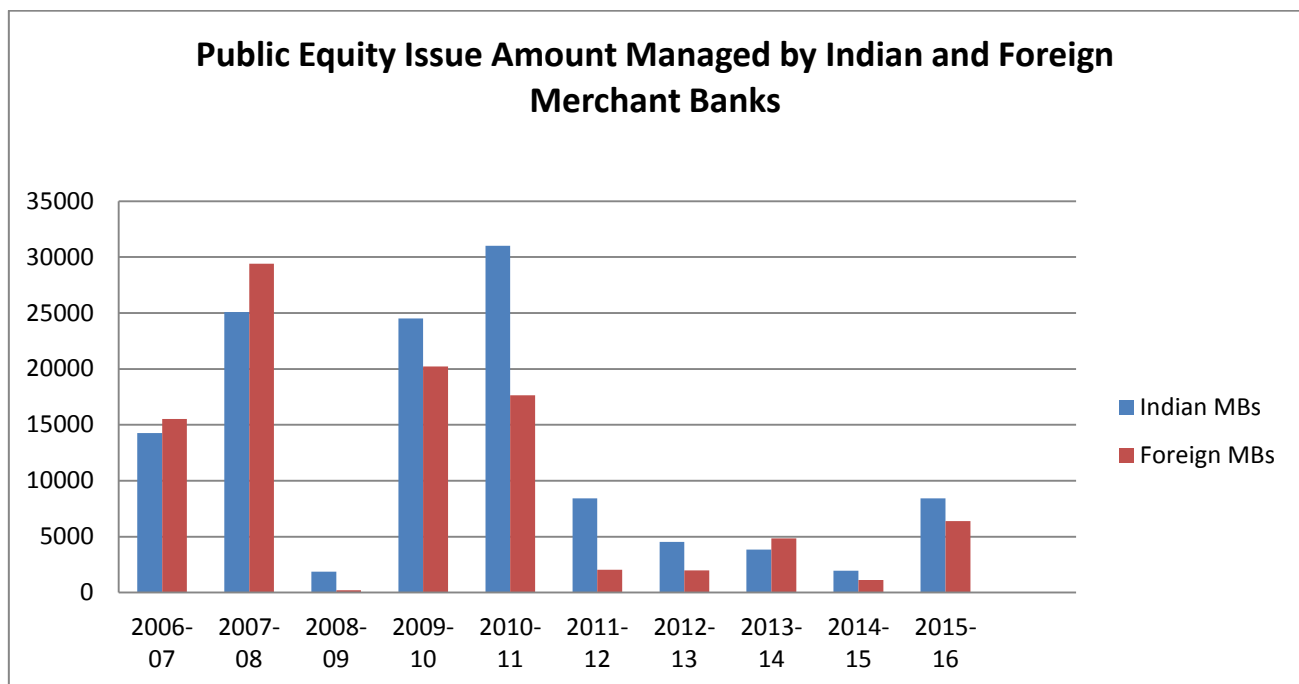


Chart 3



Further, the Indian merchant banks have the significant greater proportion of entire equity amount managed form 2008-09 to 2012-13 and 2014-15 as well as 2015-16, when one foreign merchant bank was able to manage a single issue of Rs. 4842.56 crore. The year 2013-14 onwards, together of merchant banks remained able to manage almost equal proportion of total resource mobilized through equity and deferred equity issues. On the other hand, the foreign merchant bankers were almost absent in the issue management activities of equity issues in 2008-09. Individual one foreign merchant banker joined Indian merchant bankers for one public issue management.

The analysis of the table leads to the conclusion that issuer companies with large issue size relied more on foreign merchant banks than on Indian merchant banking companies. This stayed for of the huge international network of foreign originated merchant banks as compared to Indian merchant banks.

## 5. SUGGESTION:

On the basis of the findings of the study in research paper the active role of merchant bankers in the management of public issues with the main thrust on the healthy growth of primary capital market in corporate sector.

## 6. CONCLUSION:

Merchant banks play an important role as one of the intermediaries in the growth and development management of public issues. They play the role of lead managers/ BRLMs, co-lead managers as well as advisors to the public issues. Both Indian as well as foreign merchant bankers participated in issue management activities through the period under review. However, Indian merchant bankers dominated the issue activities of equity shares together with respect to number and also amount of issues. Companies making large size issue of equity preferred foreign merchant bankers by way of lead managers. Among the Indian merchant banker Kotak Mahindra Capital Co., Enam Securities, SBI Capital Markets, karvy Investor Services, ICICI Securities were the major participants in the management of public issues. JM morgan Stanley and DSP Merrill Lynch played the leading role from among the foreign merchant bankers. So it is concluded that the performance of managing public issues is important in corporate sector.

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## National Conference on Recent Trends in Research

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### ONLINE ADVERTISING AND CONSUMER BEHAVIOUR

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**Abstract:** Uses of internet to deliver promotion marketing messages to consumers is called online advertising. In recent times online advertising has become the favorites medium of the advertisers in short time. The rapid development of technology today makes internet users continues to increase. The increase in internet users this makes the internet into a proper promotion using online advertising. Online advertising is efficient on consumer behavior in process of products purchases. Internet advertising have that fits needs of individuals and contain sufficient information about the product types and could identify consumer behavior with respect to affecting factors and select appropriate strategies, can greatly contribute to the process of purchasing and ultimately customer loyalty. The purpose of this study is to analyze different types of online advertising and to know how online advertisements affect consumer purchasing behavior.

**Key Words:** Online advertising, consumer, promotion, customer loyalty.

#### 1. INTRODUCTION-

In the last decade online advertising has grown rapidly all over. The rise of new media and communication channels and the rapid technology development tremendously changed the advertisement business landscape. However, the growing dependency on internet as the ultimate source information and communication, make it a leading advertisement platform. Now a days, one of the major problems of companies is the knowledge of consumer behavior that how the consumer will respond to various things that will be used for targeting their goals. The study of consumer behavior become a fear for marketers, as they may learn that how consumers select their goods and services to fulfill their multiple needs, and what are the factors that are influencing their choices. Because of this purpose companies are now attracts towards online advertising because online advertising is an emerging medium of media in the few last decade.

#### 2. MEANING OF ONLINE ADVERTISING:

Online advertising is a form of promotion that uses the internet and World Wide Web for the expressed purpose of delivering marketing messages to attract customers. Online advertising is also called online marketing, internet advertising or web advertising. Examples of online advertising include contextual ads on search engine results pages, banner ads, rich media ads, social network advertising, online classified advertising etc. Online advertising gives us the ability to target and retarget the ideal prospects. Online advertising is the best way for immediate publishing of information that is not limited by geographic or time constraints. Online advertising can customize advertisement, making consumer targeting more efficient and precise.

#### 3. OBJECTIVES OF STUDY-

- To understand the concept of online advertising
- To understand the impact of online advertising on consumer behavior
- To know the importance of online advertising

#### 3.1 TYPES OF ONLINE ADVERTISING- There are some types of online advertising are as follow-

- **Floating ads-** An advertising which moves across the user's screen or floats above the content called floating advertising. The most basic floating ads simply appear over the web age, either full screen or in a small rectangular window.
- **Expanding ads-** An ad which changes size and which may alter the contents of the webpage called expanding advertising.

- **Social media ads-** The process of gaining traffic or attention through social media websites such as Facebook, Twitter, LinkedIn etc.
- **Email ads-** Directly advertising a commercial message to a group of people using electronic mail called email advertising.
- **Inbound advertising-** Inbound advertising involves creating and freely sharing information content as a means of converting prospects into customers and customers into repeat buyers.
- **Video ads-** This type of ads specializes in creating videos that engage the viewer into a buying state by pressing information in video for and guiding them to a product or service. Online video is increasingly becoming more popular among internet users and companies are seeing it as a viable method of attracting customers.

### 3.2. BENEFITS OF ONLINE ADVERTISING-There are some benefits of online advertising are as follow-

- **Wide coverage-** Online advertising can reach people all over the world via the internet all around the clock, without restrictions to domain and time.
- **Independence-** Online advertising enables us to look up freely, and collectively presents information us need, so as to save our time and avoid vain and passive attention concentration.
- **Statistical accuracy-** For traditional media it is very hard to accurately calculate how many people can receive the information of an advertisement. While online advertising is different, it can conduct accurate statistics on how many times the advertisement is exposed in front of users. This can help customers correctly evaluate advertising effects and examine their advertising release strategies.
- **Interaction and direct senseexperience-**Online advertising are basically multimedia and hypertext documents. If consumers are interested in a specific product, they can further know more, detailed information about it by just clicking the mouse.
- **Online adjustment-** Advertising on traditional media is difficult to revise after the releases, and it takes some money and time even it can be revised, while advertising on the internet can change the content of the advertisement according to demands, and the operational strategy can be adjusted and implemented timely.

### 3.3. LIMITATIONS OF ONLINE ADVERTISING- Following are some limitations of online advertising-

- The consumer is unable to physically feel on the product which can be a limitation for certain goods.
- The marketer will not be able to use personal interaction to influence the audience as the marketing is completely based on the advertisement.
- Many internet products are outright scams or promoted with deception making it difficult to know which one is worth buying.

## 4. MEANING OF CONSUMER BEHAVIOR:

Consumer behavior can be defined as the activities the actions of people and organization that purchase and uses economic goods and services, including the influence on these activities and actions. Although advertising is an accepted part of everyday life, there is skill great debate as to how advertising works and the role it can and should perform within the marketing communication mix. This module enables the applicants to review this debate and apply the theories to the advertising in our media today. They will learn how to put together advertising plan and will examine the ingredients of an effective advertisements of an effective advertisements and ways in which this effectiveness can be measured. Consumer behavior plays central role in advertising. Before launching advertising campaign, the advertiser must be aware of behavioral pattern of consumer.

### 4.1. EFFECTS OF ONLINE ADVERTISING ON CONSUMER:

Some techniques of online advertising such as pop ups, pop under and banners are quite annoying to internet users. This is surprising because traditional media like television commercials has been long criticized as being intrusive and the leader in advertising annoyance. The negative perception towards intrusive ads leads consumers to not return to that website again. With users needing instant gratification not being able to complete their goals while online is starting to diminish their feelings towards advertisements company's brands and website environments. Abernethy describes intrusive online ads to being a television viewer who cannot leave the room or change the channel during a commercial, the user are change the channel during a commercial, the user are deterred and feel helpless because there is little they can do to escape these ads other than interrupt their task, scroll past ads or close the pop-up/pop-under windows.

### 4.2. HOW EFFECTIVE ONLINE ADVERTISING CAN BE CREATED:

- **Establish clear objectives and goals-** Online advertising needs to be driven by a set of advertising objectives. To build brand loyalty, increase website traffic, generates sales, build a social media following and improve customer convenience we achieve our goals easily.
- **Define communication-** The goal is to focus on a single benefit. In trying to communicate too many things, the consumer will only get confused.
- **Choose ad placement and sizes-** Where an ad is displayed on a website depends on the website, the ad size, and the budget. Ads placed “above the fold” will get a higher click-through rate. But in reality, it all depends on the site, the content, and the visitor.
- **Select target rich websites-** Now that the organization knows who their target audience is and what they need to say, it’s time to find out where their customers are. What sites do they frequent and how will the organization get its ads displayed on those sites.

## 5. CONCLUSION:

The study concludes that the impact of internet on reach and creation of awareness was determined by the level of knowledge about the existing platforms of advertise adopted by various companies in India and time spent on various media. Online advertising was effective in providing higher reach and creation of awareness. However, in spite of the diverse usage of internet and wide interaction with various online advertising, fewer respondents were able to recall the internet ads they had seen. This implies that the reliability of online advertising is quite low. The study concludes that online advertising influenced purchase decision of the customers to a moderate extent as only nearly half of the respondents were influenced purchase decision.

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## National Conference on Recent Trends in Research

11<sup>th</sup> March, 2018 at Jai Narain Vyas University, Jodhpur, Rajasthan, India.

### Credit Risk Management of Public and Private Sector Banks

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**Abstract:** Credit risk management is not just a process or procedure. It is a fundamental component of the banking function. The management of credit risk must be incorporated into the fiber of banks. With the progressive and advancing liberalization and globalization, credit risk management is gaining a lot of importance. It is very important for banks today to understand and manage credit risk. Banks today put in a lot of efforts in managing, modeling and structuring credit risk. Credit risk is defined as the potential that a borrower or counterparty will fail to meet its obligation in accordance with agreed terms. RBI has been extremely sensitive to the credit risk it faces on the domestic and international front. Lending is considered as one of the principal functions of commercial banks not only because of their social obligation to cater to the credit needs of different sections of the community but also due to the most profitable activity of the financial institution. The goal of credit risk management is to maximise a bank's risk-adjusted rate of return by maintaining credit risk exposure within acceptable parameters. This research paper analyzes the Credit Risk Management of Public and Private Sector Banks.

**Key Words:** risk management, credit risk, recovering the money,

#### 1. INTRODUCTION:

For most banks, loans are the largest and most obvious source of credit risk; however, other sources of credit risk exist throughout the activities of a bank, including in the banking book and in the trading book, and both on and off the balance sheet. Since exposure to credit risk continues to be the leading source of problems in banks worldwide, banks and their supervisors should be able to draw useful lessons from past experiences. Banks should now have a keen awareness of the need to identify, measure, monitor and control credit risk as well as to determine that they hold adequate capital against these risks and that they are adequately compensated for risks incurred. Exposure to credit risk continues to be the leading source of problems in banks worldwide. This has necessitated a systematic approach towards managing the risk and credit risk management has emerged as the most critical element for the safe and sound banking activities. Further, banks are expected to exert financial discipline on commercial sector by allocating credit judiciously through prudent and efficient credit risk management practices. Thus the present day emphasis is on credit risk management and profitability in banks. Profitability, once relegated to a secondary importance, now becomes the prime mover of financial strength and performance of banks.

Credit risk management process encompasses the following areas as per Reserve Bank guidelines (RBI, 2002a):

- Measurement of risk through credit rating/ scoring
- Quantifying the risk through estimating expected loan losses
- Fixing Credit Price
- Risk control

One of the significant fallout of prudent credit risk management practices is superior quality of the loan assets. The quality of loan assets gets reflected in the Non-Performing Asset (NPA) figures of the banks. In recent times there has been extensive discussion on the accumulation of huge non-performing assets (NPAs) on the balance sheets of the Indian banks, more specifically, the public sector banks. PSBs figure prominently in the debate not only because they actively participate in Jan Dhan Yojna, Demonetization (Note bandi) but also they have much larger NPAs compared with the private and foreign banks operating in the country. As in recent time PSU Banks are cheated by the big name and fame type of people Like Vijay Mallya, Nirav Modi, Mehul Chokshi, Vikram Kothari etc. Many of them take the loan and they move away by taking Billions of money. All these cases are indicating towards the failure of the risk management and auditing systems. Performance Audit Union Government Recapitalization of Public Sector Banks" says that GOI, as the majority shareholder, has infused capital of Rs 1,18,724 crore from 2008-09 to 2016-17 in PSBs

for meeting their capital adequacy requirements. The government has announced that it is infusing another Rs 2.11 lakh crore into PSU banks. At the same time, bad loans in the banking sector are above 10 per cent of outstanding loans. According to the RBI's Financial Stability Report, while NPAs are rising for both public and private sector banks, those for public sector banks could rise to as much as 14.6 per cent by March 2018.

## **2. REVIEW OF LITERATURE:**

As banking is most affluent industry which catches eyes of all the researchers within a last few years lot of researches has been done related to credit risk in banking application. An insight to those studies is as follows:

Macaulay (1988) conducted a survey in the United States and found credit risk management is best practice in bank and above 90% of the bank in country have adopted the best practice. Inadequate credit policies are still the main source of serious problem in the banking industry as result effective credit risk management has gained an increased focus in recent years. The main role of an effective credit risk management policy must be to maximize a bank's risk adjusted rate of return by maintaining credit exposure within acceptable limits. Moreover, banks need to manage credit risk in the entire portfolio as well as the risk in individual credits transactions.

Rajan (1994) explained that behavior of the bank manager during expansion periods may be one of the reasons that NPA accumulates because of competition and peer pressure.

Basel (1999), Credit risk is the risk that a loan which has been granted by a bank will not be either partially repaid on time or fully and where there is a risk of customer or counterparty default. Credit risk management processes enforce the banks to establish a clear process in for approving new credit as well as for the extension to existing credit. These processes also follow monitoring with particular care, and other appropriate steps are taken to control or mitigate the risk of connected lending.

Ghosh and Das (2005) focused on whether, and to what extent, governments should impose capital adequacy requirements on banks, or alternately, whether market forces could also ensure the stability of banking systems. The study contributed to this debate by showing how market forces might motivate banks to select high capital adequacy ratios as a means of lowering their borrowing costs. Empirical tests for the Indian public sector banks during the 1990s demonstrate that better capitalized banks experienced lower borrowing costs. These findings suggested that ongoing reform efforts at the international level should primarily focus on increasing transparency and strengthening competition among the banks.

Ahmad and Ariff (2007) examined the key determinants of credit risk of commercial banks on emerging economy banking systems compared with the developed economies. The study found that regulation was important for banking systems that offered multi-products and services; management quality is critical in the cases of loan-dominant banks in emerging economies. An increase in loan loss provision was also considered to be a significant determinant of potential credit risk.

Kanhaiya Singh,(2011), Generally the issues related to Credit Risk are addressed in the policies stated in the Bank's policy namely – Loan Policy, Credit monitoring Policy, Real Estate Policy, Credit Risk Management Policy, Collateral Risk Management Policy, Recovery Policy, Treasury Policy.

Ms. Sunita Sukhija (2011), in his paper examined the consistency of the profitability of the major private sector bank in India. For this purpose, she has been taken five year data from 2006 to 2010 and ratio analysis has been used to evaluate the profitability performance of private sector banks. They found that interest income and non-interest to total assets is maximized of TamilNadu Mercantile Bank Ltd and ratio of interest expended to total assets, non-interest expenses to total Assets and burden to total Assets is minimum subsequently HDFC bank, City Union Bank and Axis bank.

Dhanabhakyaam and Kavitha (2012), stated that the Indian banking system faces several difficult challenges. The selected public sector banks have performed well on the sources of growth rate and financial efficiency during the study period. The old private sector banks and new private sector banks play a vital role in marketing of new type of deposits and advances schemes.

Singh, (2013), The three primary activities of a commercial bank which distinguish it from the other financial institutions. These are: (i) maintaining deposit accounts including current accounts, (ii) issue and pay cheques, and (iii) collect cheques for the bank's customers. Effective credit risk management should be a critical component of a bank's overall risk management strategy and is essential to the long-term success of any banking organization. It becomes more and more significant in order to ensure sustainable profits in banks.

Dr. Mahadevmurthy and Prof S.N. Pathi (2013), Risk often comes in investing and in the allocation of capital, the risks must be assessed so as to derive a sound investment decision. Likewise the assessment of risk is also crucial in coming up with the position to balance risks and returns. Banks are constantly faced with risks. There are certain risks in the process of granting loans to certain clients. There can be more risks involved if the loan is extended to unworthy debtor. Certain risks may also come when banks offer securities and other forms of investment.

Rohit Bansal (2014) in his article researcher investigates performance of four private sector banks for the period of 2011 to 2014 and ratio analysis has been used to evaluate the profitability performance of selected banks.

They found that HDFC and Federal has fairly stable asset turnover ratio which indicates its efficient utilization of resources in revenue generation and Federal has the best price earnings ratio among other banks.

## 2.1. OBJECTIVE OF THE STUDY:

- To analyze that which bank is using optimum resources and delivering the growth.
- To analyze the performance of the banks on their financials of selected public and private sector banks.

## 3. DATA COLLECTION:

The study is depends on secondary data. The required information for the analysis purpose is collected from the different sources like month to month RBI bulletins published by RBI, Govt. of India, Reports published by National Institute of Bank Management, Annual reports of different banks, publications and notices of RBI, Reports distributed by Indian Bank Association (IBA) and various websites like money-control, and various news papers so on.

### 3.1. UTILISATION OF THE RESOURCES AND FINANCIAL PERFORMANCE

In banking Industry if your credit risk is low and you are easily recovering the money from borrower, it depicts the rosy picture of the banking overall.

#### Q3-2017 Performance of PSU Banks

Company Name	NII(Rs Cr)	Provisions	Net Profit
SBI	18,687.52	18,876.21	-2,416.37
Bank of Baroda	4,394.03	3,426.51	111.78
PNB	3,988.70	4,466.68	230.11
Canara Bank	3,679.13	2,673.64	125.75
Union Bank	2,548.26	3,254.40	-1,249.85
Bank of India	2,501.23	4,899.72	-2,341.20
Central Bank	1,977.42	3,427.03	-1,664.22
Andhra Bank	1,672.21	2,423.34	-532.02
IDBI Bank	1,665.51	4,179.12	-1,524.31
Syndicate Bank	1,623.17	2,089.99	-869.77

#### Q3-2017 Performance of Private Banks

Company Name	NII(Rs Cr)	Provisions	Net Profit
HDFC Bank	10,314.34	1,351.44	4,642.60
ICICI Bank	5,705.27	3,569.56	1,650.24
Axis Bank	4,731.52	2,811.04	726.44
Kotak Mahindra	2,393.72	212.77	1,053.21
IndusInd Bank	1,894.81	236.16	936.25
Yes Bank	1,888.80	421.32	1,076.87
Federal Bank	950	162.43	260.01
JK Bank	780.19	250.11	72.47
KarurVysya	561.64	324.7	71.49
South Ind Bk	509.39	154.28	115

### PSU banks Q3 Performance

Company Name	EPS	Gross NPA %	Net NPA %
IDBI Bank	-6.23	24.72%	16.02%
Central Bank	-8.58	18.08%	9.45%
Bank of India	-19.76	16.93%	10.29%
Andhra Bank	-6.1	14.26%	7.72%
Union Bank	-16.63	13.03%	6.96%
PNB	1.04	12.11%	7.55%
Bank of Baroda	0.49	11.31%	4.97%
Canara Bank	2.11	10.38%	6.78%
SBI	-2.8	10.35%	5.61%
Syndicate Bank	-9.97	9.62%	5.44%

If we compare the PSU Banks data for Q3 2017, we will find that there has been huge provisioning done for the PSU bank. If we see the India's top bank SBI which has been hit by a huge provisioning more than the NII, which is so much negative. In top 10 PSU bank only 3 banks were able to post net profit. There are 8 banks which has provisioning more than the NII. In coming quarter it is expected one the worst quarter in the history of the Banking for PSU banks.

### Private Banks Q3 Performance

Company Name	EPS	Gross NPA %	Net NPA %
JK Bank	1.3	10.08%	4.29%
ICICI Bank	2.57	7.82%	4.20%
KarurVysya	1.04	5.94%	3.88%
Axis Bank	3	5.28%	2.56%
South Ind Bk	0.64	3.40%	2.35%
Federal Bank	1.33	2.52%	1.36%
Kotak Mahindra	5.53	2.31%	1.09%
Yes Bank	4.7	1.72%	0.93%
HDFC Bank	17.9	1.29%	0.44%
IndusInd Bank	15.62	1.16%	0.46%

If we compare the Private Banks data for Q3 2017, we will find that provisioning is quiet low in comparison of NII. All the top 10 private sector banks have posted profit for the Quarter. Only two banks are there who has some serious nature of the provisioning ICICI Bank and Axis bank other wise all the banks are running in quiet better mode. For coming Q4 there are chances for some of the banks who can declare more provisioning other wise as the history suggest they will do better in Q4 2017.

Only 3-4 banks are there in private sector whose NPA is on alarming condition but not as much of the PSU banks. In fact private banks are in quiet comfort position overall and they having a very good chance to take some risky ventures and to earn a handsome profit and opportunity to grab more business in comparison to PSU banks in coming time. In fact we can say that they professionally managed and they having very good credit risk management systems. These banks are not facing capital crunch type situation. All the banks are in profit.

In banking Industry NPA is loss to bank. A such amount which is unlikely to come in near term for the PSU banks as all the PSU banks has been hit by a large by the Infrastructure, Steel and Power companies. As they having very large exposure in this types of industries. Infrastructure, Steel and Power are back bone and reflector of growth in any country. All PSU banks having gross NPA which is a big sign of worry for economy of the country and it is to be given a package in form of capital infusion which has been declared by the govt as early as possible for revival.

**Key Finding:** Through the above analysis, it has been found that

- All of the public sector banks have shown huge Non-Performing Assets.
- Among the public sector banks, State Bank of India has shown highest nonperforming assets risk.
- The risk in public sector banks is higher than that of private sector banks.
- Among the private sector banks, J&K bank, ICICI bank KarurVysya Bank and Axis Bank indicate higher risk.
- All public sector banks need to work on NPA and their recovery.
- All Public sector banks credit risk management system requires to be reviewed and should have better approaches to access the credit risk.

## 5. CONCLUSION:

The objective of this study was to access credit risk management of the both sector banks public as well as private sector. Public sector banks require more access to credit risk management tools and they should relook to their credit policies through which they access the loan. While at other hand Private Banks are well managed and controlled as they are able to fight with risk forces and able to control the NPA level and sit in comfort zone. Better credit risk management brings to better bank performance. The banks which are confronting low competitiveness on credit risk management and positive changes in profitability need to enhance their credit risk management to keep up high productivity. Notwithstanding, it needs to develop its capital ampleness proportion and control its non-performing resources. The poor credit risk management influences bank disappointments in India. In this way, credit risk management is essential in banks and as it enables them to enhance their execution and counteract bank distress.

## RECOMMENDATIONS:

- Banks should make endeavors to embrace the new advancements keeping in mind the final goal to enhance their customers' service level and provide them with new convenience. The accomplishment of these activities will provide a new direction to the banks to sustain their market position.
- The public sector banks are expected to successfully utilize innovation to counter the difficulties experienced and faced by the private sector banks, particularly in the retail business. Better customer services supported by predominant innovation and the absence of conventional systems have empowered the private sector banks to select a section of the entire industry from the public sector banks.
- Banks required providing training to the employee to upgrade their ability and looking into the ampleness of credit training throughout.

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**Elastic and Thermal deformations in a magneto-micropolar medium  
subjected to Hall current, rotation and radiation of thermal laser**

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**Abstract:** The purpose of this paper is to study the elasto-dynamical interactions in magneto-micro polar-thermoelastic half-space considering the effect of hall current, laser heat source and rotation subjected to input ultra-laser heat source. The micropolar theory of thermo-elasticity by Eringen (1966) has been used to investigate the problem. Normal mode analysis technique has been used to solve the resulting non-dimensional coupled field equations to obtain displacement, stress components and temperature distribution. Numerical computed results of all the considered variables have been shown graphically to depict the combined effect of hall current, laser heat source and rotation on the phenomena. Some particular cases of interest are also deduced from the present study.

**Keywords:** Micropolar thermoelastic, Hall Current, Thermal laser heat source, rotation.

## 1. INTRODUCTION:

The problems involving the investigation of effect of magnetic field (that may be earth's magnetic field or other human generated high intensity magnetic field) and thermal loading by lasers on various type of materials are of great importance in seismological research and in engineering applications. The linear theory of micropolar elasticity was developed by Eringen [1]. A micropolar continuum is a collection of interconnected particles in the form of small rigid bodies undergoing both translational and rotational motions. Rigid chopped fibers, elastic solids with rigid granular inclusions and other industrial materials such as liquid crystals are examples of such materials.

The theory of magneto thermoelasticity has a wide range of applications and possibilities of research in the field of geology, earth sciences, plasma physics and engineering. When a particle is stationary under the effect of magnetic field, the field has no effect on this particle. Also, consider a particle is moving in parallel direction of the magnetic field, the particle will move undeflected. Now in case a particle is moving in path having a component normal to magnetic field, the particle will be deflected due to a force acting on it. In addition to this deflected motion this particle will experiences the electric field. The combined force is Lorentz force. There is a consideration that mechanical and electromagnetic fields interactions take place due to Lorentz forces. Conductivity perpendicular to the direction of magnetic field is decreased due to the free spiraling of negatively charged electrons and other ions about the magnetic field lines before colliding and a current is induced perpendicular to electric field and magnetic fields both. This phenomenon is called the Hall Effect. When the magnetic field intensity is very high Hall Effect cannot be neglected. Zakaria [2] investigated the effects of Hall current and rotation on magneto micropolar generalized thermo elasticity including the boundary condition with a source of ramp type heating.

A thermal shock induces very rapid movement in the structural elements, giving the rise to very significant inertial forces, and give rise to oscillations. The ultra-short lasers have pulse durations ranging from nanoseconds to femto seconds. Also in ultra-short laser pulse, the high energy flux and short duration result in a very large thermal gradient. So, Fourier law of heating is no longer valid. Scruby et al. [3] investigated a mathematical model of point source to study the ultrasonic evolution by lasers. He studied the physics of heated plate by laser heat loading in the thermoelastic system as a surface center of expansion (SCOE). Also for one-point laser heat input Rose [4] provided more accurate mathematical basis. Later McDonald [5] and Spicer [6] gave a mathematical model known as laser-generated ultrasound model by introducing thermo-diffusion concept. Dubois [7] verified by experimental results that penetration depth plays an important role in the generation of laser-ultrasound. Abo-Dahab and Abbas [8] investigated LS model on thermal shock problem of generalized magneto-thermoelasticity for an infinitely long annular cylinder with variable thermal conductivity. Chen et al. [9] and Kim et al. [10] investigated some other such type of research. Thermoelastic behavior of laser heat in context of different theories of thermoelasticity was presented by Youssef and

Al-Bary [11]. A 2- dimensional problem in generalized thermoelastic medium with thermo-diffusion was investigated by Elhagary [12]. Kumar et al.[13] studied the elastodynamical interactions of input heat source with microstretch thermoelastic medium.

The aim of the present study is to investigate the interaction in magneto micropolar thermoelastic medium, taking into consideration the effect of hall current, laser heat source and rotation. The components of displacement, stress, current density and temperature distribution are obtained by using normal mode analysis. The problem has become more interesting with the inclusion of thermal laser heat source, normal and tangential forces. The resulting quantities are computed numerically and depicted graphically.

## 2. BASIC EQUATIONS

Let us consider a micropolar thermoelastic medium permeated by an initial strong magnetic field  $\mathbf{H} = (0, H_0, 0)$  and the considered medium is rotating. The angular velocity is assumed to be equal to  $\Omega$ . For magneto-micropolar thermoelastic medium the basic equations and constitutive relation in absence of body forces, body couples and stretch forces, following Eringen [1], Al Qahtani and Dutta [14] and Zakaria [2] are given by:

$$(\lambda + \mu)\nabla(\nabla \cdot \mathbf{u}) + (\mu + K)\nabla^2 \mathbf{u} + K\nabla \times \boldsymbol{\phi} - \beta_1 \left(1 + \tau_1 \frac{\partial}{\partial t}\right) \nabla T + \mu_0 \epsilon_{rji} J_r H_j = \rho \left( \ddot{\mathbf{u}} + \boldsymbol{\Omega} \times (\boldsymbol{\Omega} \times \mathbf{u}) + 2\boldsymbol{\Omega} \times \frac{\partial \mathbf{u}}{\partial t} \right), \quad (1)$$

$$(\gamma \nabla^2 - 2K)\boldsymbol{\phi} + (\alpha + \beta)\nabla(\nabla \cdot \boldsymbol{\phi}) + K\nabla \times \mathbf{u} = \rho j \left( \ddot{\boldsymbol{\phi}} + \boldsymbol{\Omega} \times \frac{\partial \boldsymbol{\phi}}{\partial t} \right), \quad (2)$$

$$K^* \nabla^2 T = \rho c^* \left( \frac{\partial}{\partial t} + \tau_0 \frac{\partial^2}{\partial t^2} \right) T + \left( 1 + \epsilon \tau_0 \frac{\partial}{\partial t} \right) \beta_1 T_0 (\nabla \cdot \dot{\mathbf{u}} - Q) + \nu_1 T_0 \left( \frac{\partial}{\partial t} + \epsilon \tau_0 \frac{\partial^2}{\partial t^2} \right) \phi^*, \quad (3)$$

$$t_{ij} = \lambda u_{r,r} \delta_{ij} + \mu (u_{i,j} + u_{j,i}) + K (u_{j,i} - \epsilon_{ijk} \phi_k) - \beta_1 \left( 1 + \tau_1 \frac{\partial}{\partial t} \right) \delta_{ij} T, \quad (4)$$

$$m_{ij} = \alpha \phi_{r,r} \delta_{ij} + \beta \phi_{i,j} + \gamma \phi_{j,i} \quad (5)$$

where  $\lambda, \mu, \alpha, \beta, \gamma$ , and  $K$  are constants depending on the nature of material,  $\rho$  is density of the medium,  $\mathbf{u} = (u_1, u_2, u_3)$  and  $\boldsymbol{\phi} = (\phi_1, \phi_2, \phi_3)$  are displacement and microrotation vectors respectively,  $T$  is temperature,  $T_0$  is the reference temperature,  $K^*$  is the coefficient of the thermal conductivity,  $c^*$  is the specific heat at constant strain,  $j$  is the microinertia,  $\beta_1 = (3\lambda + 2\mu + K)\alpha_{t1}$ ,  $\nu_1 = (3\lambda + 2\mu + K)\alpha_{t2}$ ,  $\alpha_{t1}$  and  $\alpha_{t2}$  are coefficients of linear thermal expansion,  $t_{ij}$  are components of stress,  $m_{ij}$  are components of couple stress,  $\delta_{ij}$  is Kroneker delta function,  $\tau_0$  and  $\tau_1$  are thermal relaxation times with  $\tau_0 \geq \tau_1 \geq 0$ .

Let the microstretch thermoelastic medium is rotating with angular velocity  $\boldsymbol{\Omega}$ . The equations of motion have two extra terms,

- (i) The centripetal acceleration  $\boldsymbol{\Omega} \times (\boldsymbol{\Omega} \times \mathbf{u})$  due to time varying motion.
- (ii) The Coriolis acceleration  $2(\boldsymbol{\Omega} \times \dot{\mathbf{u}})$ .

The current density vector  $\mathbf{J}$  can be expressed as:

$$\mathbf{J} = \frac{\sigma_0}{1+m^2} \left[ \mathbf{E} + \mu_0 (\dot{\mathbf{u}} \times \mathbf{H}) - \frac{\mu_0}{en_e} (\mathbf{J} \times \mathbf{H}) \right]. \quad (6)$$

Here  $\mathbf{F} = \mu_0 (\mathbf{J} \times \mathbf{H})$  is the Lorentz force,  $\mathbf{H}$  is the magnetic field vector,  $\mathbf{E}$  is the intensity of electric field,  $m$  is the Hall parameter,  $\sigma_0$  is the electrical conductivity,  $e$  is the charge of an electron,  $n_e$  is the number density of electrons. Further the plate surface is illuminated by laser pulse given by the heat input

$$Q = I_0 f(t) g(x_1) h(x_3) \quad (7)$$

$$f(t) = \frac{t}{t_0^2} e^{-\left(\frac{t}{t_0}\right)}, \quad (8)$$

$$g(x_1) = \frac{1}{2\pi r^2} e^{-\left(\frac{x_1^2}{r^2}\right)}, \quad (9)$$

$$h(x_3) = \gamma^* e^{-\gamma^* x_3} \quad (10)$$

where,  $I_0$  energy absorbed,  $t_0$  is the pulse rising time,  $r$  is the beam radius.

Equation (7) with substitution of (8- 10) takes the form

$$Q = \frac{I_0 \gamma^*}{2\pi r^2 t_0^2} t e^{-\left(\frac{t}{t_0}\right)} e^{-\left(\frac{x_1^2}{r^2}\right)} e^{-\gamma^* x_3} \quad (11)$$

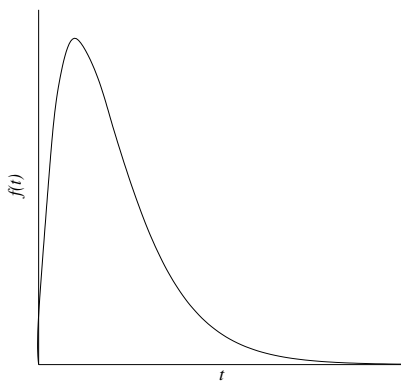


Fig. 1. Temporal profile of  $f(t)$

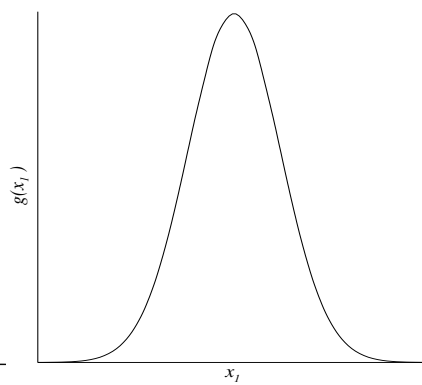


Fig. 2. Profile of  $g(x_1)$

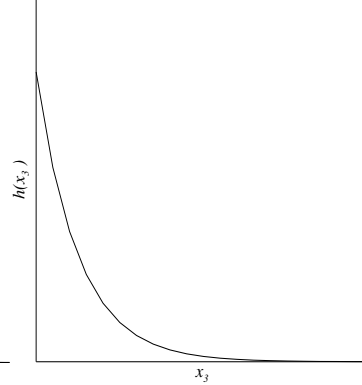


Fig. 3. Profile of  $h(x_3)$

In the above equations symbol (“,”) followed by a suffix denotes differentiation with respect to spatial coordinates and a superposed dot (“ $\dot{\phantom{x}}$ ”) denotes the derivative with respect to time respectively.

### 3. FORMULATION OF THE PROBLEM:

We consider a magneto-micropolar thermoelastic medium with rectangular Cartesian coordinate system  $OX_1X_2X_3$  having  $x_3$ -axis pointing vertically downward the medium. A normal force/tangential force and ultra-short laser pulse are assumed to acting at the origin of the rectangular Cartesian co-ordinate system. A component of Hall current  $H_0$  is in  $x_2$ -direction.

We consider plane strain problem with all the field variables depending on  $(x_1, x_3, t)$ . For two dimensional problems, we take

$$\mathbf{u} = (u_1, 0, u_3), \mathbf{\phi} = (0, \phi_2, 0), \quad (12)$$

For further consideration, it is convenient to introduce in equations (1)-(3) the dimensionless quantities defined as:

$$x'_i = \frac{\omega^*}{c_1} x_i, u'_i = \frac{\rho \omega^* c_1}{\beta_1 T_0} u_i, \phi'_i = \frac{\rho c_1^2}{\beta_1 T_0} \phi_i, T' = \frac{T}{T_0}, t' = \omega^* t, \tau'_1 = \omega^* \tau_1, \tau'_0 = \omega^* \tau_0, t'_{ij} = \frac{1}{\beta_1 T_0} t_{ij},$$

$$\omega^* = \frac{\rho c_1^2}{K^*}, c_1^2 = \frac{\lambda + 2\mu + k}{\rho}, m_{ij}^* = \frac{\omega^*}{c \beta_1 T_0} m_{ij}, \Omega^1 = \frac{\Omega}{\omega^*}, M = \frac{\sigma_0 \mu_0^2 H_0^2}{\rho \omega^*}, Q' = \frac{\beta_1^2}{\rho c_1^2} Q \quad (13)$$

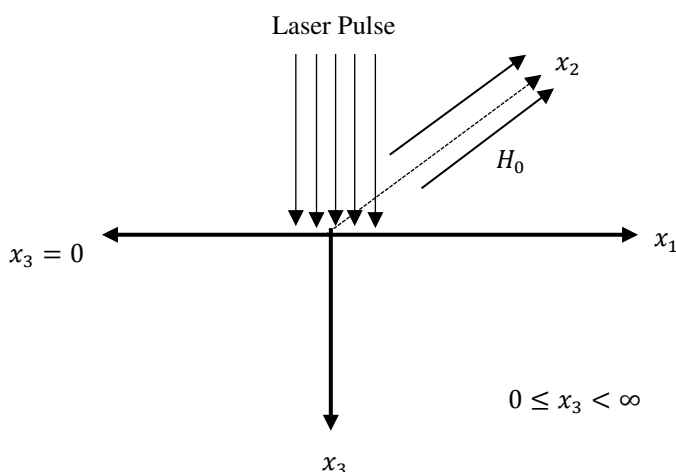


Fig. 4. Geometry of the problem.

Making use of equation (12)-(13) the system of equations (1)-(3) reduces to:

$$\zeta_1 \frac{\partial e}{\partial x_1} + \zeta_2 \nabla^2 u_1 - \zeta_3 \frac{\partial \phi_2}{\partial x_3} + \Omega_0^2 u_1 - 2\Omega_0 \frac{\partial u_3}{\partial t} + \frac{M}{1+m^2} \left( \frac{\partial u_1}{\partial t} + m \frac{\partial u_3}{\partial t} \right) - \left( 1 + \tau_1 \frac{\partial}{\partial t} \right) \frac{\partial T}{\partial x_1} = \ddot{u}_1, \quad (14)$$

$$\zeta_1 \frac{\partial e}{\partial x_3} + \zeta_2 \nabla^2 u_3 + \zeta_3 \frac{\partial \phi_2}{\partial x_1} + 2\Omega_0 \frac{\partial u_1}{\partial t} + \Omega_0^2 u_3 - \frac{M}{1+m^2} \left( m \frac{\partial u_1}{\partial t} - \frac{\partial u_3}{\partial t} \right) - \left( 1 + \tau_1 \frac{\partial}{\partial t} \right) \frac{\partial T}{\partial x_3} = \ddot{u}_3, \quad (15)$$

$$\nabla^2 \phi_2 - 2\zeta_4 \phi_2 + \zeta_4 \left( \frac{\partial u_1}{\partial x_3} - \frac{\partial u_3}{\partial x_1} \right) = \zeta_5 \ddot{\phi}_2, \quad (16)$$

$$-\nabla^2 T + \left( \frac{\partial}{\partial t} + \tau_0 \frac{\partial^2}{\partial t^2} \right) T + \zeta_6 \left( 1 + \varepsilon \tau_0 \frac{\partial}{\partial t} \right) (\dot{e} - Q) = Q_0 f^*(x_1, t) e^{-\gamma^* x_3}, \quad (17)$$

$$M_1 = 2\Omega_0 + \frac{M}{1+m^2}, \quad \zeta_1 = \frac{\lambda + \mu}{\rho c_1^2}, \zeta_2 = \frac{\mu + K}{\rho c_1^2}, \zeta_3 = \frac{K}{\rho c_1^2}, \zeta_4 = \frac{K c_1^2}{\gamma \omega^{*2}}, \zeta_5 = \frac{\rho j c_1^2}{\gamma}, \zeta_6 = \frac{\beta_1 T_0^2}{\rho \omega^* K^*}$$

Using Helmholtz's theorem the displacement components  $u_1$  and  $u_3$  are related to the non-dimensional potential functions  $\phi$  and  $\psi$  by the relation mentioned below:

$$u_1 = \frac{\partial \phi}{\partial x_1} + \frac{\partial \psi}{\partial x_3}, \quad u_3 = \frac{\partial \phi}{\partial x_3} - \frac{\partial \psi}{\partial x_1} \quad (18)$$

Substituting the values of  $u_1$  and  $u_3$  from (18) in (14)-(17), we obtain:

$$\left( \nabla^2 + \Omega^2 + \frac{M}{1+m^2} \frac{\partial}{\partial t} - \frac{\partial^2}{\partial t^2} \right) \phi + \left( 2\Omega - \frac{mM}{1+m^2} \right) \frac{\partial \psi}{\partial t} - \left( 1 + \tau_1 \frac{\partial}{\partial t} \right) T = 0, \quad (19)$$

$$\left( a_3 \nabla^2 + \frac{M}{1+m^2} \frac{\partial}{\partial t} - \frac{\partial^2}{\partial t^2} \right) \psi - \left( 2\Omega - \frac{mM}{1+m^2} \right) \frac{\partial \phi}{\partial t} - a_4 \phi_2 = 0, \quad (20)$$

$$\left( 1 + \tau_0 \frac{\partial}{\partial t} \right) \dot{T} + a_5 \left( \frac{\partial}{\partial t} + \varepsilon \tau_0 \frac{\partial^2}{\partial t^2} \right) \nabla^2 \phi - \nabla^2 T = Q_0 f^*(x_1, t) e^{-\gamma^* x_3}, \quad (21)$$

$$\left( \nabla^2 - 2a_1 + a_2 \frac{\partial^2}{\partial t^2} \right) \phi_2 + a_1 \nabla^2 \psi = 0 \quad (22)$$

where

$$a_1 = \frac{K c_1^2}{\gamma \omega^{*2}}, a_2 = -\frac{\rho j c_1^2}{\gamma}, a_3 = \frac{\mu + K}{\rho c_1^2}, a_4 = \frac{K}{\rho c_1^2}, a_5 = \frac{\beta_1^2 T_0}{\rho K^* \omega^*}, a_6 = \frac{\lambda + \mu}{\rho c_1^2}, Q_0 = \frac{a_{13} I_0 \gamma^*}{2\pi r^2 t_0^2},$$

$$f(x_1, t) = \left[ t + \varepsilon \tau_0 \left( 1 - \frac{t}{t_0} \right) \right] e^{-\left( \frac{x_1^2}{r^2} + \frac{t}{t_0} \right)}.$$

#### 4. SOLUTION OF THE PROBLEM

The solution of the considered physical variables can be decomposed in terms of the normal modes as in the following form:

$$\{\phi, \psi, T, \phi^*\}(x_1, x_3, t) = \{\bar{\phi}, \bar{\psi}, \bar{T}, \bar{\phi}^*\}(x_3) e^{i(kx_1 - \omega t)}. \quad (23)$$

Here  $\omega$  is the angular frequency and  $k$  is wave number.

Making use of (23) in equations (19)-(22) and after some simplifications, yield:

$$[AD^8 + BD^6 + CD^4 + ED^2 + F]\bar{\phi} = f_1(\gamma^*, x_1, t) e^{-\gamma^* x_3}, \quad (24)$$

$$[AD^8 + BD^6 + CD^4 + ED^2 + F]\bar{T} = f_2(\gamma^*, x_1, t) e^{-\gamma^* x_3}, \quad (25)$$

$$[AD^8 + BD^6 + CD^4 + ED^2 + F]\bar{\phi}_2 = f_3(\gamma^*, x_1, t) e^{-\gamma^* x_3}, \quad (26)$$

$$[AD^8 + BD^6 + CD^4 + ED^2 + F]\bar{\psi} = f_4(\gamma^*, x_1, t)e^{-\gamma^* x_3}. \quad (27)$$

$$\text{Here, } D = \frac{d}{dx_3}$$

$$\begin{aligned} k_1 &= -k^2 + \Omega^2 - \frac{i\omega M}{1+m^2} + \omega^2, k_2 = -i\omega \left[ 2\Omega - \frac{mM}{1+m^2} \right], k_3 = \omega^2 + \Omega^2 - i\omega \frac{M}{1+m^2} - a_3 k^2, \\ k_4 &= k^2 + \omega^2 a_2 + 2a_1, k_5 = i\omega(1 - i\omega\tau_0) - k^2, k_6 = a_5(i\omega + \omega^2 \varepsilon\tau_0), k_7 = a_3(k_4 + k_5) + k_3 + a_3 k_4 \\ k_8 &= a_1 a_4 k^2 - k_3 k_4 - k_5(k_3 - a_1 a_4 + a_3 k_4), k_9 = k_5(a_1 a_4 k^2 - k_3 k_4), k_{12} = k_6 k^2(k_3 k_4 - a_1 a_4 k^2), \\ k_{10} &= k_6(a_3 k^2 + k_3 + a_3 k_4 - a_1 a_4), k_{11} = k_6(2a_1 a_4 k^2 - k_3 k_4 - a_3 k_4 k^2 - k_3 k^2), A = -a_3, \\ B &= k_7 - a_3 k_1 - \tau_{11} a_3 k_6, C = k_8 + k_1 k_7 + \tau_{11} k_{10} - k_2^2, E = k_1 k_8 - k_9 + \tau_{11} k_{11} + k_2^2(k_4 + k_5), \\ F &= \tau_{11} k_{12} - k_1 k_9 - k_2^2 k_4 k_5. \end{aligned}$$

The solution of the above system of equations (24)-(27) satisfying the radiation conditions that  $(\bar{\phi}, \bar{\psi}, \bar{T}, \bar{\phi}_2) \rightarrow 0$  as  $x_3 \rightarrow \infty$  are given as following:

$$\bar{\phi} = \sum_{i=1}^4 c_i e^{-m_i x_3} + \frac{f_1}{f_5} e^{-\gamma^* x_3} \quad (28)$$

$$\bar{T} = \sum_{i=1}^4 \alpha_i c_i e^{-m_i x_3} + \frac{f_2}{f_5} e^{-\gamma^* x_3}, \quad (29)$$

$$\bar{\phi}_2 = \sum_{i=1}^4 \beta_i c_i e^{-m_i x_3} + \frac{f_3}{f_5} e^{-\gamma^* x_3}, \quad (30)$$

$$\bar{\psi} = \sum_{i=1}^4 \delta_i c_i e^{-m_i x_3} + \frac{f_4}{f_5} e^{-\gamma^* x_3}. \quad (31)$$

Here  $m_i^2 (i = 1, 2, 3, 4)$  are the roots of characteristic equation of equation (24).

$$\alpha_i = -\frac{-k_6 a_3 m_i^6 + k_{10} m_i^4 + k_{11} m_i^2 + k_{12}}{-a_3 m_i^6 + k_7 m_i^4 + k_8 m_i^2 - k_9}, \beta_i = \frac{a_1 k_2 m_i^4 - a_1 k_2 (k_5 + k^2) m_i^2 + a_1 k_2 k_5 k^2}{-a_3 m_i^6 + k_7 m_i^4 + k_8 m_i^2 - k_9},$$

$$\delta_i = \frac{k_2 m_i^4 - k_2 (k_5 + k_4) m_i^2 + k_2 k_4 k_5}{-a_3 m_i^6 + k_7 m_i^4 + k_8 m_i^2 - k_9}, i = 1, 2, 3, 4,$$

$$f_1 = Q_0 f(x_1, t) (-a_3 \gamma^{*6} + k_7 \gamma^{*4} + k_8 \gamma^{*2} - k_9),$$

$$f_2 = Q_0 f(x_1, t) (-k_6 a_3 \gamma^{*6} + k_{10} \gamma^{*4} + k_{11} \gamma^{*2} + k_{12}),$$

$$f_3 = Q_0 f(x_1, t) (a_1 k_2 \gamma^{*4} - a_1 k_2 (k_5 + k^2) \gamma^{*2} + a_1 k_2 k_5 k^2),$$

$$f_4 = Q_0 f(x_1, t) (k_2 \gamma^{*4} - k_2 (k_5 + k_4) \gamma^{*2} + k_2 k_4 k_5),$$

$$f_5 = (A \gamma^{*8} + B \gamma^{*6} + C \gamma^{*4} + E \gamma^{*2} + F).$$

Substituting the values of  $\bar{\phi}, \bar{T}, \bar{\phi}_2, \bar{\psi}$  from the equations (28)-(31) in the (4)-(5), and using (12)-(13), (18) and solving the resulting equations, we obtain:

$$\bar{t}_{33} = \sum_{i=1}^4 G_{1i} e^{-m_i x_3} - M_1 e^{-\gamma^* x_3}, \quad (32)$$

$$\bar{t}_{31} = \sum_{i=1}^4 G_{2i} e^{-m_i x_3} - M_2 e^{-\gamma^* x_3}, \quad (33)$$



$$\bar{m}_{32} = \sum_{i=1}^4 G_{3i} e^{-m_i x_3} - M_3 e^{-\gamma^* x_3}, \quad (34)$$

$$\bar{T} = \sum_{i=1}^4 G_{4i} e^{-m_i x_3} - M_4 e^{-\gamma^* x_3} \quad (35)$$

$G_{mi} = g_{mi} C_i$ ,  $i = 1, 2, \dots, 4$ .  $g_{mi}$  and  $M_i$  are mentioned in appendix A.

## 5. BOUNDARY CONDITIONS:

We consider normal and tangential forces acting at the surface  $x_3 = 0$  along with vanishing of couple stress at  $x_3 = 0$  and  $I_0 = 0$ . Mathematically this can be written as:

$$t_{33} = -F_1 e^{-(kx_1 - \omega t)}, t_{31} = -F_2 e^{-(kx_1 - \omega t)}, m_{32} = 0, \frac{\partial T}{\partial x_3} = 0 \quad (36)$$

where  $F_1$  and  $F_2$  are the magnitude of the applied forces.

Substituting the expression of the variables considered into these boundary conditions, we can obtain the following equations:

$$\sum_{i=1}^4 (g_{1i}, g_{2i}, g_{3i}, g_{4i}) c_i = (-F_1, -F_2, 0, 0). \quad (37)$$

The system of equations (37) are solved by using the matrix method as follows:

$$\begin{bmatrix} c_1 \\ c_2 \\ c_3 \\ c_4 \end{bmatrix} = \begin{bmatrix} g_{11} & g_{12} & g_{13} & g_{14} \\ g_{21} & g_{22} & g_{23} & g_{24} \\ g_{31} & g_{32} & g_{33} & g_{34} \\ g_{41} & g_{42} & g_{43} & g_{44} \end{bmatrix}^{-1} \begin{bmatrix} -F_1 \\ -F_2 \\ 0 \\ 0 \end{bmatrix}. \quad (38)$$

## Special cases:

### Micropolar Thermoelastic Solid

If we neglect the Hall current in Equations (37) and put  $I_0 = 0$ , we obtain the corresponding expressions of stresses, displacements and temperature for micropolar thermoelastic half space.

## 6. NUMERICAL RESULTS AND DISCUSSIONS:

The analysis is conducted for a magneto-micropolar material. For numerical computations, following Eringen [15], the values of physical constants are:

$$\lambda = 9.4 \times 10^{10} \text{ Nm}^{-2}, \mu = 4.0 \times 10^{10} \text{ Nm}^{-2}, K = 1.0 \times 10^{16} \text{ Nm}^{-2}, \rho = 1.74 \times 10^3 \text{ Kg m}^{-3}, j = 0.2 \times 10^{-19} \text{ m}^2, \gamma = 0.779 \times 10^{-9} \text{ N},$$

Following Dhaliwal [16] thermal parameters are given by:

$$\begin{aligned} c^* &= 1.04 \times 10^3 \text{ J Kg}^{-1} \text{ K}^{-1}, \quad K^* = 1.7 \times 10^6 \text{ J m}^{-1} \text{ s}^{-1} \text{ K}^{-1}, \\ \alpha_{t1} &= 2.33 \times 10^{-5} \text{ K}^{-1}, \alpha_{c1} = 2.48 \times 10^{10} \text{ K}^{-1}, \quad T_0 = 298 \text{ K}, \quad \tau_0 = 0.02, \quad \tau_1 = 0.01, \alpha_{c1} \\ &= 2.65 \times 10^{-4} \text{ m}^3 \text{ Kg}^{-1}, \\ a &= 2.9 \times 10^4 \text{ m}^2 \text{ s}^{-2} \text{ K}^{-1}, b = 32 \times 10^5 \text{ Kg}^{-1} \text{ m}^5 \text{ s}^{-2}, \tau^1 = 0.04, \tau^0 = 0.03, \\ D &= 0.85 \times 10^{-8} \text{ Kg m}^{-3} \text{ s} \end{aligned}$$

A comparison of the dimensionless form of the field variables for the cases of micropolar thermoelastic with Hall current, rotation and input laser heat source (MPHCLSR) and micropolar thermoelastic (MPTH) is presented in Figures 4-9. The values of all physical quantities for all cases are shown in the range  $0 \leq x_3 \leq 5$ .

Solid lines, dash lines corresponds to micropolar thermoelastic with Hall current and input laser heat source (MPHCLSR) and micropolar thermoelastic (MPTH), respectively for  $t = 0.1$

The computations were carried out in the absence and presence of laser pulse ( $I_0 = 10^5$  &  $I_0 = 0$ ) and on the surface of plane  $x_1 = 1, t = 0.1$ .

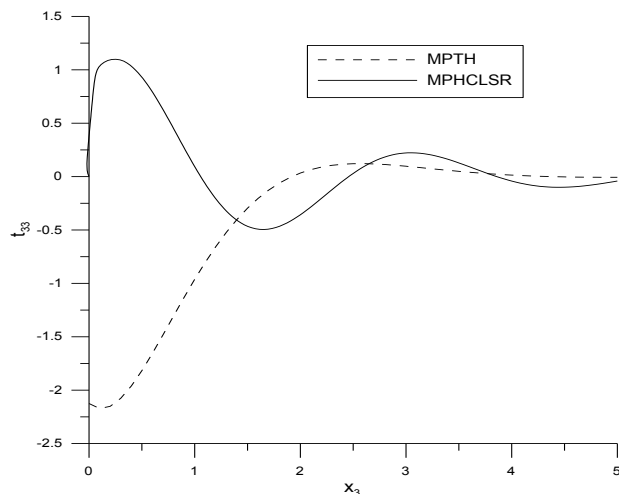


Fig. 5. Variation of  $t_{33}$  w.r.t.  $x_3$

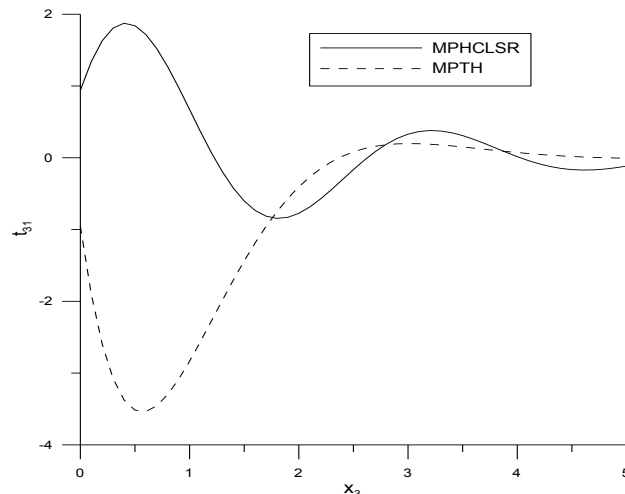


Fig. 6. Variation of  $t_{31}$  w.r.t.  $x_3$

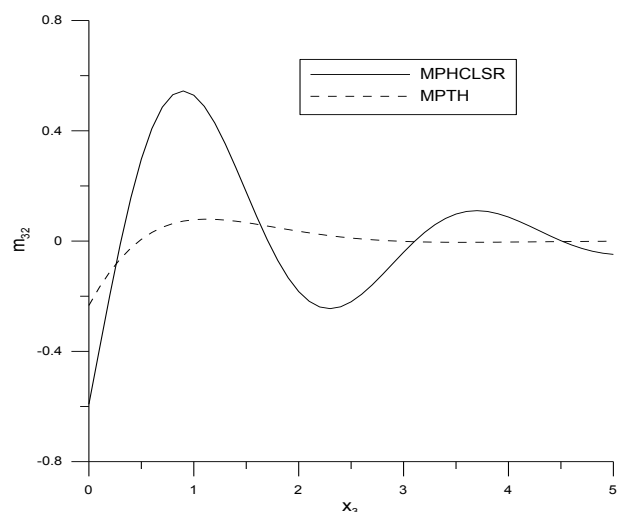


Fig. 7. Variation of  $m_{32}$  w.r.t.  $x_3$

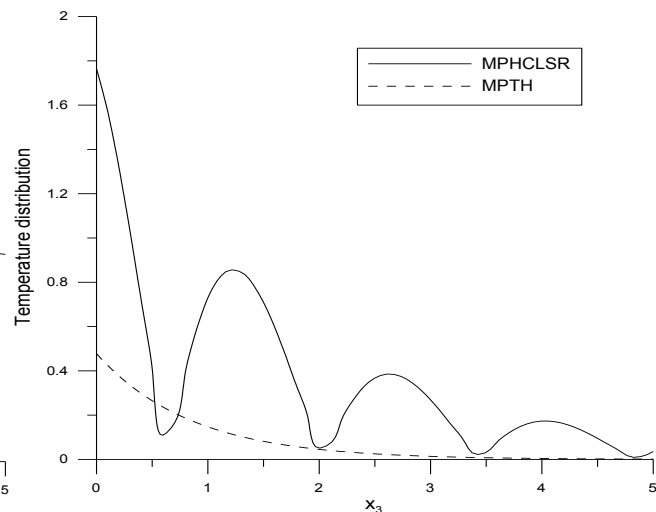


Fig. 8. Variation of temperature w.r.t.  $x_3$

Fig. 5 shows the variation of normal stress  $t_{33}$  with the distance  $x_3$ . It is noticed that for MPHCLSR and MPTH, the normal stress  $t_{33}$  show opposite behavior initially. The normal stress in MPHCLSR initially increases and then show oscillatory trend. The value of  $t_{33}$  approaches to boundary surface away from the source.

Fig. 6 displays the variation of tangential stress  $t_{31}$  with the distance  $x_3$ . It is noticed that initially the behavior of  $t_{31}$  for MPHCLSR and MPTH is opposite. Initially  $t_{31}$  increases monotonically for MPHCLSR and decreases monotonically for MPTH but approaches to the boundary surface away from the point of application of normal force.

Fig. 7 clears the variation of couple stress  $m_{32}$  with distance  $x_3$  for MPHCLSR and MPTH. The variation of  $m_{32}$  for (MPHCLSR and MPTH) is monotonically increasing in the region  $0 \leq x_3 \leq 1$  and monotonically decreasing thereafter. The  $m_{32}$  approaches to zero away from the point of application of source. It is clear from figure 3 that Hall current has a significant effect on the value of  $m_{32}$  and causes significant oscillatory behavior in MPHCLSR.

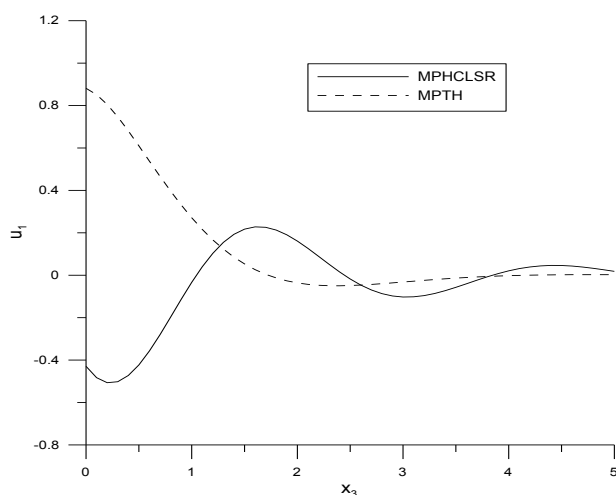


Fig. 9. Variation of  $u_1$  w.r.t.  $x_3$

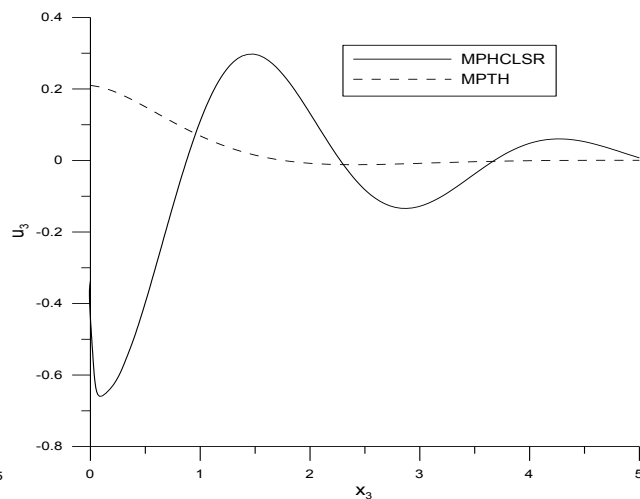


Fig. 10. Variation of  $u_3$  w.r.t.  $x_3$

Fig. 8 displays the variation of temperature  $T$  with distance  $x_3$ . The values of temperature change for MPTH show monotonically decreasing behavior in the range  $0 \leq x_3 \leq 5$ . In case of MPHCLSR the temperature decreases by exhibiting oscillatory trend due to the Hall Effect and input laser heat source.

Fig. 9 and Fig. 10 exhibit the behavior of displacement components  $u_1$  and  $u_3$  w.r.t.  $x_3$ . Both the displacement components approach to boundary surface away from the application of normal force which is in agreement to the generalized theory of thermoelasticity.

## 7. CONCLUSIONS:

The problem consists of investigating displacement components, temperature distribution, Hall current and stress components in a homogeneous isotropic micropolar thermoelastic half space due to various sources subjected to laser pulse. Normal mode analysis technique is employed to express the results mathematically.

The analysis of results permits some concluding remarks:

- (1) It is clear from the figures that all the field variables have nonzero values only in the bounded region of space indicating that all the results are in agreement with the generalized theory of thermoelasticity.
- (2) The effect of the Hall current, rotation and ultra-laser is much pronounced in all the resulting quantities.

The new model is employed in magneto-micropolar thermoelastic medium as a new improvement in the field of thermoelasticity. The subject becomes more interesting due to Hall current involving rotation and irradiation of an ultra-laser pulse with an extensive short duration or a very high heat flux. This type of problems has found numerous applications. The method used in this article is applicable to a wide range of problems in thermodynamics. By the obtained results, it is expected that the present model of equations will serve as more realistic and will provide motivation to investigate micropolar thermoelasticity problems.

## 8. CONFLICT OF INTEREST:

The authors declare that there is no conflict of interest regarding the publication of this paper.

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#### Appendix A:

$$b_2 = \frac{\lambda}{\rho c_1^2}, b_3 = \frac{2\mu+K}{\rho c_1^2}, b_5 = \frac{\mu+K}{\rho c_1^2}, b_6 = \frac{\mu}{\rho c_1^2}, b_7 = \frac{K}{\rho c_1^2}, b_8 = \frac{\omega^{*2}\gamma}{\rho c_1^4}, b_9 = \frac{\omega^{*2}b_0}{\rho c_1^4}, b_{10} = \frac{\omega^{*2}}{\rho c_1^4}, g_{1i} = (m_i^2 - b_2k^2) + \iota b_3 k m_i \alpha_{3i} - \tau_{11} \alpha_{1i}, g_{2i} = -\iota b_3 k m_i + (b_6 m_i^2 + b_5 k^2) \alpha_{3i} - b_7 \alpha_{2i}, g_{3i} = -b_8 \alpha_{2i} m_i$$

$$g_{4i} = -m_i \alpha_{1i}, M_1 = \left( \frac{b_1 f_2 + (\gamma^{*2} - b_2 k^2) f_1 - \tau_{11} f_3 + \iota b_3 k \gamma^* f_4}{f_5} \right), M_2 = \frac{(-\iota b_3 k \gamma^* f_1 + (b_6 \gamma^{*2} + b_5 k^2))}{f_5}$$

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**RECENT TRENDS AND ADVANCEMENTS IN AGRICULTURAL  
RESEARCH: AN OVERVIEW**

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**Abstract:** Do you know the most precious thing happening in Indian Agriculture? Few keywords such as food, organic farming and climate change and improved farming techniques may strike to your mind. But the recent improvements in agriculture are way more advanced. These advancements along with the increase in urbanization are major drivers for the evolution of agricultural research. Recent trends in the area of Agricultural Research comprise of Eco-Agro-tourism, Big Data Analytics, Climate Smart Agriculture, Advanced Marketing Linkages, Integrated Farming System, etc. These trends are important not only from the research context but also from the policy point of view towards ambitious goal of doubling farmers' income by 2022. In today's era technology plays a very important role in encouraging farmers to take up entrepreneurial ventures and agro-based industries. Recent research has also spoken about combining Agriculture technology with the Information technology for improving the agricultural output. Traditional farming approach need to be replaced with the modern farming approaches like Integrated Farming System, Vertical Farming, Forward and Backward integration, etc. With the increase in population and limited resource availability, research related to Urban Agriculture is being emphasized which encourages the urban population to go for organic cultivation for healthy and safe produce. With the increase in per capita income, consumers are willing to spend more on quality products which is impacting backward linkages towards farmers to adopt good practices at production level. For mitigating the environmental challenges, research is focusing on Climate Smart Agricultural Techniques like DSR (Direct Seeded Rice) which reduces the water usage by about 50 to 60 percent and methane gas emission to a large extent ultimately helping the farmers to earn more carbon credits. In nutshell, it can be stated that along with coping up the major challenges such as climate change, boosting farmers' income and feeding the billions, above stated trends in agricultural research are seen as ray of hope for sustaining Indian agriculture.

**Key Words:** Eco-Agro-tourism, Big Data Analytics, Climate Smart Agriculture, Advanced Marketing Linkages, Integrated Farming System, Direct Seeded Rice

## 1. INTRODUCTION:

Agriculture is the most important sector in India in terms of the population dependent on it. Although agriculture now accounts for only 14 per cent of Gross Domestic Product (GDP), it is still the main source of livelihood for the majority of the rural population. As such rapid growth of agriculture is critical for development of rural economy. A viable development of rural economy will leads to inclusive growth. Government is coming up with various sector specific schemes in agriculture keeping in view allied agricultural activities. Glimpse can be addressed with the union budget 2018 and provisions discussed for agriculture. The National Agricultural Policy (Ministry of Agriculture, 2000) of the Government of India aims at agricultural growth (4% annually to 2020) with sustainability, by a path that will be determined by three important factors: technologies, globalization, and markets. Agricultural research and education of the future must therefore address two related challenges: increasing agricultural productivity and profitability to keep pace with demand, and ensuring long-term sustainability of production. The National Agricultural Research System (NARS) deals with the first challenge. Development of short-duration, high-yielding cultivars, irrigation, and intensive use of fertilizers and other agro-chemicals provided the technological basis for increasing agricultural production and the green revolution. Central to the adoption of green revolution technologies were the micro or farm economics- which governed the use of inputs such as land, cultivar, labour, machinery, and chemicals balanced against profits from crop yields and the macro economics that ensured better access to inputs and markets. Agriculture today has not limited to only producers and consumers but many stakeholders are also involving in this sector and generating employment. With various challenges like urbanization, technology dissemination, food security and safety, agriculture is seen as ray of hope to address all these issues and



overcome in order to boost the economy. Therefore, the recent trend in agriculture has been focused on organic and vertical farming not only addressing the rising concern for environmental issues but also accommodating the demands of food of increasing world population. Recent development envisages the use of DSR (Direct Seed Rate) technology among farmers which has resultant in water saving and also environment development. The excessive use of chemical fertilizer and pesticide in agriculture may lead to adverse effects in food products and in the environment. Organic farming is considered as a viable alternative in comparison to chemical-based agriculture. Various work are ongoing in this direction while some growers are shifting themselves towards natural farming also. These shifts are based accordingly to address the environment based needs and sustainability. World's biggest organic agriculture think tank 'international forum for organic agriculture movements' (IFOAM), along with research institute for organic agriculture (FiBL) had published their latest study on the World of Organic Agriculture 2018. Surpassing Mexico and Uganda, India had become world's largest country in terms of number of organic producers. India, as per the authenticate data by study for 2016 had 8,35,000 number of organic agriculture producers. This number is even higher than the total number of the other two nations in the list where Mexico has 2,10,000 and Uganda has 2,10,252 number of organic commodity producers. In other dimension if we talk about boosting, motivating and improving incomes of farmers then recent developments may be seen like agritourism, integrated farming with inclusion of allied agricultural activities. Tourists will get the advantage of learning a lot about villages, forest, food habits and farming while staying in villages. Government is making arrangements for the stay and safety of tourists in rural areas. This step has a positive impact on the farmers. Their source of income will increase since they will be providing accommodation and food. Also tourists will get an altogether different experience. Government is making agendas for developing Agri Tourism to promote tourism as well as make it an area of earning for the rural areas.

In today's era technology plays a very important role in encouraging farmers to take up entrepreneurial ventures and agro-based industries. Recent research has also spoken about combining Agriculture technology with the Information technology for improving the agricultural output. Trends are shifting towards smart farming among growers. Smart Farming is a development that emphasizes the use of information and communication technology in the cyber-physical farm management cycle. This is encompassed by the phenomenon of Big Data, massive volumes of data with a wide variety that can be captured, analysed and used for decision-making. India should look at establishing a systematic mechanism to capture the data that could offer additional value creating opportunities. In particular, rapid proliferation of mobile technologies in rural populations could let farmers in these areas to improve productivity based on decision made backed by better information grounded on Big Data. Keeping these things in view, present study has incorporated recent developments and shifts addressing Indian agriculture while keeping in view the challenges and opportunities with said developments.

## **2. DESIGN/METHODOLOGY/APPROACH:**

A narrative review of literature has conducted referring to various developments, trends and shifting areas of agricultural research keeping in view various stakeholders involved in integrated chain of said sector.

### **2.1. LITERATURE REVIEWED AND DISCUSSIONS:**

Point wise discussion of recent trends in reference to agricultural development has stated in this section.

#### **2.1.1. ECO-AGRI-TOURISM:**

Eco-Agri- tourism is the latest concept in the Indian tourism industry, which normally occurs on farms in the villages. It offers people the welcome escape from the daily hectic life in the peaceful rural environment. It provides a chance to relax and revitalize in the natural environment, surrounded by magnificent setting. Agritourism can be defined as the act of visiting a working farm or any agricultural, horticultural or agri-business operation for the purpose of enjoyment, education or active involvement in the activities of the farm or operation. Now-a- days the urban areas population is increasing due to increased migration village areas. The life of urban people is limited to their homes, offices, television, clubs, videogames, fast foods, mobile phones, etc. Urban people also want to enjoy rural lifestyle and they are curious to know about what agriculture is all about? How the cultivation of crops takes place, experience ploughing the land, milking the cow, want exposure allied agriculture activities like poultry, fishery, forestry, bee keeping, organic farming, terrace gardening, horticulture, floriculture, etc. The concept of Agri-Tourism which includes farmer, village and agriculture offers a good opportunity to satisfy the curiosity of urban population. Eco-Agri- Tourism concept brings urban people closer to the nature and rural activities, in which the people participate, get entertainment and feel the pleasure of tourism (Kumbhar, 2010). Agri-tourism activity capitalises on rural culture as a tourist attraction. It provides potential income to the rural population and employment opportunities in rural areas, thereby improving the livelihood of the rural population. Morarueta, (2016) in their research on motivations and challenges for entrepreneurs in Agritourism revealed that the most common reason for involving farmer in agritourism is the desire for supplementary income and the main challenges in the agritourism industry were dealing with visitors, marketing agritourism business and many agritourism operators lack the assistance, the knowledge and skills required to develop market-ready products. Additionally, Agritourism acts as an avenue for the direct marketing activity by the farmers to the end consumers. ultimately increasing the farmers share in the consumer's

rupee. Agritourism also provides educational opportunities to the urban students who get a good exposure about various agriculture related ventures.

### **3. BIG DATA ANALYTICS AND FOOD SECURITY:**

The projected population growth and urbanisation rates will have dramatic impacts on food security across the world by 2050. The impacts are multi-sectoral and extend well beyond food into infrastructure, healthcare, and technology. At the same time, the growing demand for food and shifting food security needs are driving innovation in the resource space. World is now more inter-connected, spawning massive data and exploration of these data can help to drive decision making that can transform the farm source-to-consumer value chain. Agri-businesses are subject to numerous regulations and consumer requirements across their supply chain. Of the several touch points along the agri-value chain, each hold critical information that can help businesses make the most of their resources, provide greater transparency in their processes and protect consumers. Big Data has the potential to add value across each touchpoints starting from selection of right agri-inputs, monitoring the soil moisture, tracking prices of markets, controlling irrigations, Indicating the right selling point and getting the right price. The challenges and opportunities of data is immense in a country like India with 638,000 villages and 130 million farmers speaking around 800 languages with 140 million hectares of cultivable land under 127 agro climatic regions capable of supporting 3,000 different crops and one million varieties. Recent progress in Big Data and advanced analytics capabilities and agri-robotics such as aerial imagery, sensors, and sophisticated local weather forecasts can truly transform the agri-scape and thus holds promise for increasing global agricultural productivity over the next few decades. Satellite imagery has the potential to capture images of farmer fields to 1 m x 1m resolution (20 – 25 pixels), which is improving further with invent of technology. These images can capture various data points such as Leaf Area Index, plant height, canopy etc which is indicative of crop vigour and hence can be used to accurately estimate farm yield.

Financing to farmers is another challenge which data can solve. The current priority sector lending to farmers stands at approx. USD 135 bn. However, majority of bankers still face the challenge of determining credit-worthiness of farmers due to lack of KYC records. Lending to farmers can become very efficient, logical and data-driven, if the bankers have access to data on likely crop output from farmer's field (which can be determined as mentioned earlier). Likewise, insurance companies can ascertain risk premium if they have access to weather, soil, pest and output data. In summary, use of data has the potential to solve most ag-supply-chain problems. Inclusion and incision of "Data" can be a game changer for Indian agriculture. In general, farmers are open to adapting technology. Farmers are downloading apps for real-time access to data such as market yard prices.

IDC estimates that the market for big data and business analytics will grow from \$150Bn in 2017 to more than 203Bn in 2020. Despite significant market potential, there is a dearth of analytical talent – data scientists (akin to the Wall Street quants of the 1990s), analysts and managers – to leverage the economic value of big data. There has been a significant trend to consider the application of Big Data techniques and methods to agriculture as a major opportunity for application of the technology stack, for investment and for the realisation of additional value within the agri-food sector (Noyes, 2014; Sun et al., 2013b; Yang, 2014). Big data applications in farming are not strictly about primary production, but play a major role in improving the efficiency of the entire supply chain and alleviating food security concerns (Chen et al., 2014; Esmeijer et al., 2015; Gilpin, 2015a). Currently, big data applications discussed in the literature are taking place primarily in Europe and North America (Faulkner and Cebul, 2014). Considering the growing attention and keen interest shown in the literature, however, the number of applications is expected to grow rapidly in other countries like China (Li et al., 2014; Liu et al., 2012). Big data is the focus of indepth, advanced, game-changing business analytics, at a scale and speed that the old approach of copying and cleansing all of it into a data warehouse is no longer appropriate (Devlin, 2012). Opportunities for Big Data applications in agriculture include benchmarking, sensor deployment and analytics, predictive modelling, and using better models to manage crop failure risk and to boost feed efficiency in livestock production (Faulkner and Cebul, 2014; Lesser, 2014). In conclusion, Big Data is to provide predictive insights to future outcomes of farming (predictive yield model, predictive feed intake model, etc.), drive real-time operational decisions, and reinvent business processes for faster, innovative action and game-changing business models (Devlin, 2012).

### **3. CLIMATE SMART AGRICULTURE:**

Climate-smart agriculture may be defined as an approach for transforming and reorienting agricultural development under the new realities of climate change (Lipper et al. 2014). FAO (Food and Agricultural Organisation), which defines Climate smart agriculture as "agriculture that sustainably increases productivity, enhances resilience (adaptation), reduces/removes GHGs (mitigation) where possible, and enhances achievement of national food security and development goals". According to FAO, Climate Smart Agriculture pursues triple objectives of sustainably increasing productivity and incomes, adapting to climate change and reducing green house gas emissions wherever possible. Majority of Indian population live in rural areas and agriculture is the main source of livelihood to them. Due to climate change many effects are observed like increase in temperature, rising sea levels,

extreme weather events, etc. All of these pose risks for agriculture activity, food production and water supplies. Therefore, Resilience is predominant a concern. Agriculture is one of the sources of greenhouse gas emissions. According to World Bank Report, agriculture currently generates 19-29% of total Green House Gas emissions. Without action, that percentage could rise substantially as other sectors reduce their emissions. Researchers have developed an array of practices and technologies towards fostering promoting stability in agricultural production against the onslaught of seasonal variations. Farmers need to intelligently adopt such resilient practices and technologies. Efficiency in resource-use, sustainability and long-term development of agriculture, and environmental and social safeguards assume greater importance.

#### **4. DIRECT SEEDED RICE (DSR) TECHNOLOGY:**

Increasing water scarcity and labour wages in rice are triggering the search for such alternative crop establishments which can increase the water productivity. Direct Seeded Rice (DSR) is the viable option for reducing the unproductive water flows. DSR refers to the process of establishing a rice crop from seeds sown in the field directly rather than by usually transplanting seedlings from the nursery to the main field. Dhillon and Romana (2016) revealed that DSR has got the potential to improve water use efficiency, reduce other losses besides significantly reducing the methane production by producing the aerobic conditions and they mentioned that DSR saved labour worth Rs. 5250 per hectare, irrigations to the tune of 40 per cent and realized an additional yield to the tune of 2.61 percent accounting to Rs. 3298 per hectare over the normal transplanted rice. Prasad et al (2014) found out that due to use of Direct Seeded Rice (DSR) technology, saving in water was up to 25%, saving in energy (Diesel) up to 27%, saving of 35-40 man days/ha, enhanced fertilizer use efficiency due to placement of fertilizer in the root zone, early maturity of crops by 7-10 days helps in timely sowing of succeeding crops, reduction in methane emissions and global warming potential, little disturbance to soil structure and enhanced system productivity.

#### **5. INNOVATIVE MARKETING MODELS:**

Agribusiness models range over different products and services delivery options and are accordingly categorized into one stop shops, popularly known as Rural Business Hubs (RBHs), or procurement led or input driven models or ICT, FPO related agribusiness models. For new entrants, process of understanding markets and developing strategies to tap it right. Model building is a continuous process of learning and innovation that catalyzes both backward and forward linkages with the farmers. SFAC (Small Farmers Agribusiness Consortium) has developed an integrated database of 5 lakh farmers across 250 FPOs to make a match of demand and supply for inputs to start with eRBH. Markets can and should serve the poor. Empirical studies show that small holder farmers aggregating business models in Africa have resulted in 50% to 100% increase in farmer income. Parastatal as a model exists in Africa wherein the government gets into organizing chains for cash crops like Ghana Cocoa Board or Kenya Tea Development board which shows the most integrated models.

#### **6. e-NAM:**

National Agriculture Market (NAM) is a pan-India electronic trading portal which networks the existing APMC *mandis* to create a unified national market for agricultural commodities. The NAM Portal provides a single window service for all APMC related information and services. This includes commodity arrivals & prices, buy & sell trade offers, provision to respond to trade offers, among other services. While material flow (agriculture produce) continues to happen through *mandis*, an online market reduces transaction costs and information asymmetry. Agriculture marketing is administered by the States as per their agri-marketing regulations, under which, the State is divided into several market areas, each of which is administered by a separate Agricultural Produce Marketing Committee (APMC) which imposes its own marketing regulation (including fees). This fragmentation of markets, even within the State, hinders free flow of agri commodities from one market area to another and multiple handling of agri-produce and multiple levels of *mandi* charges ends up escalating the prices for the consumers without commensurate benefit to the farmer. NAM addresses these challenges by creating a unified market through online trading platform, both, at State and National level and promotes uniformity, streamlining of procedures across the integrated markets, removes information asymmetry between buyers and sellers and promotes real time price discovery, based on actual demand and supply, promotes transparency in auction process, and access to a nationwide market for the farmer, with prices commensurate with quality of his produce and online payment and availability of better quality produce and at more reasonable prices to the consumer.

#### **7. INTEGRATED FARMING SYSTEM:**

Food security, livelihood security, water conservation, conservation of natural resources and protection of environment have are the major issues discussed worldwide during recent years. Sustainable development is the main focus for promoting rational utilisation of resources and environmental protection without impeding the economic growth. Integrated Farming System approach has multiple objectives of sustainability, food security, poverty

reduction and farmer security. Integrated Farming System (IFS) holds a special position within the broad concept of sustainable agriculture. Under Integrated Farming System, nothing goes wasted, the by-product of one system becomes the input for other system for example, cattle dung mixed with crop residues and farm waste can be converted into nutrient-rich vermi-compost. Integration and judicious mix of various agricultural enterprises viz., crop production, animal husbandry, poultry, fishery, forestry, horticulture, piggery, etc. would bring prosperity in the farming (TNAU). The adoption of multiple farm enterprises in an integrated manner can ensure a substantial income generation to sustain the livelihood of farmers over the meager income from self-standing enterprises (Ponnusamy&Kousalya Devi, 2017). Agriculture experts and scientists are stressing upon the need for IFS for realising the government's vision of doubling farmers' income by 2022 (Financial Express, 2017). Jintendra Chauhan, Advisor, Union Agriculture Ministry said that Integrated farming with animal husbandry, poultry, fisheries as its extra tool, need to be made part of the government policy.

## 8. CONCLUSION AND REMARKS:

Rapid transformation is being observed in the Indian agriculture since introduction of Green revolution during 1960's. Advancements in the field of science and technology with increasing population and urbanization are the important factors driving the course and evolution of agricultural research. From 50 million tons in 1950, India's foodgrain production rose more than five times, to over 277.5 million tons in 2017-18. Combining Agriculture technology with the Information technology is the need of the hour for improving the agriculture sector. India is expected to achieve the ambitious goal of doubling farm income by 2022. It can be stated that along with coping up the major challenges such as climate change, boosting farmers' income and feeding the billions, recent developments in agricultural research such as Agri-farm-tourism, Big data analytics, integrated farming and advanced marketing models are seen as ray of hope for sustaining Indian agriculture. There is a severe need for aligned amalgamation of various stakeholders like producers, consumers and public private partnership in order to bring new dimensions of Indian agriculture and sustain for upcoming challenges.

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## National Conference on Recent Trends in Research

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### Type 'A' Personality

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**Abstract:** A century ago, medical educator Sir William Osler argued that there was link between personalities engaged in stressful activity and the development of coronary heart disease. In the 1930s, the well known psychiatrists Karl and William Menninger (1936) maintained that heart disease is characteristics of those with repressed aggressive tendencies. But such vague propositions could not be systematically and rigorously tested the 1950s, when two cardiologists, Meyer Friedman and Ray Rosenman (1974), proposed the idea of **Type A Behavior Pattern**. In this paper is proceed to explain how Type A personality reacts towards stress. Type A behavior personality is facing higher level of stress, but it can be manage successfully. Management of Stress can be minimizing the stress level.

**Key Words:** Type A personality, Management of Stress, Self-control, Relaxation, meditation

#### 1. INTRODUCTION:

Type A behavior is stress-producing behavior, characterized by aggressiveness perfectionism, unwillingness to relinquish control, and a sense of time urgency. Type A competitive, impatient and aggressive. They feel rushed and under pressure all the time and keep one eye firmly glued on the clock. They are not only prompt for appointments but often early. They eat, walk, and talk rapidly and become restless when others work slowly. They attempt to dominate group discussions. Type A people find it difficult to give up control or share power.

##### 1.1. TYPE A BEHAVIOR PERSONALITY:

The concept of Type A behavior was formulated almost 40 years ago, when cardiologists noted that the majority of their heart attack patients seemed to have following traits: impatience, a sense of time urgency, and unrelenting urge for recognitions and power, unusual preoccupation with work, and an unusually competitive aggressive attitude. They also exhibited characteristic activity patterns, such as talking and eating rapidly frequently fidgeting and facial grimaces, clenching of the fist, tapping the feet or playing with a pencil in some rhythmic fashion, and a tendency to dominate conversations, often by interruption or finishing the sentence of others. Such individuals were subsequently shown to manufacture increased amounts of stress-related hormones known to damage heart muscle, and cause serious disturbance in cardiac rhythm. They proposed that Type A people, who are in a constant struggle to do more and more work in less time, would unleash their nervous system in ways that would damage their hearts through excessive arousal of the sympathetic nervous system. Type A's were said to be hasty, impatient, impulsive, hyper alert, potentially hostile, and very sense—a volatile package sometime summarized as a “workaholic” personality. This idea inspire decades of intensive research on the idea of a coronary-prone personality. Type A behavior has demonstrated to be as significant a predictor for heart attacks as high cholesterol, hypertension, smoking, and may contribute to these standard risk factors. Stress increases blood pressure, has far more powerful effect on serum cholesterol than dietary fat intake, and many people smoke because they are under stress. It has certainly has been suggested that certain Type A traits, particularly increased anger, hostility, and cynicism, may be particularly likely to cause heart attacks and sudden death. In addition, the ability to reduce Type A tendencies by behavioral modification may lower the likelihood of future coronary events. In term of the Greek humors discussed by Hippocrates and Galen, the struggle of a Type A person likely to be on of a ‘choleric’, angry against the arbitrary controls of his job or life. Such a person will also have generally poor interpersonal relations. It is bitter person who is coronary-prone. But the struggle also may be the internal struggle of a ‘phlegmatic’, apathetic and conforming on the outside but tense and distraught on the inside. Unless examined closely, such, phlegmatic may look fine they suddenly have a heart attack. There is now strong evidence that people lead confrontational, competitive, and driven are more likely to suffer heart disease than are people with more easy-going, laid-back lifestyle. But it is not hard work, activity or challenging job that is the key problem. Rather it is the struggle that is problem. Many people are told to slow down, take it easy, take vacations, and even to retire from their jobs. In fact, though, there is not a shred of evidence

that regular hard work increases the likelihood of heart disease in healthy people. Everyone likes to achieve a sense of mastery or competence. Such feelings or control are generally healthy. But people prone to cardiovascular problem (and other heart disease) are especially driven excessive achievement and to total mastery of their worlds. This argument developed by David Glass, one of the first researchers to study seriously psychological element of coronary-proneness. In various studies, Glass showed that Type A worked hard to succeed, refused to feel tired, and were specially likely to react with hostility when frustrated. In other words, their excessive contentiousness and competitiveness can be traced to a desire to maintain control (Glass, 1980).

## **1.2. CHARACTERISTICS OF “TYPE A” PERSONALITY:**

Type A personality has almost become a household work. The relationship between Type A personality and heart disease become a common knowledge, at least, among physicians and their affiliated patients. In spite of its wide publicity and media attentions, criteria of Type A behavior or personality still remain vague. Even the so-called experts don't diagnose it correctly. There are two cardinal features of Type A that we must remember, namely, 'time urgency or time-impatience' and 'free-floating (all pervasive and ever-present) hostility'. One employee, an astute observer human behavior, gives following description of his boss Arthur. "Arthur takes real fast at rate of 140 words per minute or more. His voice is grating, harsh, irritating excessively loud, and just generally unpleasant. His posture is tense with abrupt jerky movement. Every few minutes, he raises his eyebrows in tic-like fashion. Likewise, every few minutes he raises or pulls back one on the both shoulders in tic-like fashion. Arthur exhibits all of these notes physical of Type A Behavior (TAB). In fact Arthur as the personification of TAB. If Arthur does not change himself, He will have cardiac disaster before the age of 65. Note that the prediction of heart disease before age of 65 for him is not a mere possibility, it is certainty. Above we have depicted a comprehensive description of the scientifically identified physical characteristics of TAB. Let's now return two cardinal psychological characteristics of TAB, namely the time-impatience and the free-floating hostility. Here are few question that author have adapted from Dr. Friedman's assessment technique to determine each of two characteristics. Regard these informal questions merely as pointers and not as not as standard of scientific assessment of TAB disorder.

Following questions may be asked to determine the presence of time-impatience

- Do you eat fast and leave the dinner table immediately?
- Does your partner or any close friend tell you to slow down, become less tense, or take it easy?
- Does it bother you a lot to wait in line at cashier's counter or to be seated in a restaurant?
- Do you look at TV or a read the paper while eating?
- Do you examine your mail or do other things while listening to someone on the telephone?
- Do you often think of other matters while listening to your partner or others?
- Do you believe that usually you are in hurry to get things done?

Pervasive and ever-present hostility can be assessed by the following question:

- Do you often find it to fall asleep or difficult to stay asleep because you are upset about something a person has done?
- Do you believe that most people are not honest or are not willing to help others?
- Do you become irritated when driving or swear at others?
- Does you partner, when riding with you, ever tell you to cool or calm down?
- Do you often have feeling that your partner is competing against you or is too critical of your inadequacies?
- Do you grind your teeth or has your dentist even told you that you have done so?
- Does the car-driving errors of others drivers, the indifference of store clerks, or the tardiness of mail delivery upset you significantly?

Dr. Friedman has identified two physiological and six physical signs as major indicators of TAB. According to him these eight signs are almost always diagnostic of TAB. The psychological sign are:

- Presence of impatience or easily induced hostility.
- Constant apprehension of future disasters (which is not a symptom of an anxiety disorder or depressive disorder).

The six physical signs are:

- Excessive perspiration of the forehead and the upper lip.
- Teeth grinding.
- Indentation of the tongue due to its chronic pressure against the incisor teeth.
- Tic-like retraction of the upper eye lid.
- Tic-like retraction of the corners of the mouth.
- Brown coloring of the skin of the lower eyelid.

Should individuals who demonstrate Type A characteristics be concerned? After all, a certain amount of increased stress improves productivity. There are also good stresses. Winning a race or election may be just as stressful as losing- or move so but emotional and physiological consequences may not be the same. A passionate kiss and contemplating what might ensue is stressful, by hardly the same experienced during root canal work. It's hard defining stress because it can represent so many different things. Further more, the same events, like a roller coaster ride, may be terrifyingly distressful to some, but pleasurable thrill to others. Nevertheless, all of laboratory and clinical research confirms that the feeling of having little control is always distressful, and that's what stress is all about. Type A, who are in control, take pride in what they produce, and are not hostile or prone to outbursts of anger, and may lead very healthy lives. Therefore a variety of attempts have been made to develop ways to detect and rate what is now called coronary prone Type A behavior. The most accurate method is by an interview designed to elicit characteristics traits, administered by a specially trained investigator, which videotape for careful review by experts. Self report questionnaires of varying lengths have also been devised. The problem is Type A's are often unaware of their behavioral excesses, or will deny them. Family, members, co-workers, and friends are apt to provide much more reliable information. These considerations should be kept in mind with respect to the following 10-item quiz. However, individuals with high scores, particularly for the last five items, might benefit from a more thorough evaluation.

This discussion of personality in chapter point out the complex city of, and individual difference in, personality characteristics and traits such as authoritarianism, rigidity, masculinity, femininity, extroversion, supportiveness, spontaneity, tolerance or ambiguity, locus of control, anxiety, and the need for achievement have been uncovered by research as being particularly, relevant to individual stress. Most recent attention, however, has centered on the so-called "Type A Personality." Although heart research have been working on the use personality types and resulting behaviors patterns in order to predict heart attacks since the 1950s, in the late 1960 Friedman and Rosenman popularized the use of Type A and opposing Type B personalities in the study of stress. These were portrayed as relatively stable characteristics, and in Friedman and Rosenman extensive studies they found the Type A profile correlated highly with experienced stress and dangerous physical consequences.

## 2. PROFILES OF TYPE A AND TYPE B PERSONALITY:

<i>Type A Profile</i>	<i>Type B Profile</i>
Is always moving	Is concerned about time
Walks rapidly	Is patient
Eats rapidly	Doesn't brag
Talks rapidly	Plays for fun, not to win
Is impatient	Relaxes without guilt
Does two things at once	Has no pressing deadlines
Can't cope with leisure time	Is mild- mannered
Is obsessed with number	Is never in a hurry
Measures success by quantity	
Is aggressive	
Is competitive & constantly feels under pressure	

Friedman and Rosenman define the Type A personality as an "action-emotion complex that can be observed in any person who is aggressively involved in a chronic, incessant struggle to achieve more and more in less and less time, and if required to do so, against the opposing efforts of other things or other person." Table briefly summarized the Type A and Type B profiles. Obviously, Type A employees (managers, salespersons, staff specialists, secretaries, or rank and file operating employee) experience considerable stress. They are the ones who:

- Work long, hard hours under constant pressures and conditions for overload
- Often take work home at night or weekends and are unable to relax
- Constantly compete with themselves, setting high standards of productivity that they seem driven to maintain
- Tend to become frustrated by the situations, to be irritated with the work efforts of others, and misunderstood by superiors.

At first, because of Rosenman and Friedman's studies, it was generally thought that Type A's were much prone to the worst outcome of stress: heart attacks. More recently, however, numbers of studies have been unable to confirm their finding. For example Type A's may release and better cope to confirm with their stress than do Type B's. The controversy surrounding the conflicting conclusions are discussed in the accompanying application example: Is being Type A Dangerous?

Beside the debate surrounding the impact Type A personality on health is the question of the success of Type A's versus B's. It is pretty clear that Type A's are typically on a "fast track" to the top. They are successful than Type B's. However, at the very top they do not tend to be as successful as Type B's who are more patient and take a broader of things. They key may be to shift from Type A to Type B behavior, but of course most Type A's are unable and unwilling to make unwilling to make the shift or to cope their characteristics. The complexities involved behaviors are exemplified by the recent controversy surrounding between the Type A personality and heart disease. Most people have heard of the Type personality-competitive, driven, and impatient—and its association with heart disease. Decades of research have supported the link. Meyer Friedman and Ray Rosenman, California cardiologist, are noted for discovering the link. Their findings were replicated several larger studies. The most compelling evidence came for the Western Collaborative Group Study (WCGS), an eight-year study ending in 1969. Study showed that Type A men had twice as many heart attacks or other forms of heart disease than anyone else. How do researchers explain such conflicts findings? One test is to compare measurement techniques. Both the WCGS and MRFIT used structured interviews to identify Type A's. The structured interview is considered is to be the most accurate assessment technique for identifying Type A's since it not only evaluate the content of answers but account for tone of voice, facial expressions, and gestures- important indicators of the impatience characteristics of Type A's. Not only is the technique important but also how it is used. For example, Larry Scherwitz, a psychologist at the University of California, San Francisco, listened to the interview taps of both WCGS and MRFIT. He noticed that the MRFIT interviewers asked questions faster that the WCGS interviewers. He believes this could have skewed the MRFIT results.

According to Scherwitz, the fast- paced interviewers come across as cold and uninterested. He believes that the hostile. Type A's responded by hiding their hostile feelings- making them appear to be Type B's. The more sensitive Type B's, on the other hand, may have reacted more curtly- responding like Type A's. Such responses may have which could have easily confounded the results. Rosenman also point out an important flow with the MRFIT. "Type A's are not going to sign up for studies like this, with once- a- week follow-up and lots of paperwork. You don't get impatient, hostile people volunteering to do this." Rosenman emphasizes the important of how subjects were selected. However, he does not indicate how subjects were contacted for the WCGS. Although other areas of the studies' designs need to be considered, these two show why rigorous methodology is necessary for conclusive findings. Whether Type A personality is dangerous is still a subject of debate. Further research with attention to methodology is needed before any conclusion can be made. Mever Friedman and Ray Rosenman (1974) proposed to idea of the Type A behavior pattern. Personality factors have been related to our tolerance of stress. This relationship is particularly apparent with Type A and Type B personalities and their differential susceptibility to heart diseased, which as we noted, is a major consequences of (Friedman & Rosenman 1974). Although specific physical factors such as smoking, obesity and lack of exercise are implicated in heart disease, they may account for no more than 25% of the cases. The rest may be linked to aspects of the Type A personality pattern. In contrast, Type B's have rarely have heart attacks before the age of 70, regardless of the nature of their job and their personal habits. Type A's are thought be in continual state of tension, perpetually under stress. Even when their work environment is relatively free of stressors, they carry their own stress as fundamental part of their personality. Type A's also tending to be extraverted and high in self-esteem. They show a high level of job involvement and score high in the needs for achievement and power. Type B personalities may be ambitious as Type A, but they are few of other characteristics. Type B experienced less stress at work and leisure. They may work as hard and in equally stressful environments but they suffer fewer harmful effects. These two personalities' types respond differently to prolonged stress over which they have little control. For example, Type A's will struggle to master a difficult situation, but if they are not successful, they will become frustrated and give up. Type B's in a similar situation will try to function as effectively as possible and will not give up. The early research on the Type A and Type B personality dimensions, conducted in the 1960s and 1970, described a clear link between Type A behavior and coronary heart disease. More recent research has failed to confirm that relationships consistently. Although few psychologist are willing to state there is no relationship at all. For example, meta-analysis of 87 studies reported a modest relationship Type A behaviors and heart disease but stronger relationships between heart disease and the emotion, anger, hostility, and depression. These researchers concluded that the coronary-prone personality is not necessarily the typical workaholic but rather someone ridden by negative emotions such as anger and anxiety (Booth-Kewley & Friedman, 1987). Other studies discount the importance of depression and anxiety as contributors to heart disease but support the role of hostility and impatience. We noted that Type A personalities are high in hostility, which they are adept at concealing from others. Thus, the relationship between heart disease and personality factors remains intact, but it may include psychological attributes other than those originally Type A behaviors.

### **3. MANAGEMENT TECHNIQUES FOR TYPE A PERSONALITY:**

Stress is factor that everybody has to contend with on a daily basis both in the work and non work spheres. Bottling up stress only makes the situations explosive at a later stage when one has reached the limit of one's capacity



to endure. Since the body has only limited capacity to respond to stress, it is important for individuals to optimally manage their stress to operate as fully functioning human being. Fortunately, there are several ways in which stress can be handled so that the dysfunctional consequences of stress are dissipated. Relaxation, meditation, engaging in physical exercise and sports activities and managing in the work-to-home transitions are all helpful in combating stress. Most of these technique familiar and need no explanation. Managing the work to home transitions is, however, a technique most of us do not use to handle stress and is worth some elaboration.

Emotional intelligence is one of such too. It is the ability to use your emotions as information about what you are experiencing and then deciding to use that information in a constructive way. Emotional intelligence or, EI, helps you understand why you respond the way you do and how you can affect those responses.

The most commonly used and widely accepted model of EI was posited by Daniel Goleman. It involves a range of four competencies which are broken down into skill sets and which together form the picture of a person's level of EI. These competencies mention below:

**3.1. SELF AWARENESS:** Knowing how we feel in the moment and using our gut feelings to help drive decision making; having a realistic understanding of our own abilities and a strong sense of self-confidence.

- Emotional self-awareness
- Accurate self-assessment
- Self-confidence

**3.2. SELF MANAGEMENT:** Handling our own emotions so that they don't interfere but facilitate; having the ability to delay gratification in pursuit of a goal; recovering well from emotional distress; translating our deepest, truest preferences into action in order to improve and succeed.

- Self-control
- Trustworthiness
- Conscientiousness
- Adaptability
- Achievement orientation
- Initiative

**3.3. SOCIAL AWARENESS:** Sensing others are feeling; being able to understand situations from others' perspective; cultivating relationships with a diverse range of people.

- Empathy
- Organization Awareness
- Service orientation

**3.4.SOCIAL SKILLS:** Handling emotions in respect to relationships with other people; able to read the intricacies of social interactions; able to interact in social situations well; able to use this skill set to influence, persuade, negotiate, and lead.

- Influence
- Leadership
- Developing others
- Communication
- Change catalyst
- Conflict management
- Building bonds
- Teamwork & collaboration

#### **4. CONCLUSION:**

Stress is every corner of the world. Day by day stress is increasing in every situation in our lives. Type A and Type B are two kinds of personalities which represents high and low level of stress. Type A people are highly driven, competitive, impatient, and aggressive. They feel rushed and under pressure all the time. Type A personality has almost a household work. High levels of stress cause heart problems. Meyer Friedman and Ray Rosenman, California cardiologist, studied about this personality. It is really important to manage stress level on time. Bottling up stress only makes the situation explosive at a later stage when one has reached the limit of one's capacity to endure. Fortunately, there are several ways in which stress can be handled so that dysfunctional consequences of stress dissipated. Relaxation, meditation, engaging in physical exercise and sports activities are managing in the work-to-home transition all are helpful in defeating stress. Self awareness, self-management, social awareness and social skill are few techniques of management of stress. Before stress beyond limit in our head and harm to our physical strengths, we should use techniques to handle stress in positive way.



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**National Conference on  
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**Group size, age and sex composition of Chital (*Axis axis*) in Kota Zoo and in MHTR**

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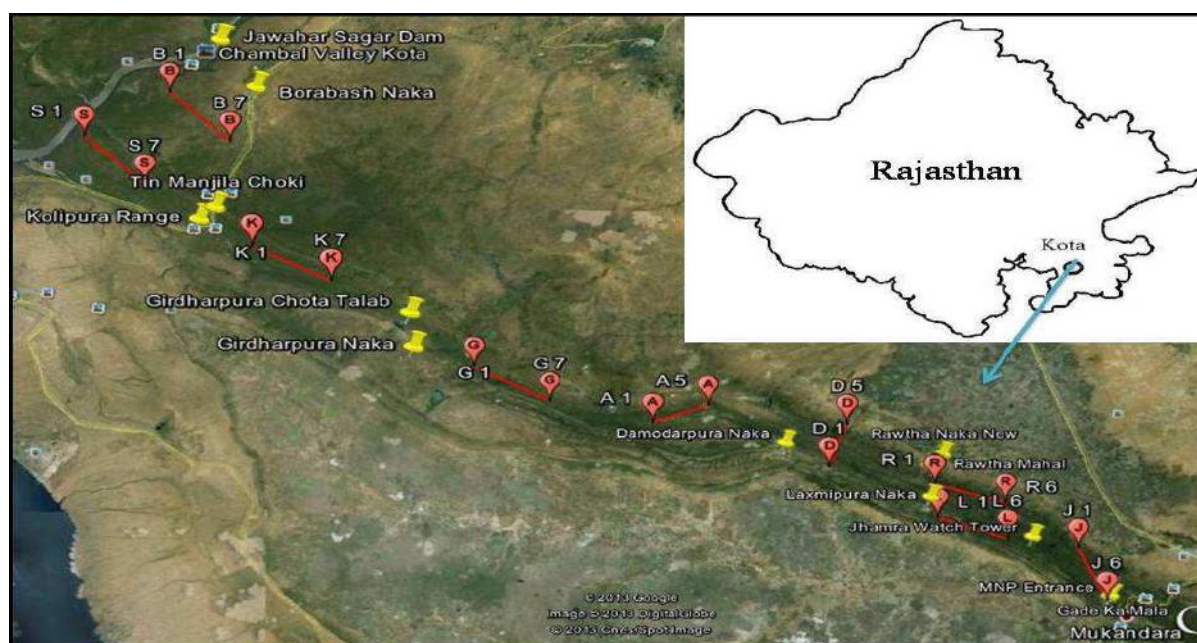
**Abstract:** To plan and achieve the management needs for wild life conservation, monitoring of any concerned are is necessary. Rajasthan has a forest cover of approximately 6% Of the geographical area of the state. Comparative study of Group size, age and sex composition of Chital (*Axis axis*) in Kota Zoo (Captivity) and in Mukandra Hills Tiger Reserve (Wild) was conducted in the year 2016-2017 in different time intervals. Group Composition represents social organization of the Chital herd. Road transects were monitored monthly to gather information on group size, age and sex composition of Chital in Mukandra Hills Tiger Reserve (Wild). Male, female and fawn ratio in Kota Zoo was 0.45:0.51:0.04 and where as it was Mukandra Hills Tiger Reserve is 0.30:0.54:0.16. Higher female sex ratio was probably due to selective male predation by predators in Mukandra Hills Tiger Reserve (Wild). Group's age sex composition influenced group formation in both study area. Male and fawn were the important predicting variables of change in group size. Average group size for Chital was much greater in Kota Zoo (Captivity) as compared to Mukandra Hills Tiger Reserve (Wild).

**Key Words:** Ungulate, Cervid, Anthropogenic activities, Antler, Captivity, Wild

## 1. INTRODUCTION:

The Chital is a medium sized deer included under Schedule III of Wildlife (Protection) Act 1972. Chital is listed as Least Concern because they inhabit a very wide range within which there are many large populations. Although it is still declining in some sites (particularly outside protected areas), at the species level any such declines are at nowhere near the rate required to qualify for listing even as Near Threatened (IUCN). Chital is one of the most common and widely distributed cervids in the Indian subcontinent. The Chital population is under stress due to anthropogenic activities in their habitats both in captivity and in wild, resulting in many changes in their grouping behavior (Davey, 2005). One such change is in the group size and age- sex composition. Many studies (De and Spillet, 1966; Pratter, 1934, 1971; Barrette, 1991; Johnsingh, 1983; Krishnan, 1972; Mishra, 1982; Miura, 1981; Mitra, 1986; Raman, 1997; Schaller, 1967; Sharatchandra and Gadgil, 1975; Tak and Lamba, 1984; Chappel, 1989) have indicated that Chital is sensitive to environmental changes. Among several wild ungulates of the Indian subcontinent Chital is one of the species whose grouping behavior has been studied in some detail. Till now no study has been conducted on widely dispersed and low density Chital population on the Mukandra Hills Tiger Reserve and Kota Zoo. Present study aims at filling this gap. Study area for research work in captivity was Kota Zoo. It is among one of the five Zoos of Rajasthan. It was established in 1954. It is situated in 2.2 hectare area near Kishor Sagar Lake at Kota city in Rajasthan. Another present study area for research work in wild includes Mukandra Hills Tiger Reserve (MHTR) which is notified third Tiger Reserve of Rajasthan vide S. No: F3 (8) FOREST 2012 dated 09/04/2013 under WPA 1972. MHTR includes core area (417.17 square km) and buffer area (342.82 square km) with a total 759.99 square km area. There are 16 villages inside core area and 14 villages in buffer area of MHTR. It is located in the south east part of Rajasthan of India. As for boundary information Chambal, Ahu and Kalisindh River situated at west, south and east boundary of MHTR. Delhi-Mumbai Railway Track and Jaipur -Jabalpur National Highway divides MHTR in two parts. MHTR comprise of fairly dense Forest. MHTR is densely wooded and is spread over a hilly terrain. MHTR is lush green with Foliage many rare medicinal herbs and trees (Namas et al., 2013). Mukandra Hills Tiger Reserve is named after the two parallel hills with a central narrow ridge, a part of Vindhya Range system and are approximately 80 Km in length and 2-5 km in width. It is situated at Kota, Rajasthan mainly but spread in Bundi, Chittorgarh and Jhalawar District also. It includes Mukandra National Park, Dara Sanctuary, Jawahar Sagar Sanctuary and Chambal Sanctuary. It lies between 24°38' to 25°7' N Latitude and 75°26' to 76°12' E Longitude.

Map 1: Map of study area in wild (MHTR):



## 2. MATERIALS AND METHOD:

Comparative study of Group size, age and sex composition of Chital (*Axis axis*) in Kota Zoo (Captivity) and in Mukandra Hills Tiger Reserve (Wild) was conducted in the year 2016-2017 in different time intervals. Road transects were monitored monthly to gather information on group size, age and sex composition of Chital in Mukandra Hills Tiger Reserve (Wild). When Chital herd were sighted, observations were made to determine their numbers in the group and age-sex of each individual animal. The observations were ocular aided with 10-22 x 50 binoculars and same observations were recorded in Kota Zoo also. Age and sex composition of study animals were recorded while moving along road transects and sitting by waterholes at MHTR and the same were recorded at Kota Zoo with the help of a well designed elaborate check sheet. All study animals were divided in **six categories of age and sex** (adapted from Schaller, 1967, and, Mishra, 1982) based on their height, coat colour and presence/condition or absence of antlers viz.

- i. **Adult male:** Colour - Darker; Height at shoulder - around 3ft for Chital; antler length - above 1ft when full grown.
- ii. **Sub adult male:** Colour - lighter; Height at shoulder - around 2½ ft for Chital; antler length - around 1 ft. when fully grown.
- iii. **Yearling male:** Colour - lighter; Height at shoulder - 2ft for Chital; antler length - around 5 to 6 inches long spike antler for Chital when fully grown.
- iv. **Adult female:** Colour - lighter; Height at shoulder - 2 ¾ft for Chital; antler absent.
- v. **Yearling female:** Colour - lighter; Height at shoulder - 2ft for Chital; antler absent.
- vi. **Fawn:** Colour - lighter; Height at shoulder - around or below mother's chest height for Chital; antler absent.

## 3. RESULTS AND DISCUSSION:

A total of 28 Chital groups were observed comprising 240 individuals with a maximum group size of 26 were sighted in the Mukandra Hills Tiger Reserve. Chital on Mukandra Hills tends to be in smaller groups of 2 to 7 individuals (69.35% of the total groups sighted). The group size averaged 8.57 individuals per group. The average group size in Kota Zoo was 55.5 per group with a maximum of 66 individuals in a group. Of the total individuals observed in MHTR, 38 were fawns i.e. 16% and of the total individuals observed in Kota Zoo, 19 were fawns i.e. 04%. Male, female and fawn ratio in Kota Zoo was 0.45:0.51:0.04 and where as it was Mukandra Hills Tiger Reserve is 0.30:0.54:0.16. Higher female sex ratio was probably due to selective male predation by predators in Mukandra Hills Tiger Reserve (Wild). Group's age sex composition influenced group formation in both study area. Male and fawn were the important predicting variables of change in group size. Average group size for Chital was much greater in Kota Zoo (Captivity) as compared to Mukandra Hills Tiger Reserve (Wild). Group size changes due to increased anthropogenic activities observed by Karanth and Sunquist, (1992), and, Srinivasulu, (2001). Chital group size change in size temporally and in relation to habitat was observed by Bagchi et al. (2008), and, Ramesh et al. (2012). Increase in group size in relation to availability of food has been studied by Khan and Vohra, (1992), and, Khan et al. (1995). Variation in group size in relation to social behavior observed by Graf and Nichols (1968), and, Fuchs (1977). Fig-1 Group size in Kota Zoo and MHTR.

Fig-1 Group size in Kota Zoo and MHTR

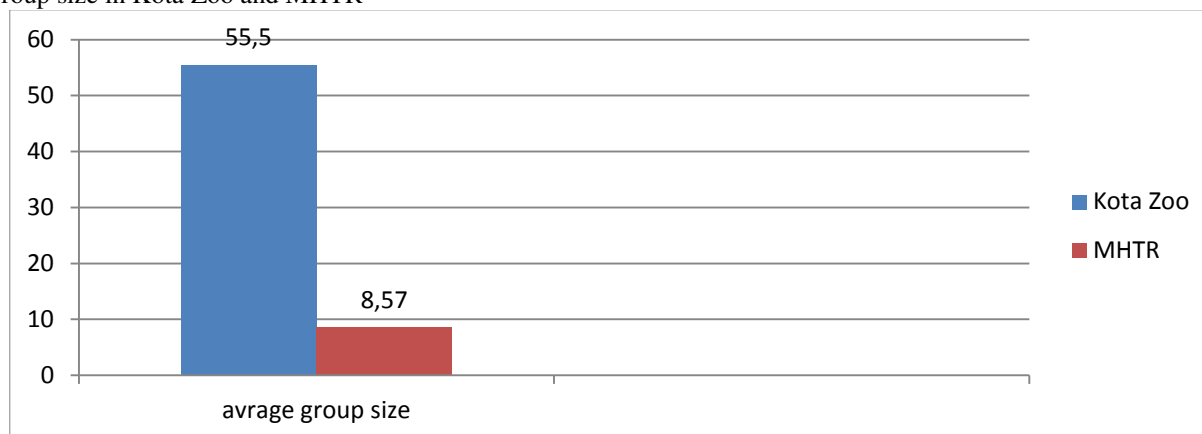


Table-1.Group Composition of Chital in Kota Zoo:

Male	135
female	179
Fawn	19

Fig-2. Group Composition (% of Chital male, female and fawn) in Kota Zoo 2016-17

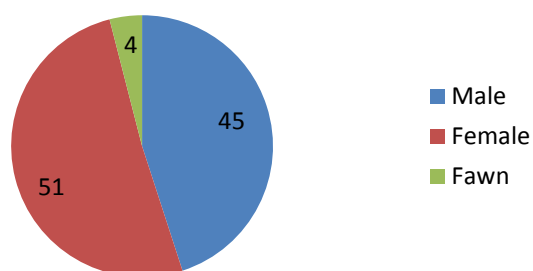
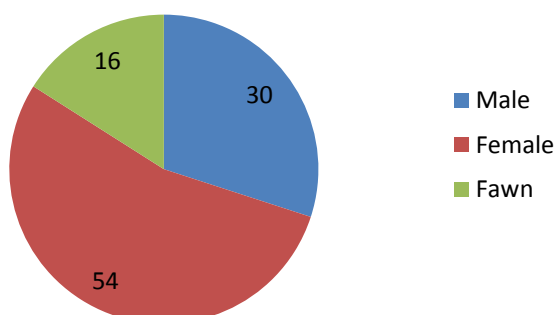


Table-2.Group Composition of Chital in MHTR:

male	72
female	130
fawn	38

Fig-3. Group Composition (% of Chital male, female and fawn) in MHTR 2016-17





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**National Conference on  
Recent Trends in Research**

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**The breakdown of family in Manju Kapur's Custody**

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**Abstract:** *Manju Kapur's fifth novel Custody (2011) is to a great extent set in the flourishing, upper-working class settlements of Delhi in the mid - 90s, against the setting of the underlying surge of outside interest in India. Kapur's fiction uncovers the unheard of vulnerabilities of marriage. The spouse's feeling of suffocation, the spouse's dread of dejection and the consistent moving of the kids, similar to items, from one home to the next, are evoked with meticulous earnestness. In spite of the fact that marriage is well-trodden an area for Kapur, here her ownership of the subject is finished. Custody is a novel that is consistent with the all inclusive tension of present day marriage with its weight of independence. Custody by Manju Kapur is an incredible case of a broken marriage and its results on youngsters who are played like pawns in a session of lawful chess. The broke down family has isolated or separated from guardians where youngsters under the falsification of legitimate rights and parental self image fights are moved between those two people, who in any case should give them an upbeat, cheerful and fought youth.*

**Key Words:** *Flourishing, meticulous, incredible, lawful, legitimate.*

**1. INTRODUCTION:**

Manju Kapur's fifth novel *Custody* (2011) is to a great extent set in the flourishing, upper-white collar class settlements of Delhi in the mid - 90s, against the background of the underlying surge of remote interest in India. Kapur's fiction uncovers the unheard of vulnerabilities of marriage. The spouse's feeling of suffocation, the husband's dread of forlornness and the consistent moving of the youngsters, similar to wares, from one home to the next, are evoked with meticulous genuineness. In spite of the fact that marriage is well-trodden an area for Kapur, here her ownership of the subject is finished. *Custody* is a novel that is consistent with the all inclusive anxiety of present day marriage with its weight of independence.

**2. OUTCOMES OF BROKEN MARRIAGE:**

*Custody* by Manju Kapur is a magnificent case of a broken marriage and its outcomes on kids who are played like pawns in a session of lawful chess. The broke down family has isolated or separated from guardians where youngsters under the affectation of legitimate rights and parental inner self fights are carried between those two people, who in any case were expected to give them a cheerful, lighthearted and battled adolescence. *Custody* portrays the narrative of Raman and Shagun, a wedded couple with two kids, eight year old Arjun and three year old Roohi, who delighted in a favored life. Before long Shagun meets Ashok Khanna, Raman's supervisor, and they quickly experience passionate feelings for each other. At the point when Raman finds their relationship, Shagun needs to choose what she needs to do, or what she can do. She inquires Raman for a separation yet he transforms into a wrathful individual. In another piece of Delhi is Ishita whose marriage breakdown since she can't have offspring of her own. She tries to discover some fulfillment and a feeling of character in social work however she surrenders it when she meets the separated from Raman. Since she is attracted to him she trusts she can be glad as a step mother. In the second part of the novel, the story centers around the care of the youngsters, the unpleasant fight in court and the cost of opportunity. Toward the start of the story we see Raman in his conventional part of father and spouse, of leader of the family who goes out to the world to battle and make money but has no feelings and importance of his wife and kids. His expert profession is more vital than them. He is by all accounts wedded to his activity and friends. His folks could never address him. They expect that a lady's selfhood, status, respectability and acknowledgment lie in wifehood. The spouse delivers and goes out into general society circle and wife offers life to kids and deals with them at home in the private circle. In the midst of the requests of the four adults Raman, Shagun, Ashok and Ishita in this story of broken relational unions, the youngsters remain discreetly out of sight until the novel's second half. It is then

that we start to see the deplorable reactions of the intense battle for their guardianship, the oppression of blood and their injury, torn between two moms, two homes and two nations.

### **3. CAUSE FOR THE SEPARATION:**

The breaking down occurs in Guardianship due to the extramarital undertaking of the parent, the in-laws treatment of a lady who can't consider and the changing child rearing situation in white collar class Indian homes. Shagun, the beautiful woman and the wonderful spouse of Raman, experiences passionate feelings with his alluring, great looking supervisor Ashok Khanna, who has never been enamored and is resolved to have the lady he now cherishes. It doesn't make a difference to him how however he approaches overcoming Shagun's psyche, body, and soul like a prepared, convincing advertiser. He speaks to everything that a lady of today would discover hard to stand up to. The pace of the story picks up force as their issue moves toward becoming morered hot, brave and enthusiastic. Shagun has no second thoughts about deceiving her significant other or to her own mom. The degree of her narrow-mindedness and capacity to be barbarous is obvious in the decisions she makes. For instance, she abandons her children with her mother to go off for end of the week trysts with her freshly discovered darling. However she persuades herself all the time that she is a dedicated mother to her kids. She goes to all lengths to mentally condition her kids against their own dad, realizing that this would be use to arrange her terms of separation when it is at long last time. The story skirts out nearest to the general public's customary standards of traditions. Manju Kapur shows her inherent level of itemizing with small social perceptions, for example, how Shagun's mom does her best to cajole her to stay dependable to her better half and in striking back Shagun debilitates to totally quit trusting in her mom if this is the manner by which she is going to favor one side. It is apparent that conjugal life in India is quick crumbling and being molded by outside components .for example, additional conjugal issues, materialistic interests, etc. As a parallel story, the plot swerves to inconveniences of Ishita, who is the girl of Raman's mom's companion and neighbour. Mirroring the terrible marriage situation that wins in most white collar class Indian families, Ishita's issues start when she can't imagine. Her relative and sister-in law who spoiled her and went about just as they were all dear companions changed overnight when they understand that Ishita is medicinally articulated as unfit to have childrens.

### **4. THE MINDSET OF FAMILY:**

Without being judgmental or long winded, Kapur passes on the common white collar class attitude of Indian families, especially in handling circumstances like this. The well-weave story uncovers the layers of earth that are taken cover behind the upbeat family disorder among white collar class families. For example: Ishita's relative has point by point dialogs with the specialist to delve profound into understanding the therapeutic reason for this condition. Everybody's interest is satisfied when the specialist clears up that it is Ishita's blame and this happened on the grounds that she had gotten a disease in youth that had harmed her framework. In Ishita's story there is not all that much yet what is unmistakably truant is her in-laws absence of sensitivity or comprehension to the young lady who could have been viewed as girl rather than girl in-law. Also, along these lines, Ishita's significant other who had announced ceaseless love to her turns into the submissive child to his folks. The coldness, the coldblooded lack of interest and at long last the dismissal of a spouse exclusively in light of the fact that she can't hold up under a tyke is depicted in an unfortunate manner. Indeed, even residential pets are dealt with superior to a girl in law in some Indian families. A separated, socially confined Ishita finds the valor to volunteer and educate underprivileged youngsters. She adores youngsters and they cherish her back. Step by step, she finds trust all the while, her own particular feeling of uniqueness. In the second endeavor Ishita weds Raman and along these lines returns to the status so impolitely grabbed from her, the status of wifehood and parenthood which invests her with authenticity. Her marriage to Raman raises her to her spouse's social position. Ishita's association to Raman enables her and gives her quality to battle for the family unit's regular focus on: the guardianship of his youngsters. A few ladies like Ishita, Raman's second spouse, might be completely fulfilled being gatekeepers of her family. Yet, Shagun's soul, similar to that of such a significant number of other ladies, is unique. She has never been ready to direct her life. Everything has been chosen by her guardians, family and social traditions. The Impact of Deterioration on Kids .In Kapur's novel the kids turn into the family's material stakes. Ishita persuades her significant other to control occasions imagine lies over Roohi's ailment. She practices control over the little youngster by showing her what she needs to state in court in request to win the care of the young lady. Their legal advisor, a companion of the family does not contradict to Ishita and Raman. Their deceitful conduct without a doubt shows that the increasingly the individuals from a standardizing man centric family limits themselves to its social inner structures to look after power over others and have control of their belonging to the more they transgress morals and popularity based laws.

More grateful was the knowledge into the troublesome circumstance separate from puts the kids in. Through Arjun and Roohi we are demonstrated how an impeccable youth can get botched up and how the guardians inner selves and their own wants can take a apparatus on the innocents. The absolute most well sections were those including the children and how the grown-up's fiddling with their brain can't just force them however also leave a enduring impression that in the long run make them into grown-ups with pained feelings. Ishita can't rule the kid who

is more seasoned and able to do perceiving her exploitative conduct, however she can control the young lady, Roohi, to whom she gives another name, Roopi. This new name speaks to that she is daughter of her and not Shagun's. To a specific degree the perusers feel sympathy for the fruitless Ishita who still experiences the memories of her past disappointments and social shunning. As she is under society's consistent supervision she needs to show to herself and to the others that she is a decent cherishing mother for Roohi. As a casualty of the standards of male centric standardizing family units, Ishita transforms into the most exceedingly awful oppressor: She never addresses Shagun; nor does she endeavor to get it her as a mother and lady who likewise needs to be cheerful. Roohi's guardianship constitutes Ishita's last opportunity to cure her past dissatisfactions and be acknowledged as a decent mother and praiseworthy spouse among those manage or comply with male centric socio-social standards.

## **5. CUSTODY OF CHILDRENS:**

While the guardians are entangled in a fight in court for authority of the childrens , they do all that they can to make the kids feel more awful. Their child is an imitation of Shagun's narrow minded, pitiless and apathetic regarding anything besides his own fulfillment and their little girl is a smaller than normal of Raman, who is exceptionally cherishing, understanding and liberal. The childrens locate their own specific manners to handle the emergency since they are confounded and feel separated loyalties swarm around them, tossing them into extreme, sincerely irritating circumstances with their folks. What's more, for any kid, choosing between guardians is the hardest and generally candidly obliterating thing to fight with. Their lives are shot and squashed by the ever moderate, pounding wheels of the inflexible lawful framework in India. This is at the point when the peaceful, dependable cousin Nandan ventures in to help Raman who is absolutely ignorant regarding how the lawful framework works in India. To top it all off, he starts to understand that marriage to Shagun whom he had cherished indiscriminately had been a enormous error, one for which his youngsters too would pay a substantial cost. Who will get care of the children?- that progresses toward becoming the inquiry for Raman and Shagun. Their fight in court turns definitely terrible. All through the novel, a genuine story of current marriage that exists around us. This is valid in this day and age. The book features the voice of the kids and reveals insight into their circumstance when guardians are supplanted by attorneys and darlings. It is story of marriage that breaks down and interweaves with coldblooded and disastrous outcomes. When darlings and colleagues, a couple move toward becoming adversaries secured an revolting fight in court over their two kids. Manju Kapur is known to compose books on ladies focused topics goes up against end of long haul marriage, separate and the ensuing authority fight. She demonstrates how a cutting edge house spouse can consider not having any desire to remain in a relationship and search for freedom and joy outside her home and even that did not make one needs to abhor her for her decisions. Accomplishing this adjust is craftsmanship and Guardianship did that.

## **6. CONCLUSION:**

Kapur's novel uncovers not just of the breaking down in the family yet additionally the life of ladies, their battle for essential rights, journey for personality and survival. She depicts how ladies are experiencing financial and socio-social disservices in the male administered society. They have been denied of their essential rights, their desires to their distinction and independence. Authority is the arresting story of how family-love can deteriorate into a fixation to have kids, body and soul, and a chilling study of the Indian legal framework. The story speaks to a developing gathering of youthful, effective, instructed Indians who can pick the heading of their predetermination so effectively regardless of what the hidden morals are like. Kapur's story in *Custody* manages the relational unions that fall, social lip services and fights for kids that entwine with anguish and struggle keeping in mind the end goal to delineate an overall reality of legislative issues of possessiveness and unequal power relations in standardizing man centric families which is a site for limitation, persecution, viciousness, possessiveness and disintegration.

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## National Conference on Recent Trends in Research

11<sup>th</sup> March, 2018 at Jai Narain Vyas University, Jodhpur, Rajasthan, India.

### Recent trends in Australian tertiary agricultural science education

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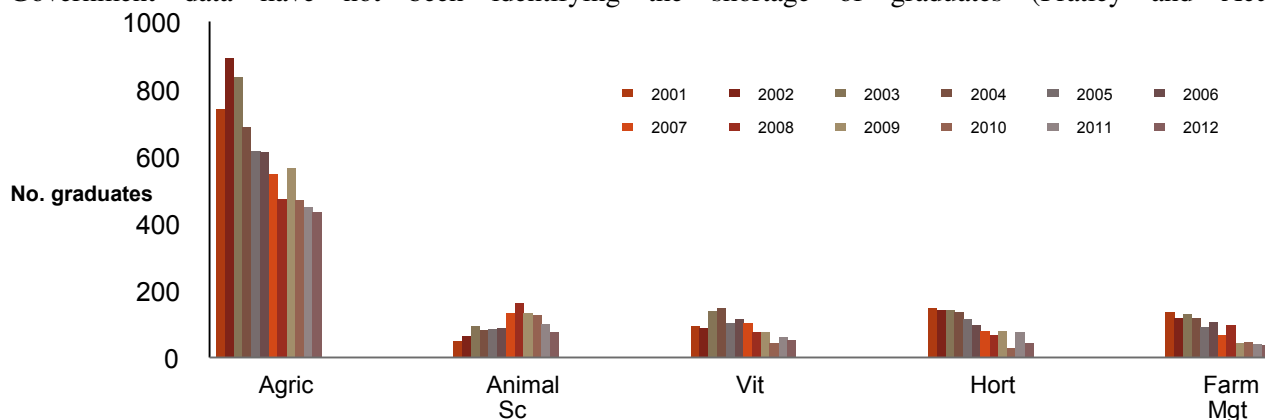
**Abstract:** Although in the last decade the Australian economy has been dominated by a buoyant mining sector the agricultural sector still makes a significant contribution. In 2013-14 farm production was valued at AU\$51 b with AU\$41 b exported and 270,000 people were employed in the sector (Australian Government 2015). More recently, the Australian mining sector has matured, particularly as it moves from the development of new mining projects to production. Public and policy discussion has considered the reinvigoration of agricultural exports with phrases such as “moving from the mining to the dining boom”.<sup>1</sup> Importantly, the Australian Government has considered issues in and around the agricultural sector with Green and White Papers on Agricultural Competitiveness (Australian Government 2014, 2015), although this process tended to overlook the contribution of universities to agricultural education (ACDA, 2014). This Paper describes several trends that may affect the sector, including global population growth, growth of affluence, changes in consumer sentiments, transformative technologies and globalization and climate change. These broad trends are likely to affect the contribution of agriculture to the Australian economy, and importantly for the university sector, interest in pursuing agricultural science as a career. To place this discussion in context this brief paper will describe several aspects of the Australian agricultural education sector including: on Trends in agricultural science enrolments and graduations, other innovation environment, and other integration of technological innovation into agricultural education.

**Key Words:** - Agriculture, tertiary, recent trends, Australian, horticulture, animal production.

#### 1. INTRODUCTION:

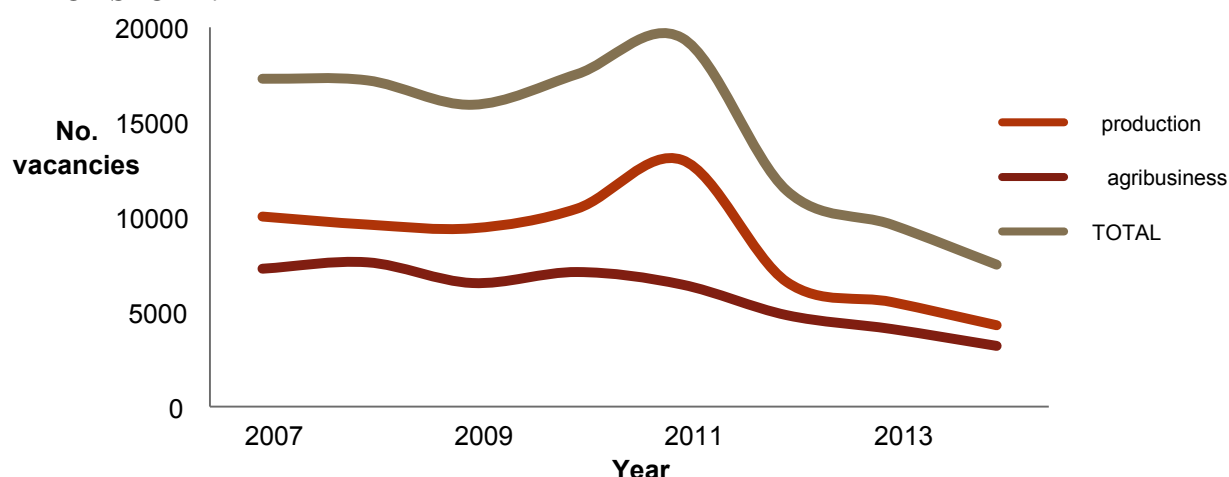
##### TRENDS IN AGRICULTURAL SCIENCE ENROLMENTS AND GRADUATION:

Australia has 43 universities and of these 15 are members of the Australian Council of Agricultural Deans offering agriculture and related disciplines as 3-4 year undergraduate and various types of postgraduate degrees. Despite some earlier confusion about the number of agricultural graduates and employment prospects in the sector, recent analysis by the Australian Council of Agricultural Deans (ACDA) (Pratley 2008; Pratley et al. 2008; Pratley 2012) has demonstrated both a decrease in the number of graduates (Fig. 1) but also a surplus in the number of positions available for new graduates (Fig. 2). Pratley and Acuña (2015) suggest that there are currently four positions available for each graduate. Despite the imbalance between the numbers graduating and employment demand, Government data have not been identifying the shortage of graduates (Pratley and Acuña 2015).



**Figure 1.** Graduate numbers in agriculture and related areas for the period 2002 – 2012 (pratley, 2012 updated)

## AREA OF STUDY:



**Figure 2.** Job market trends for production and agribusiness based on advertisements in newspapers across Australia and on the internet for the period 2007-2014 (Pratley 2012, updated)

Similarly, careers advisers were using Government data to advise against careers in agriculture (Pratley and Acuña 2015). Student data are collated by the Government in terms of categories termed Fields of Education (FoE), and these can be summarized as very broad areas of study, or two digit codes, or broken down into four or six digit codes for different fields such as horticulture or animal production (Table 1). A key feature of this approach is that both Agricultural Science and Environmental Studies are included in FoE 05, such that it considerably inflates the overall number of graduates. For example, in 2010 the number of agricultural graduates was around 600, whereas the number of environmental graduates was around 1500, to give a total for FoE 05 of 2100 (Pratley and Acuña 2015, Pratley 2015). This analysis also shows that the number of undergraduate completions for agriculture (based on the 6 digit code) declined by 53% from 886 in 2001 to 413 in 2010. This trending decline in enrolments, however, appears to have stabilized with a 15% increase in enrolments reported in early 2014.<sup>1</sup>The same coding applies to graduate salary and employment status. Whereas agricultural graduates have almost full employment (>90%), those for environmental science do not (*c.* 60-70%) (Fig. 3) and considering the sector in terms of the two digit code presents a somewhat pessimistic, and misleading, view of agricultural graduates' employment prospects.

**Table 1.** Agriculture and related sub-codes in the Field of Education (FoE) categorisation used in Australia

Broad Code (2-digit)	Narrow (4-digit) and Detailed (6-digit) Code
01 Natural and Physical Sciences	0107 Earth Sciences 010709 Soil Science 0199 Other Natural and Physical Sciences 019905 Food Science and Biotechnology
03 Engineering and Related Technologies	0303 Process and Resources Engineering 030307 Food Processing Technology
05 Agriculture, Environmental and related studies	0501 Agriculture 050101 Agricultural Science 050103 Wool Science 050105 Animal Husbandry 050199 Agriculture, n.e.c. 0503 Horticulture and Viticulture 050301 Horticulture 050303 Viticulture 0505 Forestry Studies 050501 Forestry Studies 0507 Fisheries Studies 050701 Aquaculture

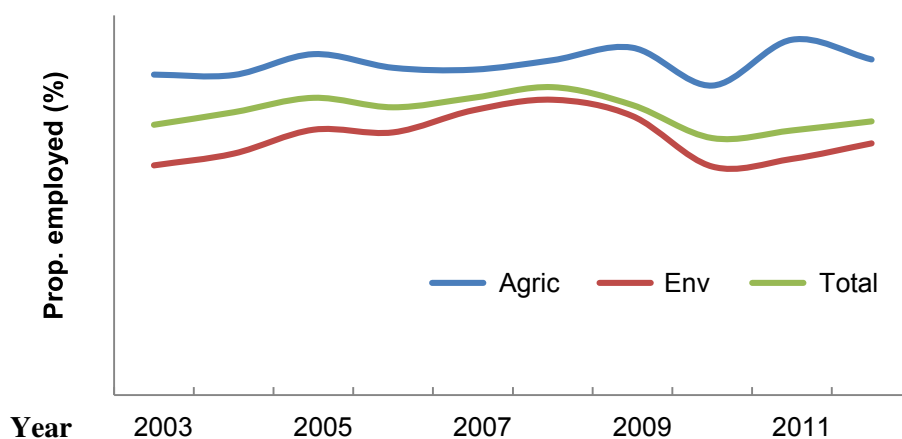
<sup>1</sup> [www.theland.com.au/news/agriculture/general/news/boom-times-inagribusiness/2687065.aspx?storypage=0](http://www.theland.com.au/news/agriculture/general/news/boom-times-inagribusiness/2687065.aspx?storypage=0)



	<b>050799 Fisheries Studies, n.e.c.</b> <b>0509 Environmental Studies</b> <b>050901 Land, Parks and Wildlife Management</b> <b>050999 Environmental Studies, n.e.c.</b> <b>0599 Other Agriculture, Environmental and related studies</b> <b>059901 Pest and Weed Control</b> <b>059999 Agriculture, Environmental and related studies, n.e.c.</b>
06 Health	0611 Veterinary Studies 061101 Veterinary Science 061103 Veterinary Assisting 061199 Veterinary Studies, n.e.c.
08 Management and Commerce	0803 Business and Management 080321 Farm Management and Agribusiness

**Table 2. The percentage decline in graduate completions for Field of Education 05 and for agriculture from 2001 to 2010 (Pratley, 2015b)**

Source	2001	2010	Decline (%)
Undergraduate (UG) completions (FoE 05) (2 digit code)	2991	2207	26
Undergraduate (UG) agriculture completions (6 digit code)	886	413	53



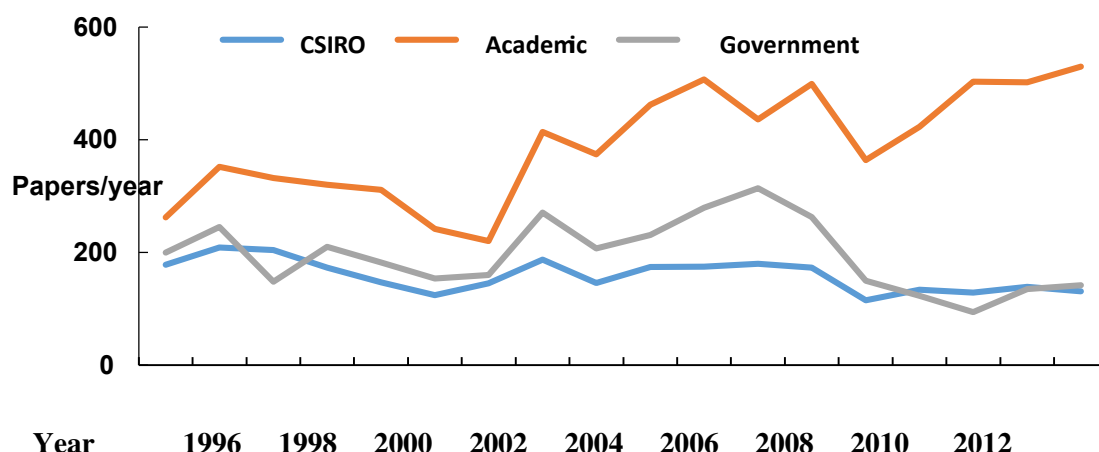
**Figure 3. Comparison of full time employment of agriculture and environmental graduates, separately and together, in the Graduate Careers Australian surveys 2003 to 2012 (Pratley, 2015b)**

A large portion of the funding for Australian universities comes from the Australian Government and is distributed on the basis of undergraduate student enrolments. Over the period 2001 to 2012 undergraduate enrolments (as opposed to graduates as described in Table 2) declined from 3942 to 1526, or 61%. This is likely to have impacted on staffing levels and loss of capability within agricultural faculties, with Pratley and Acuña (2015) assuming a ratio of 20 undergraduates to each academic staff member.

## 2. THE INNOVATION ENVIRONMENT:

In Australia, agricultural research is mainly undertaken by universities, CSIRO (the national science agency), private companies and State Governments. In the Australian federation, agriculture sits as a state responsibility, rather than at the federal level as with the USDA. Funding for Australian agricultural research comes from a variety of sources, including from research bodies that combine producer levies and Government co-contributions under the *Primary Industries Research and Development Act 1989*, the Australian Research Council,

Cooperative Research Centres and arrangements with private companies. The contribution of universities to overall research appears to be increasing over time. Research productivity, as measured by refereed publications, is shown in Fig. 4, with the total number of publications in the period 1996-2013, across all types of research organization, increasing from 640 to 803 papers/yr. Whereas the output of both CSIRO and State Governments exhibits a small decline over this period, the proportion of papers produced by universities increased markedly, from 41% of the total to 66%. Assuming that the funding base remains stable, it is likely that this trend will accelerate with a reduction in research activity by several state governments and decreased funding for the CSIRO. This trend is important as in many Australian universities academic staff are on contracts that involve a mixture of research, teaching and service. Thus, it is likely that students will engage with staff that are active researchers, and this research will inform their teaching. Income from research, however, does not cover academic salaries, with these often substantially supported by income from teaching.



**Figure 5.** Numbers of publications from CSIRO, universities and government in Australia over the period 1996-2013 (ACDA, 2015 unpublished)

### How have recent advances in technology been incorporated into agricultural science courses?

The incorporation of technology in Australian agricultural science degrees can be considered in terms of two components (a) the use of technology to deliver lecture material and (b) new approaches to allow the development of insights into different farming systems.

- *Technology and learning:* most Australian universities use on-line technology to deliver lectures and manage course content, such that students can access course material from off-campus locations. This is particularly important where rural students are living in locations distant from campuses and also for those undertaking part-time study. The amount of application varies across and within universities, as it is not always possible to deliver content in this
- *New technological approaches:* There has been some innovation in this area. Examples include: The development of on-line “4D” farms by Dr Stuart Barber of the University of Melbourne, with colleagues from Sydney University, the University of Queensland, Massey University and Murdoch University<sup>2,3</sup>. Eleven virtual farms were selected from across Australia and New Zealand, with these allowing students to compare divergent farming systems, and develop an understanding of the systems spatial and temporal.

Active research on various aspects of precision farming by the Precision Agriculture Research Group at the University of New England,<sup>5</sup> with output from this work being used within undergraduate and graduate certificate units in precision agriculture.<sup>4</sup> This is currently Australia’s only postgraduate course in precision agriculture.

### 3. CONCLUSIONS AND IMPLICATIONS:

There has been a steady decline in agricultural enrolments, however this may have now stabilized possibly due to the imbalance between jobs available and number of graduates. The contribution of universities to agricultural research appears to be increasing both in terms of actual outputs, and also as a proportion of total output. This trend may increase as the CSIRO and State Governments reorientate their research portfolios. Much of the research

<sup>2</sup><https://www.youtube.com/watch?v=kw1SK4qTiR0>

<sup>3</sup><http://research.vet.unimelb.edu.au/cattleandsheep/4dfarm.html><sup>5</sup><http://www.une.edu.au/current-students/resources/academicschools/school-of-science-and-technology/research/precisionagriculture/about>

<sup>4</sup><http://www.une.edu.au/current-students/resources/academicschools/school-of-science-and-technology/research/precisionagriculture/education-and-extension>

funding available is applied in nature and an interesting tension in coming years will be between producing outputs which result in practical outcomes compared to producing high impact papers in international journals. The latter is the consequence of national and international university ranking schemes.

A range of factors may affect Australian agriculture into the future, such as changes in both the amount and quality of food, and challenges such as from climate change and globalization. A strong university sector will play a role in meeting these challenges, as it has in the past, both through maintaining the skills base to allow innovation and also producing graduates with the necessary skills to lead future change. Some universities are actively engaging with new technological approaches in agricultural education.

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