

Volume 9, Issue 3(6), March 2020  
**International Journal of Multidisciplinary  
Educational Research**

**Published by**  
**Sucharitha Publications**  
**D.No: 8-42-18/3, F-2, 1<sup>st</sup> Floor, M.K. Residency**  
**Tamil Street , Chinna Waltair**  
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ISSN : 2277 – 7881  
Impact Factor :6.514 (2020)  
Index Copernicus Value: 5.16



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### Editorial.....

It is heartening to note that our journal is able to sustain the enthusiasm and covering various facets of knowledge. It is our hope that IJMER would continue to live up to its fullest expectations savoring the thoughts of the intellectuals associated with its functioning .Our progress is steady and we are in a position now to receive evaluate and publish as many articles as we can. The response from the academicians and scholars is excellent and we are proud to acknowledge this stimulating aspect.

The writers with their rich research experience in the academic fields are contributing excellently and making IJMER march to progress as envisaged. The interdisciplinary topics bring in a spirit of immense participation enabling us to understand the relations in the growing competitive world. Our endeavour will be to keep IJMER as a perfect tool in making all its participants to work to unity with their thoughts and action.

The Editor thanks one and all for their input towards the growth of the **Knowledge Based Society**. All of us together are making continues efforts to make our predictions true in making IJMER, a Journal of Repute

**Dr.K.Victor Babu**  
**Editor-in-Chief**

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बहादुरशाह जफर मार्ग, नई दिल्ली-110002  
Behadur Shah Zafar Marg, New Delhi-110002

F.1-1/2018(Journal/CARE)

16<sup>th</sup> September, 2019

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- (1) The old 'UGC Approved List of Journals' has been replaced with the new UGC-CARE Reference List of Quality Journals' (UGC-CARE List) and with effect from 14<sup>th</sup> June, 2019 research publications only from the journals indexed in UGC-CARE List should be considered prospectively for any academic purpose.
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(P.K. Thakur)

Secretary( Officiating)



## PHILOSOPHICAL PERSPECTIVES OF CREATING ARTIFICIAL INTELLIGENT BEINGS

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### **Abstract**

Artificial intelligence AI is all around us whose rise is both exciting and challenging. It is a recent academic discipline that has the prime goal of making computers to act intelligently to exhibit human like abilities. It is based on human developed algorithms that can process and solve complex problems. The term artificial intelligence was coined by John McCarthy in 1956 who defined it as the science and engineering of making intelligent machines, especially intelligent computer programs. Computers are used for solving numerical problems, understanding text, playing games, decision making, etc. which were earlier considered to be acts performed by humans exclusively. AI's range is not limited to the field of computer science, but expands over other disciplines such as psychology, mathematics, biology, philosophy, linguistics, statistics and engineering. AI research has brought about a Copernican revolution in the way intelligence is seen today. The rapid development in AI systems throughout the world in recent times have resulted in surmounting of very large number of philosophical issues one after the other. This paper attempts to discuss the various perspectives of AI on a philosophical angle. An exploration into how AI and human beings differ have also been made.

### **A General Introduction**

The concept of intelligence is quite contested in modern times. In the simplest terms, intelligence is defined as any ability to learn and acquire knowledge. According to Wikipedia, intelligence has been defined in different ways, including the ability for abstract thought, understanding, communication, reasoning, learning, planning, emotional intelligence and problem solving. (Jan et al 10) It is not difficult to trace the history of artificial intelligence as it is a recent innovative feather to the human's cap of discovery. From time immemorial, the nature's gift of intelligence has been subjected to vigorous study not only in human beings but also, in plants and animals. During the past few decades. Numerous theories and hypothesis have been proposed with no consensus reached by



academicians. Despite, innovations in AI, philosophers worldwide are worried about the philosophical challenges that this new technology poses ranging across various dimensions like ethical, rational, mental, etc.

Artificial intelligence is synonym with machines and computer technologies. The chief object of this new era of human civilization is to make the machines imitate human abilities, thinking processes, problem solving, performing multiple tasks. It has therefore, led to the development of intelligent machines capable to solve complex problems. These machines are sophisticated in functional and computational realms. The potential practical applications of AI can be witnessed over a wide range of areas like health care, infrastructure, energy and communication, space technology, retail, construction, education, governance, weather forecasting, transportation, agriculture, crisis management, etc. The term "artificial intelligence" was coined by John McCarthy in 1956. He has defined the term as the science and engineering of making intelligent machines. AI computation demonstrates qualities like flexibility, adaptability, robustness, accessibility, autonomy, powerfulness, non-creativity, re-configurability and prediction.

### **What is intelligence?**

Intelligence can be natural and artificial. Natural intelligence is innate in human beings, plants and animals. As the term suggests, artificial intelligence is intelligence characterised by artificiality i.e., non biological intelligence. There is no undisputable correct definition of intelligence. Intelligence encompasses Learning, problem solving, emotional abilities, understanding, self knowledge, creativity and planning. It is interesting to note that with cosmic evolution, lifeless matter has turned intelligent. It is the product of evolution. It can be best described as a qualitative characteristic of man. It manifests itself in learning, problem solving, decision making, reasoning, etc. Human intelligence is extravagantly uniquely broad. But, AI has intelligence in the limited sense tuned to accomplish very specific goals. It functions on the basis of what is inscribed into it.

### **Human Learning Vs Machine Learning**

Human brain cannot be equated with a computer and vice versa. The ability to learn is another faculty that makes a human a biological being. Man receives input from the external world through his senses, processes the received information in the brain and output occurs in the form of actions based on information processed. This complex process involves

---



the interplay of learning. Learning combines knowledge, memory, inferences and decisions. Machine learning is different from human learning. The difference is in the way in which input is gathered occurring mainly through speech recognition, visual recognition, logistics, data mining, control systems or other sources with the help of algorithms to produce vast amount of digital information. Humans learn from his surrounding environment and adapt to the new experiences thereby moulding his behaviour. Machines function according to custom programmed skills and superior memory and speed. Nonetheless, machine learning can be considered as a sophisticated extension of human learning but, it is not self organising and adaptive. The primary goals of machine learning are maximum performance and accuracy.

### **AI, An Irrational Man**

Human beings interact with computational beings now a days as if they were real. There are many factors that distinguish an AI system from a human being. The primary element is the unique possession of rationality. Rationality is the special faculty by which logical decisions are taken i.e., the ability to distinguish between right and wrong. A man is said to be rational in his actions if they are performed in accordance with analytic means of reason in response to real world stimuli. To act rationally is to think logically. Thus, the sphere of human activities on the whole are expedient. Computing machines are virtually incapable of being fundamentally rational since they are developed inferior to human minds.

### **Dimensions of the Mind**

Philosophers sees the realm of consciousness as posing a special challenge to AI. Consciousness is a unique feature of living organisms. In the simplest terms, consciousness is an inner, private, qualitative phenomenon of self awareness. Consciousness manifested in matter is life. Human beings as living organisms have conscious experiences. Specialists like physicians, psychologists, philosophers of mind have failed to explain how and why conscious states arise from electro-chemical processes of the brain. It is a completely personal matter as it cannot be observed, measured or transcribed to others. Conscious experiences are not absolute. It varies from person to person. Conscious experience is a widespread phenomenon. It occurs at many levels of animal life, though we cannot be sure of its presence in the simpler organisms, and it is very difficult to say in general what provides evidence of it. No matter how the form may vary, the fact that an organism has conscious experience at all means, basically that there is something it is like to be organism..But



fundamentally an organism has conscious mental states if and only if there is something it is like to be that organism something it is like for the organism. (Nagel 519)

The hard problem of consciousness is different from the problem of AI consciousness. The former explains why a physical state is conscious rather than non conscious. The latter concentrates on the cornerstone issue can machines be ever conscious? The so called machine or digital consciousness is entirely different. Our mental states cannot be fully represented in a machine because consciousness is purely a subjective experience. Our knowledge of consciousness cannot be derived from the external world. It is a first person ontological inner state. Machines are not conscious. Consciousness in machines if at all developed can be only functional and not biological. Therefore, the cognitive mental states and processes cannot be related to consciousness. Human beings are semantic systems whereas, inorganic machines are syntactical systems. The inorganic systems cannot give a sufficient account of conscious experiences and sensations.

### **Role of qualia**

Another bone of contention among philosophers is the defining qualitative feature of consciousness termed qualia. It is the individual character of subjective experience. There is a subjective feeling attached to conscious experience. It cannot be explained by a third person's account. Qualia are experiential properties of sensations, feelings, perceptions, thoughts and desires as well. (Guttenplan514)The commonest examples being pain, smell, colour sensation, thirst, etc. Hence, It is ephemeral, subjective, personal. AI intelligent machines lack qualia. They do not possess consciousness in the phenomenal sense. Robots cannot derive the pleasure of eating ice cream or listening to music or witnessing the beauty of sunset. The phenomenal consciousness differ according to functional states. They fail to enjoy the subjective quality of phenomenal experiences which are sensations, feelings, affections, desires, perceptions and thoughts.

### **Ethical Perspectives**

Human beings take ethical decisions on a daily basis. Morality is the science of rightness and wrongness, goodness and badness of human conduct which is indispensable for peaceful living. It is not concerned with what human beings do, but what they ought to do. It is an enquiry into the nature of the highest good of man. It is not mere description of



human conduct but, determines the nature or science of the ideal of human actions. Humans have a moral sense because their biological makeup determines the presence of three necessary conditions for ethical behaviour:

- I. the ability to anticipate the consequences of one's actions,
- II. the ability to make value judgements and,
- III. the ability to choose between alternative courses of action (Darwin 160)

Human conduct is evaluated on the basis of moral judgements taken. It is expressed in concepts like duty, rights, responsibility, etc. It is this moral phenomena that distinguishes human pantheon from other animals or brute by guiding them how to behave. The human created beings are not accountable and responsible for their actions. Hence, the status of moral agents cannot be ascribed to AI machines today. In other words, they do not act morally. Human life is a combination of the exploration of new and unknown environment and learns from experiences thereby, linking the newly learnt abilities necessary for survival. They can be best described as neurological bioware machines. AI research in the recent years have concentrated on the thorniest dilemma, whether it is possible for invented super brain to take ethical decisions on a greater magnitude without human intervention. Moreover, the silicon brain has limited moral experience in the sense that they are unaware of the consequences of their actions.

The next important factor is the level of motivation. Motivation is the basis of goal oriented behaviour. Motivation can be intrinsic and extrinsic. Intrinsic motivation happens when one enjoys what one is doing. On the other hand, extrinsic motivation is done solely for the purpose of external rewards. Human beings are motivated both intrinsically and extrinsically. They act on the basis of values, emotions, beliefs, goals, preferences, desires and act accordingly to make life more meaningful. Without these, they would have merely been Turing robots. Contrarily, AI systems have only extrinsic motivation. They are devoid of the above. They can exhibit goal oriented behaviour which has been designed into them by human beings. Initially, the goals designed were minimally simple. As technology progresses, machines with more complex goals were built to perform tasks like self-driving cars, robotic vacuum cleaners, etc. In case of human agents, it is possible to speak about original purposes, whereas in case of artificial agents, it is worthy to speak only about derivative purposes. (Gamez89)



## Conclusion

Our speculation ends in a super civilisation, the synthesis of all solar-system life, constantly improving and extending itself, spreading outward from the sun, converting non life into mind. (Tegmark and Alfred 305) To conclude, as fast as technology is moving forward, artificial intelligence provides a set of well defined practical advantages to make human lives more convenient, quicker and easier. In spite of the plethora of philosophical issues raised, AI has still long and difficult paths to be traversed for a wider improvement of their performances. The shift of the focus have been from performing cognitive functions like perception and action to achieve break through higher level cognitive abilities like causal reasoning, compositionality, etc. Technological maturity can be enhanced by trying to understand how consciousness and intelligence are interrelated. The challenge of technological civilisation is to think technologically and at the same time philosophically.

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## A STUDY ON PROBLEMS OF THE STUDENTS IN LEARNING SCIENCE IN EQUITABLE EDUCATION AT STANDARD IX

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### Abstract

Equity is a commitment to giving every student what he or she needs to peer over the fence so that they can participate fully in the opportunities that education can make possible. The focus of equity work must be to remove the barriers that limit success for all children. In the present study, the investigator has attempted to study the problems of the students in learning science in equitable education at standard IX. The sample consisted of 1000 IX standard students studying in Villupuram district, Tamil Nadu. The collected data, using survey method, were analyzed using percentage analysis and 't' test. The results revealed that significant difference was found between male and female students in their problems in learning science in equitable education of IX standard students. Further it revealed a significant difference between rural and urban school students in their problems in learning science in equitable education of IX standard students.

**Key Words:** Equitable Education, Learning Science and Problem Identification.

### Introduction

Equity means that students should have equal opportunities to achieve their optimal abilities without being restricted by their community background or dispositional characteristics' (Luke, Woods, & Weir, 2013). All students need a comprehensive science education, starting in the earliest years, to be prepared for productive futures, no matter what their educational and career paths will be. Science education helps young people understand the world around them, develop critical thinking and reasoning skills, and be prepared for a future increasingly centered around information and technology. From transitional kindergarten through high school, science must be treated with the same priority as other parts of the core curriculum for all students. Further, targeted efforts are needed to ensure equitable access for students who have been historically underrepresented in science education and careers (Goldstein, Sawko, Grace, Vargas, Vandergon, Nemeckova-Fairfield, Metcalf, Bakshi, & Orlinski, 2019).



## Significance of the Study

Equity in science education requires that all students are provided with equitable opportunities to learn science and become engaged in science and engineering practices; with access to quality space, equipment, and teachers to support and motivate that learning and engagement; and adequate time spent on science. In addition, the issue of connecting to students' interests and experiences is particularly important for broadening participation in science.

An equitable education system helps all students develop the knowledge and skills they need to be engaged and become productive members of society. More importantly, giving all children an equitable start would lead to better economic and social outcomes for individuals, for regions, and for our nation.

As teachers learn to “read” their students’ actions for signs of learning, they will become better able to provide equitable learning opportunities for all students, particularly those who have traditionally been marginalized in science classrooms. Thus, the investigator chooses to study the problems of the students in learning science in equitable education at standard IX.

## Objectives

1. To find out the level of problems of the students in learning science in equitable education at standard IX.
2. To find out whether there is any significant difference between male and female students in their problems in learning science in equitable education of IX standard students.
3. To find out whether there is any significant difference between rural and urban school students in their problems in learning science in equitable education of IX standard students.

## Hypotheses

**H<sub>01</sub>:** There is no significant difference between male and female students in their problems in learning science in equitable education of IX standard students.

**H<sub>02</sub>:** There is no significant difference between rural and urban school students in their problems in learning science in equitable education of IX standard students.

## METHOD USED

In the present study the investigator has adopted the survey method.

## POPULATION AND SAMPLE

The population for the present study consisted of high school students, who are studying in Villupuram district. The investigator has used simple

random sampling technique for selecting the sample from the population. The sample consisted of 1000IX standard students in Villupuram district, Tamil Nadu.

**TOOL USED**

Test of Problems in Learning Science in Equitable Education was developed and validated by the investigator (2018).

**STATISTICAL TECHNIQUES USED**

Percentage analysis and ‘t’ test were used in this study.

**ANALYSIS OF DATA**

**Objective Testing**

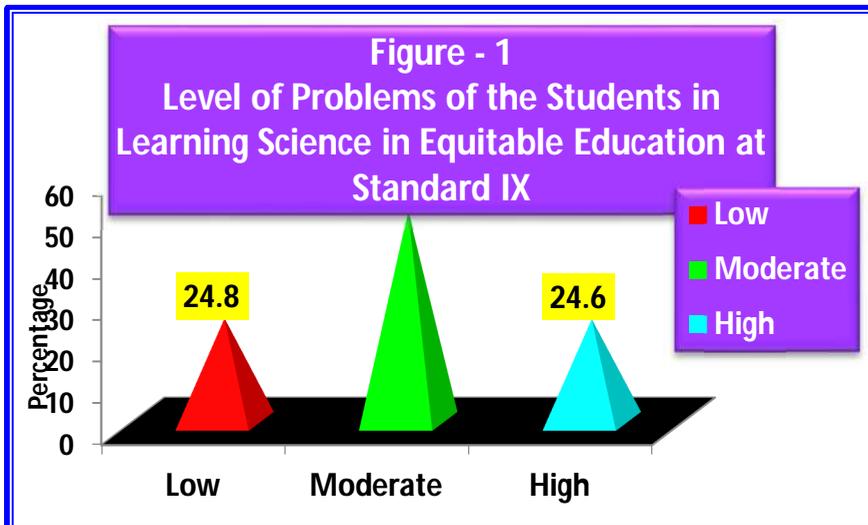
**Objective: 1**

To find out the level of problems of the students in learning science in equitable education at standard IX.

**Table - 1**

**Level of Problems of the Students in Learning Science in Equitable Education at Standard IX**

Variable	Low		Moderate		High	
	N	%	N	%	N	%
Problems in Learning Science in Equitable Education	248	24.8	506	50.6	246	24.6



**Differential Analysis**

**H<sub>0</sub> 1:** There is no significant difference between male and female students in their problems in learning science in equitable education of IX standard students.

**Table - 2**

**Difference between Male and Female Students in their Problems in Learning Science in Equitable Education**

Variable	Gender	N	Mean	S.D	Calculated 't' value	Remark
Problems in Learning Science in Equitable Education	Male	631	30.03	10.093	2.246	S
	Female	369	31.53	10.396		

(The table value of 't' is 1.96, S - Significant)

**H<sub>0</sub> 2:** There is no significant difference between rural and urban school students in their problems in learning science in equitable education of IX standard students.

**Table - 3**

**Difference between Rural and Urban School Students in their Problems in Learning Science in Equitable Education**

Variable	Locality of the School	N	Mean	S.D	Calculated 't' value	Remark
Problems in Learning Science in Equitable Education	Rural	499	28.94	10.088	5.144	S
	Urban	501	32.23	10.109		

(The table value of 't' is 1.96, S - Significant)

**RESULTS AND DISCUSSION**

- The table 1 reveals that 24.8% of IX standard students have low, 50.6% of them have moderate and 24.6% of them have high level of problems in learning science in equitable education. This has been shown in the figure - 1.



- The table 2 reveals that the calculated 't' value (2.246) is greater than the table value (1.96) at 0.05 level of significance. Hence the respective null hypothesis is rejected. Thus, the result shows that there is significant difference between male and female students in their problems in learning science in equitable education of IX standard students. While comparing the mean scores of male (Mean=30.03) and female (Mean=31.53), the female IX standard students are better than the male IX standard students in their problems in learning science in equitable education.
- The table 3 reveals that the calculated 't' value (5.144) is greater than the table value (1.96) at 0.05 level of significance. Hence the respective null hypothesis is rejected. Thus, the result shows that there is significant difference between rural and urban school students in their problems in learning science in equitable education of IX standard students. While comparing the mean scores of rural (Mean=28.94) and urban school students (Mean=32.23), the urban school IX standard students are better than the rural school IX standard students in their problems in learning science in equitable education.

## Conclusion

Equity in education is a measure of education achievement such that every individual student is given fair treatment and opportunity to be successful. Every student is entitled to equitable education but there are many challenges associated with the successful implementation of this ideal at the ground level such as racial discrimination, financial problems, gender inequality and gap in digital competence. In conclusion, in a multicultural society, educators must learn to appreciate differences and cooperate to ensure that equitable education for every student. Educators also need to work hard to ensure that they can build healthy relationships and positive cultures in school so that every student can be successful regardless of their background.

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## ***Advaita Sādhana* in the framework of Indian Spiritual thought**

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### **1.0 Introduction:**

The objective of this paper is to present a compendium of ancient Indian spiritual thoughts on the exposition of *Sādhana* astutely and assiduously followed in the Indian *vedantic* tradition of *Advaita darśana*. *Sādhana* literally means "a means of accomplishing something", and is an ego-transcending spiritual practice. These are basic tools in the spiritual journey towards attaining freedom from the seemingly unending cycle of *Samsārā*. *Sādhana*-s receive their sanctions primarily from *Vedic*, *Upaniṣadic* and other scriptural sources with a view to leading the *Sādhaka*, towards *Sādhyā*, the final and most important *puruṣārthā*, *Mokṣa*, which is verily the attainment of the Knowledge of the Self or oneness with the Absolute!

### **2.0 Basic premises before venturing into the *Sādhana* process**

#### **2.01 Vedantic wisdom as the guiding light for *Sādhana***

Bṛhadāraṇyakopaniṣad emphasizes that 'the Self has got to be seen, heard, thought of and known' for realization of the Self **Is** the Liberation. Here comes Vedānta or Upaniṣad-s as the valid means of knowledge.

आत्मा वा अरे द्रष्टव्यः श्रोतव्यो मन्तव्यो निदिध्यासितव्यो मैत्रेय्यात्मनो वा

अरे दर्शनेन श्रवणेन मत्या विज्ञानेनेदं सर्वं विदितम् । BU II.iv.5 ।

"He who sees all beings in his own Self and his own Self in all beings, then what delusion and what sorrow can there be for that Seer of oneness?"

सर्वभूतेषु चात्मानं ततो न विजुगुप्सते ।

यस्मिन् सर्वानि भूतान्यात्मैवाभूद्विजानतः । İU 6 ।

This is the ultimate direct knowledge that removes the bondage of *samsāra* or results in the non-difference between the true nature of the soul and pure consciousness which is called liberation or *mokṣa*. Attainment of this true knowledge of oneness with *Brahman* is what the *śrutis* refer to as '*pūrṇatva*'.

### 2.02 Value-based life with moral discipline as the foundation

Values are the most essential components of a moral discipline. The expression of one's life is just the expression of one's assimilated value structure. There are five verses in the 13<sup>th</sup> chapter of *Bhagavad-gītā* which deal with what we may call 'values'. *Gītā* calls these values as *jñāna*. But, in the way *Gītā* uses it, *jñāna* represents the collection of qualities that will augment the dawn of Self-knowledge, to a relative extent. However, the absence of such values will certainly be a road-block to achieving that Self-knowledge. According to *Gītā*, *jñāna* prepares the mind for Vedānta. It defines the moral fabric that distinguishes the individual personality from other persons. Some of these qualities are : Unpretentiousness ( *adambhitva* ), Non-injury ( *ahiṃsā* ), Accommodation or forgiveness ( *kṣāntiḥ* ), Uprightness ( *ārjava* ), Service to the teacher ( *ācāryopasana* ), Purity ( *śauca* ), Steadiness or steadfastness( *sthairya*), Self-control ( *ātmavinigrahaḥ* ) - (BG X111.7)

अमानित्वमदम्भित्वमहिंसा क्षान्तिरार्जवम् ।

आचार्योपासनं शौचं स्थैर्यमात्मविनिग्रहः ॥ BG XIII.viii॥

### 2.03 Ethical values for *Sādhaka*, the spiritual seeker

Sixteenth chapter of *Bhagavad-gītā* lists a large number of virtues such as purity of mind, non-violence, renunciation, and liberty, freedom from anger and covetousness, gentleness, modesty, truth and uprightness.

अभयं सत्त्वसंशुद्धिर्ज्ञानयोगव्यवस्थितिः ।

दानं दमश्च यज्ञश्च स्वाध्यायस्तप आर्जवम् ॥BG XVI.i॥

Ethical values may be regarded as the virtuous conduct based on moral attitudes. In Sanskrit an ethical value may be defined as '*dharma*'. *Dharma* is a standard or norm of conduct mandated by our scriptures for the well-being of society and the individual. These ethical values are understood as the bedrock for *Sāadhanā* process and spiritual progress.

## 3.0 The *Sāadhanā* process

Kāthopaniṣad emphasizes that unless one desists from bad conduct, keeps his senses under control and directs his mind concentrated and free from anxiety, he cannot gain true knowledge or jñāna about the Self.

नाविरतो दुश्चरिता-न्नाशान्तो नासमाहितः । नाशान्तमानसो वापि प्रज्ञानेनैन-माप्नुयात् ॥KU I.ii.24॥

### 3.1 *Sādhana-kramam*

Ācārya Śāṅkara Bhagavat-pāda has mapped out a *Sādhana-kramam* (methodology of *Sādhana*) towards the goal of Advaita. The lofty edifice of *Sādhanā* that the Ācārya has built for us has the Upanishads as its base. *Brahma-sūtra* begins with this inquiry called ‘*atāto brahma jijñāsā*’ - ‘and, therefore, to gain that knowledge only, this inquiry into the nature of Brahman’. What he talks about is a *Sādhanā* program, called ‘*Sādhana catuṣṭayaṁ*’ (the four means of *Sādhanā*), that the spiritual aspirant should have gone through prior to the *ātma vicāra* or Brahman enquiry. There is another *prakaraṇa* of the Ācārya called “*Aparokṣānubhūti*” which also talks of these four means. There is another elementary first book called ‘*Bala-bodha-sangrahaṁ*’. Even there he talks about this *Sādhana catuṣṭayaṁ*.

### 3.2 Eligibility for *Ātma-Sādhanā*

The regimen for *Ātma-Sādhanā* is to be undertaken only after the dirt in the mind and its vacillation have been removed. It is to eradicate this dirt and prevarication of the mind that *karma* and *bhakti* have been prescribed. Ācārya Śāṅkara says so clearly that *Sādhana catuṣṭayaṁ* is only for him who has crossed this barrier of dirty and vacillatory mind.

स्ववर्णाश्रमधर्मेण तपसा हरितोषणात् ।

साधनानां प्रभावाद्वा वैराग्यादि चतुष्टयम् ॥ (अपरोक्षानुभूति – ३)

// *sva-varṇāṣrama-dharmaṇa tapasā hari-toṣaṇāt / Sādhanāṁ prabhavet pumsāṁ vairāgyādi catuṣṭayaṁ // (Aparokṣānubhūti: 3)*

It is ‘*sva-varṇāṣrama-dharmaṇa*’ (the dharma of one’s own varṇa and own āśrama) that is the karma-yoga of the individual. ‘*Hari-toṣaṇam*’ is the satisfaction of Lord Viṣṇu . In fact all our actions (*karma-s*) are to be done for the satisfaction of the Lord (*Īśvara-prītyarthaṁ*). According to Gita, to dedicate one’s *svadharmā-karma* is itself *bhakti*. In Ācārya’s ‘*Sopana-*

pañcakam' (also known as Upadeśa-pañcakam) (first shloka) he says "Do your *svadharmakarma* well and consider that as the puja done to Iśvara". *Karma* is for purification of the mind and *bhakti* is for obtaining the one-pointedness of mind towards God.

### 3.3 *Sādhana catuṣṭayam*

Right in the beginning of his monumental work Brahma Sūtra Bhāṣya, his commentary on the first sutra where Ācārya Śāṅkara quizzes 'After what shall we embark on the enquiry of Brahman?', he starts with '*nitya-anitya-vastu-vivekaḥ*' and mentions the four basic requirements which are called *sādhana-catuṣṭaya* which have a bearing on the mental frame of the spiritual aspirant. It is laid down that a person who is to undertake the study of Vedānta should fulfill the fourfold means of eligibility, viz discrimination, dispassion, disposition, and desire for liberation, known as the "Four-D's". According to Śāṅkara, the fourfold means of eligibility is the condition antecedent for the study of the Vedānta, for the desire to know Brahman arises only when these conditions are fulfilled. Just as his *Sūtra-Bhāṣya* is at the top of all his scriptural commentaries, so is the *VivekaCūdāmani* at the top of all his expository works called *prakaraṇa*s. And there he has given very good definition of the four parts of *sādhana-catuṣṭaya*.

साधनान्यत्र चत्वारि कथितानि मनीषिभिः ।

येषु सत्स्वेव सन्निष्ठा यदभावे न सिध्यति ॥

*sādhana*nyatra catvāri kathitāni maṇiṣibhiḥ / yeṣu satsveva sannīṣṭhā yad-abhāve na siddhyati // (*VivekaCūdāmani* Verse 18)

This is how he begins. 'To hold firm to the Real absolute is impossible without these four means' – so says he emphatically. Only when these four are accomplished, there will happen a hold on the Real absolute. (yeṣu satsu eva sannīṣṭhā). If these four are observed, there is success; otherwise not. Śāṅkara goes on to describe these four means thus :

आदौ नित्यानित्यवस्तुविवेकः परिगण्यते ।

इहामुत्रफलभोगविरागस्तदनन्तरम् ।

शमाधिषट्कसम्पत्तिर्मुमुक्षुत्वमिति स्फुटम् ॥

Ādau niyānityavastuvivekaḥ parigaṇyate ।

Ihāmutraphalabogavirāgastadanantaram ।

Śamādhiṣaṭkasampattirmumukṣutvamiti sputam ॥(VivekaCūdāmaṇi Verse 19) ॥

The first part of the *sādhana-catuṣṭaya* pertains to understanding the first quality, i.e. *Nityānityavastu viveka* discrimination between the eternal and ephemeral. This inquiry into the Self (*ātmavicāra*) is possible if only one develops a strong sense of discrimination (*viveka*). Śāṅkara says in *Vivekacūdāmaṇi* that ‘let him, who would know the *ātman*, which is the reality, practise discrimination (enquiry)

अतो विचारः कर्तव्यो जिज्ञासोरात्स्वस्तुनः । VC 15 ।

Next comes *Ihāmutraphalabogavirāga*: aversion on the enjoyment of fruits of one’s actions here and hereafter; next comes the group of six attributes *śamādhi-ṣaṭka-sampattiḥ* which comprises of:

*Śama, Dama, Uparatiḥ, Titikṣā, Śraddhā and Samādhāna.*

‘*Mumukṣutva*’ – Intense desire for liberation is the fourth of the *sādhana-catuṣṭaya*. .

Thus a person who possesses these fourfold qualities of *viveka, vairāgya, śamādi ṣaṭkasampattiḥ* and *mumukṣutva*, is a person who is ready for the subjective awakening through the knowledge of Vedānta. He alone is the fit person for receiving this divine knowledge.

#### **4.0 Enquiry into Ātman / Brahman- Ātmavicāra**

Vedānta insists that contemplation or inquiry on the part of the human being is essential for evolution and contemplation involves application of the intellect. People generally have no time or patience to inquire into the cause of their happiness, since they are bogged down enjoying the joy and fun without realizing that such happiness is only transient. Also, very few in the millions of human beings who are suffering are actually inquiring about the cause of their position. Every activity of the human being is to be considered a failure unless he enquires about the nature of the Absolute truth. Self-inquiry (*ātmavicāra*) is the process of uncovering the ultimate reality which is apparently clouded by thoughts. It is a process of negating thought clouds which are causing apparent clouding of consciousness and preventing us from seeing things “as they really are”.



A spiritual seeker possessing the fourfold discipline (*sādhana catuṣṭaya*) becomes the *adhikārī* for further pursuit of knowledge of the Self. Ācārya Śaṅkara says: ‘First you purify your mind; make your mind capable of one-pointedness. Then you can step into the process of Enquiry into the Atman. Further up the ladder you can do the Enquiry more deeply. And still further on the question of its becoming an experience will arise. This is what he means in his statement ‘*Sādhanaṅāṁ prabhāvādvā*’ (Aparokṣānubhūti: 3). Therefore, by means of *sādhana-catuṣṭaya*, one is really getting qualified to embark on the enquiry into Brahman. Now begins the second stage of real *Ātma vicārā* of the aspirant to the direct knowledge of the Self.

### 5.0 Search for the Guru

Since the preceptor plays the most important role of dispelling the dark clouds of doubts in the mind of the seeker after Self-knowledge, the spiritual aspirant should make every effort to search for and find out the illumined preceptor from whom he can learn the way to liberation. The *Muṇḍakopaniṣad* encourages the spiritual aspirant to search for such a preceptor thus: “In order to acquire knowledge of the supreme Self (*tadvijñānārtham*), he (the student), with sacrificial sticks in hand (*samitpāṇih*), should search for and take refuge under the lotus feet of an *ācārya* who has mastered the Veda-s(*śrotriyam*) and who is established in Brahman consciousness (*brahmaniṣṭham*)”.

परीक्ष्य लोकान् कर्मचितान् ब्राह्मणो निर्वेद-मायान्नास्त्यकृतः कृतेन । तद्विज्ञानार्थं स गुरु-मेवाभिगच्छेत्  
समित्पाणिः श्रोत्रियं ब्रह्मनिष्ठम् ॥ MU I.ii.12 ॥

In Vivekacūdāmani Ācārya Śaṅkara shows such a *guru*:

श्रोत्रियोऽवृजिनोऽकामहतो यो ब्रह्मवित्तमः ।

ब्रह्मन्युपरतः शान्तो निरिन्धन इवानलः ।

अहेतुकदयासिन्धुर्वन्धुरानमतां सताम् ॥

/ śrotriyo avṛjino akāmahato yo brahmavittamaḥ ।

Brahmanyuparataḥ śanto nirindhana ivānalaḥ |

Ahetukadayāsindhur bandhurānamatām satām || VC 33 ||

“The *Guru* should be well versed in the Vedas, sinless, bereft of desire, knower of Brahman *par excellence*, who has withdrawn himself into Brahman; calm like fire who has consumed its fuel, a boundless reservoir of mercy that knows no reason, and a friend of all good people who prostrate themselves before him” .

### 6.0 *Mahāvāyopadśa* by *Guru*

The *guru*, after convincing himself that the disciple has appropriately understood the *Upaniṣadic* teachings and other scriptural injunctions, decides to impart to him the *mahāvākya*-s and their real import. The four *mahāvākya*-s representing the four Veda-s emphasize the *Brahman-ātman* unity as follows:

‘Brahman is the supreme knowledge’ (*‘prajñānam Brahma’*) - Knowing the absolute reality is the supreme knowledge (Rg Veda);

‘I am Brahman’ (*‘ahaṁ brahmāsmi’*) - Who I really am, is that absolute reality (Yajur Veda);

‘Thou art That’ (*‘tat tvam asi’*) - That absolute reality is the essence of what you really are (Sāma Veda);

‘This *ātman* is verily Brahman’ (*‘ayamātmā Brahma’*) - The individual Self is one and the same with the absolute (Atharva Veda);

### 7.0 *Bahiraṅga* and *Antaraṅga sādhana* (Remote and Proximate means to Knowledge)

According to Advaita, for the direct experience of *Brahman-ātman* to happen, there are two-fold means, namely instrumental cause and auxiliary cause. The latter is again two-fold as remote means (*bahiraṅga sādhana*) and proximate means (*antaraṅga sādhana*). Sarvajñātman in his *Samkṣepasārīraka* says that ‘all that which is heard (that is, taught) as **the means to the rise of the desire for knowledge**, is remote means (to the knowledge of the Self), and that which is

heard (that is, taught) as the **means to the knowledge of the Self** is proximate means'. In the next verse he says that 'the remote means to the knowledge of the Self are known to be the productive factors (that is, sacrifice, penance, etc.) while the proximate means (that is, Vedantic study (*śravaṇa*), reasoning (*manana*) and meditation (*nididhyāsana*)), on the other hand, are those which are the revealing media of the supreme Self'.

यच्छ्रुतं विविदिषोदयाय तत् सर्वमेव बहिरङ्गसाधनम् ।

अन्तरङ्गमवगच्छ तत्पुनर्यत्परावगतिसाधनं श्रुतम् ॥ SS III.330 ॥

यद्धि कारकतयावगम्यते दूरतस्तदिह साधनं धियः ।

अन्तरङ्गमखिलं तु तत्पुनर्व्यञ्जकं भवति यत्परात्मनः ॥ SS III.331 ॥

### **8.0 Śravaṇa, Manana and Nididhyāsana**

The Veda-s declare that for *mokṣa* or liberation, one has to undergo Vedāntic study at the feet of a teacher – that is called *śravaṇa*. The definition of *śravaṇa* is the consistent systematic learning of Vedānta from a competent teacher for a prolonged length of a time. The teaching has to be reflected upon until there are no more doubts left in the mind, and that is called *manana*. The purpose of *manana* is to ensure that the mind is completely doubt-free. Meditation is contemplating on the teaching until it is assimilated and that is *nididhyāsana*. Hence meditation is assimilating the Vedantic teaching by inquiry within, until the teaching becomes one with the seeker. In the *Bṛhadāraṇyaka Upaniṣad*, sage Yājñavalkya tells Maitreyi that 'the Self should verily be realized, should be heard of, reflected on, and meditated upon'.

Sarvajñātman points out that the proximate and remote means when pursued diligently by the ascetics remove the impediments present in their minds facilitating the rise of the direct experience of *Brahman-ātman* in this life itself provided the *prārabdhakarma*-s do not obstruct its rise. However, if the obstruction does happen preventing the rise, knowledge does arise to them in the next life irrespective of the stage of life which they lead then. Sarvajñātman quotes the instance of Vāmadeva who had the rise of knowledge even while he was in the womb of his mother. He quotes *śruti* and *smṛti* texts in support of his contention.



## 9.0 Liberation - *mokṣa*

Liberation or *mokṣa*, according to Advaita, is the realization of Brahman-Atman. Thus, the correct goal of human life, according to Advaita Vedanta is one's identification with Brahman, i.e., displacing the "I" from the body and *ahaṁkāra* and fixing the "I" on Brahman, the existence-consciousness-infinity (*satyam-jñānam-anantam*). Then, when I say "I", the "I" will no longer be the body and the *ahaṁkāra*; it will be Brahman. This identification with Brahman is called "*ātma-jñāna*" or "*jīva-brahma-aikya-jñāna*". *Mahāvākya*-s reveal *jīva-brahmaikya* (the essential identity of *jīvatmā* and *paramātmā*).

## 10.0 Conclusion

The *sādhana*-s termed as *sādhana catuṣṭaya* are the primary means of conditioning the human mind and body fit to receive further instructions and training. This presupposes that the spiritual aspirant is consciously treading a moralistic ground already and makes all out efforts to search for and obtain the tutorship of a Self-realized soul, the *guru*, who is well versed in *sāstra*-s and has himself, obtained the direct experience of *Brahman-ātman*. The *guru* initiates the spiritual seeker as his *śiṣya* and instructs him the purport of the *mahāvākya*-s and other Upaniṣadic truths very essential for the spiritual journey. This *śravaṇa* of the *mahāvākya*-s, if found inadequate to throw the spiritual aspirant into the knowledge of the Self, is to be followed up by *manana* and *nididhyāsana* until he gets direct experience of *Brahman-ātman*. The *guru* is particularly concerned that the *śiṣya* not only awakens but *stays awake* in higher consciousness. To that end, he may direct the *śiṣya* to repeat the process of *śravaṇa*, *manana*, and *nididhyāsana*.



## EMPLOYEE ENGAGEMENT OF PRIVATE HOSPITAL NURSES: A COMPREHENSIVE STUDY ON THEIR INFLUENCING FACTORS WITH REFERENCE TO COIMBATORE CITY

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### Abstract

Healthcare is one of the most notable developing industries within the entire world and it includes an organized impact on the quality of life of patients. Employee engagement is the level of commitment and inclusion an employee has towards his organization and its ethics. India's workforce endures from a need of engaged employees in each industry a condition that has gone mostly undiscovered and untreated for too long. Within the healthcarefield, however, disengaged employees risk morethan productivity and income: uninterested nurses and healthcare workers can mean the difference between life and death for patients.

The concept of nurse engagement is frequently utilized to depict nurses commitment to and fulfillment with their employment. The papers main objective is to explore the engagement level in various dimensions of nursing staff of private sector hospitals in Coimbatore City. Purpose of the study is to identify the engagement level and also helps hospitals to keep their nurses engaged. The results indicate that organizations can drive employee engagement by focusing on emotional support as well as providing social support, rewards and recognition, procedural fairness, opportunities for learning and development, work environment etc.

**Keywords:** Employee engagement, Engagement Dimensions, Private Hospitals, Multispecialty Hospitals, Performance.

### Introduction

Employee engagement is the level of commitment and addition an employee has towards his organization and its beliefs. It could be a measurable degree of an employee's positive or negative emotional connection to their work, colleagues, and organization which significantly impacts their willingness to learn & perform at their work. Employee engagement describes a coordinate effect on the employee's productivity. It is now a days getting to be widely acknowledged that the level of employee engagement predicts how well an organization will perform. However, engagement scores over segments and



industries have remained indestructibly low over the final decade, in spite of well-planning investment activities that organizations have made. Research studies have uncovered a strong linkage between engagement, work satisfaction, organizational citizenship conduct, organizational commitment, employee performance, and business outcomes. Organizations with high levels of employee engagement contain positive organizational results. The recent studies of the Gallup Q12 employee engagement record point towards the substantial gains in the organizational success -such as efficiency, productivity, security and maintenance in organisations that effectively follow this way. An Engagement could be a far more psychological concept. It is the level of passionate speculation that an employee has intentionally been willing to put towards the growth of the company. And this level gets considered by each and every little incidence that he experiences in a day at his work. The drivers of employee engagement can change from basics such as work security to something as difficult and varied as a culture. Each of these areas is commonly restricted and also very important. Engagement matters because the engaged employees are the more valuable employees. Organizations with the effective engagement techniques get 33% higher benefits and 51% lower turnover rates.

Within the healthcare field, however, disengaged employees risk additional to their productivity and income: unresponsive nurses and healthcare workers can signify the difference between the life and death for patients. A study in Gallup of considering more than 200 clinics distinguished that the top indicators of humanity hazard in healthcare settings, and the findings were surprising- disengagement among nurses was one of the top three pointers of mortality possibility for the patients. But there are considerable ways that healthcare managers can utilize to avoid these probable disastrous realities. Engaged healthcare employees are more likely to take the personal proposal to produce money-saving innovation and be likely to provide their patients' emotional and the physical needs. By contributing to employee engagement, private healthcare companies in India will not only lower their operating costs, but they will also grow in patient outcomes and drag in more patients by consistently giving the high-quality care.

Employee engagement is the emotional commitment employees have towards the company and its objectives. But essentially, when your employees are engaged, they care about the hospital, their group and their patients. It is well set up that organizational features of nursing such as way better staffing ratios are related to improved constant outcomes, including lower mortality, less patient falls, and lower rates of contamination. The concept of nurse engagement is frequently utilized to portray nurses' commitment to and fulfillment with their work. In reality, these are fair to two aspects of



engagement. Extra observations include nurses' level of commitment to the organization that utilizes them and their dedication to the nursing profession itself.

### **Employee Engagement**

Engagement is the run for which workforce are energetic about their work and commit themselves to their labor. Engaged workers go the extra mile to settle the success of the organization. In brief, engagement suggests that representatives work and express themselves in a physical, cognitive and energetic way (Nik Penhale Smith, June 2016). Employee engagement is characterized in common as the point of commitment and affiliation a specialist has towards their affiliation and its values. When an employee is engaged, he is mindful of his obligation inside the business goals and influences his co-workers nearby, for the success of the organizational goals. Bridger concluded that engaged employees perform predominant, work harder and more brilliant, and permit more optional effort and offer the foremost essential competitive preferences that those who are disengaged. When employees sense that they are being treated well and regarded by their supervisor, they are more likely to respond by their performance.

### **Drivers of Employee engagement**

The variables that make employee commitment, be that because it may, are more assorted than those that drive satisfaction. Engagement components include the meaning of the work, development, autonomy, development, and connection. Employee satisfaction is the foundation upon which employee engagement can grow and prosper. Organizations with truly engaged specialists have prevalent maintenance, efficiency, customer fulfillment, quality, and development. They also require less training time, involvement fewer afflictions, and have fewer accidents. The factors affecting employee engagement are organizational components, such as internal communication or leadership, supervisor support, opportunities, recognition and reward etc at the side of psychological variables, such as mental importance and security. These are a small number of major drivers of employee engagement.

### **Importance of Employee Engagement**

The engagement is a vital HR changeable for the mainstream of organizations. It helps to facilitate the organization to provide a predominant performance and to pick up a competitive advantage. Engaged employees make an extra attempt, learn more, and quicker, and are additional inventive. Moreover, engagement may be a great indicator of customer satisfaction, workforce retention, productivity, and profitability. Engagement takes committed and motivated workers to another level. Engaged workers concentrate on the objectives of the organization and on the results simply as an organization expects from them.



They have the feeling that they truly can contribute to the victory of the organization and that all their capacities are being utilized.

### Literature Review

**Rosemary Martin (2017)**<sup>4</sup> in her research entitled “The Impact of Engagement Strategies on the Reduction of Patient Falls” The findings from this project provide strong evidence that the use of patient engagement strategies, the TB method, and video-based fall prevention educational tools can have a significant impact on patient understanding and compliance with fall prevention instructions. The project findings showed a reduction of patient falls among patients who are aged 50 and older in the medical-surgical unit. This project has shown that reinforcement of oral and written instructions through video education follow-up and the use of the TB method to assess patient understanding are effective measures for reducing patient falls and increasing patient compliance with fall prevention care plans. Insights from this project may compel nursing leaders to make evidence-based changes that may improve patient safety and satisfaction and relieve the financial burden of patient falls.

**Alima Aktar, Faizuniah Pangil (2017)**<sup>10</sup> in their research work entitled “Antecedents and Consequences of Employee Engagement: A Conceptual Study” The purpose of this paper is to synthesize prior literature to identify antecedents and consequences of employee engagement. This literature review shows that prior studies examined diverse types of antecedences as well as consequences of employee engagement. The results of these existing studies are varied and inconclusive, which leads the importance of further study in order to enhance the clarity of the relationship of employee engagement with its antecedents and consequences.

**Ann Kutney-Lee, Hayley Germack, RN Linda Hatfield, NNP-BC Sharon Kelly, Patricia Maguire, Andrew Dierkes, Mary Del Guidice, Linda H. Aiken, (2016)**<sup>31</sup> in their research work entitled “Nurse Engagement in Shared Governance and Patient and Nurse Outcomes” It results that Engagement varied widely across hospitals. In hospitals with greater levels of engagement, nurses were significantly less likely to report unfavorable job outcomes and poor ratings of quality and safety. Improving nurse engagement in SG may serve as a transformational leadership strategy to improve the patient experience Van outcome directly tied to reimbursement. Of additional financial interest to hospital administrators, greater involvement of nurses in SG is also associated with outcomes related to nursing retention and nurse-reported quality and safety of patient care. These findings are useful in informing evidence-based, organizational-level interventions aimed at improving patient outcomes by promoting nurse engagement.



**Schrita Osborne (2016)** in the research work entitled “Employee Engagement and Organizational Profitability” Findings of the study highlighted employee engagement could have a direct positive effect on organizational profits. Based on the results of this study, business leaders can recognize the importance of employee engagement strategies among business Processes. The study approach can provide a foundation for organizational leaders currently implementing some of the strategies identified but may lack strategies which can improve employee engagement. They concluded that improving employee engagement strategies is essential to an organization’s profitability. Disengaged employees will result in reduced workplace productivity and decreased customer service skills. Finally, the findings of this study align with those of Hynes’s (2012). Improved communication and relationships between management and employees foster a foundation of engagement.

### **Research Gap**

The extent literature search has shown that only employee engagement examinations have looked into the impact of either organizational or psychological components. Moreover, the study on the employee engagement of nurses and the few factors affecting them has brought to citations as they were within the recent past and in Indian settings, it is exceptionally scarce. In any case review of the literature revealed a shortage of extensiveliterature review within the health care service segment and particularly within the multispecialty hospital services in the Indian setting. In addition, the engagement among the nurses of multispecialty hospitals of Coimbatore city has not been explicitly investigated by any investigator. The literature revealed the absence of an employee engagement system through organizational drivers and psychological drivers. The absence of a strategy which measures the same moreover surfaced as investigate lacunae. These research gaps have been distinguished and addressed in this study.

### **Research Problem**

The nursing profession proceeds to face shortages due to the need for potential teachers, high turnover, and biased dispersion of the workforce. The causes related to nursing deficiency are various and issues of concern. A few potential reasons investigated are Aging Populace, growth, fulfillment, nurse burnout, career, and family. A few think the arrangement is as basic as expanding the number of nurses in a unit, accepting more bodies will permit for greater quality control. That's likely genuine to a degree, but Gallup has found that the level of engagement of a facility's existing nursing staff ought to be the primary need. Clearly, the foremost serious pointer of medical quality is the rate



of patient deaths over hospitals. The number of nurses was found to influence this; the proportion of the number of nurses to add up to patient-days was the second-most critical factor. The key finding here is that nurse engagement is the No. 1 indicator of mortality variation over hospitals. The commitment and enthusiastic association of the nurses on staff is indeed more critical than their numbers. In any hospital's effort to make strides healthcare quality, the foremost essential thought is people and especially nurses instead of technology. And inside that thought, the foremost essential variable is the staff's level of engagement.

In order to get which work conditions lead to engaged work culture, we set out to recognize the diverse perceptions nurses have of their work environment and leadership, as well as how those discernments influenced their levels of engagement. Accordingly, this study would show almost the employee engagement of nurses and the components which influences nurture engagement across the multispecialty hospitals.

### **Purpose of the Study**

This study includes the contemporary portion of the literature concerned to employee engagement of nurses by portraying extra information about the association between employee engagement dimensions and engagement level. This study also includes up to investigates, including the prominent variables of work satisfaction and work involvement that guarantee employee engagement in the workplace. Through observational perceptions, the subscales of each build are created and tried with different antecedents at distinctive stages. Accordingly, this consider contributes to the existing writing by supporting the employee engagement of nurses over different hospitals.

The purpose of an investigation, a critical number of research works conducted both in India and overseas is examined on a particular basis out of various past works of literature accessible within the area, keeping in intellect their vital linkage with the subject of employee engagement. It is stunning to know how no researcher has drawn consideration for the engagement of nurses & reviews interceded the drivers of engagement. This study addresses the existing gap within the literature, examines proposals from past investigates, and broadens the examination of employee engagement of nurses towards the multispecialty hospital in Coimbatore city.

### **Objectives of the study**

1. To evaluate the perceived engagement level in various dimensions of nursing staff of private hospitals in Coimbatore City.
2. To investigate whether the nurses are emotionally engaged or merely physically engaged.

- To suggest the appropriate measures and strategies that enhances employee engagement among the nurses.

### Research Methodology

#### Sample:

The present empirical study is based on primary data collected from 467 nurses at 8 different private sector multispeciality hospitals like A1 grade hospitals including PSG, KMCH, KG hospital, G.Kuppuswamy Naidu Memorial hospital, Ganaga hospital, kongunad, Sri Abirami, Sri Ramakrishna hospitals in Coimbatore city. A descriptive research design was employed in the present study and the responses were generated from the respondents selected on the basis of the convenient non-probability sampling technique.

#### Instrument:

A standardized questionnaire was administered to respondents working in different multispecialty private hospitals in Coimbatore city to generate the responses. A 101 statement instrument was constructed to determine the views of the respondents about the perceived level of engagement level of nurses and the major factors influencing them to attain the engagement and also the perceived outcomes that they attain from the employee engagement.

#### Sampling Technique

Stratified Random Sampling Technique that belongs to the category of probability sampling is applied in this research to pickout the potential unbiased respondents. The stratification is made using the population of nurses in each hospital.

### Data Analysis and Interpretation

#### Percentage Analysis

Content	Factors	Percentage (%)
Progression towards Goals	Strongly agree	28
	Agree	66
	Neither agree nor disagree	6
Focus of attention on work	Strongly agree	22
	Agree	61
	Neither agree nor disagree	12
	Disagree	4
	Strongly disagree	1
Proud feeling towards their work	Strongly agree	39
	Agree	47
	Neither agree nor disagree	13
	Disagree	1
	Strongly disagree	39
Feel of self-actualization	Strongly agree	24
	Agree	55
	Neither agree nor disagree	17
	Disagree	3
	Strongly disagree	0.01
	Strongly agree	24
	Agree	56



Sense of Accomplishment	Neither agree nor disagree	16
	Disagree	3
	Strongly disagree	1
Priority of respondents in quality work	Strongly agree	30
	Agree	55
	Neither agree nor disagree	14
	Disagree	.4
	Strongly disagree	.2
Employees treated with respect	Strongly agree	31
	Agree	44
	Neither agree nor disagree	17
	Disagree	6
	Strongly disagree	2
Consideration of respondent's opinions and suggestions	Strongly agree	21
	Agree	49
	Neither agree nor disagree	24
	Disagree	5
	Strongly disagree	01

**Interpretation:**

Among the respondents, majority (66%) agrees that they have clear progression towards their goals. Most of the respondents (61%) agreed that they have focus of attention on work. It was found out that (47%) employees have proud feeling towards their work. Utmost (55%) nurses agree that they had a feel of self actualization. Majority (56%) of nurses have a sense of accomplishment and (55%) agrees that they have priority in quality work. Most (44%) of respondents agrees that they are treated with respect and almost (49%) of nurses agrees that their opinions and suggestions are considered.

**Chi Square Test Analysis: Experience vs. Engagement**

**Null hypothesis H<sub>0</sub>:** There is no association between experience and employee engagement.

**Alternate hypothesis H<sub>1</sub>:** There is a significant association between experience and employee engagement.

		Crosstab			
			Qo11		Total
			Yes	No	
Experience	1-5yrs	Count	213	27	240
		% within Experience	88.7%	11.3%	100%
	6-10yrs	Count	103	15	118
		% within Experience	87.3%	12.7%	100%
	11-15yrs	Count	55	6	61
		% within Experience	90%	10%	100%
	16-20 yrs	Count	24	1	25
		% within Experience			

			96%	4%	100%
	>20 yrs	Count	20	3	23
		% withinExperience	87%	13%	100%
Total		Count	415	52	467
		% withinExperience	88.9%	11.1%	100%

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.775 <sup>a</sup>	4	.777
Likelihood Ratio	2.136	4	.711
Linear-by-Linear Association	.185	1	.667
N of Valid Cases	467		

**Inference:**The Significance value is greater than 0.05, hence Null hypothesis H0 is accepted and Alternate hypothesis H1 is rejected. This proves that there is no association between experience and employee engagement level. 88.9% has agreed that they feel engaged in their job irrespective of their experience. Thus it's evident that experience has no relationship with respondent's employee engagement.

**Correlation:**

**Physical & Emotional Wellbeing vs. Organizational Commitment.**

Physical & Emotional Wellbeing	Pearson Correlation	.463 <sup>**</sup>
	Sig. (2-tailed)	<b>.000</b>
	N	467

**Interpretation:**

From the above Table, it's clear that correlation is significant at the 0.01 level (2-tailed). It's evident that there is positive correlation between Physical & Emotional Wellbeing and Commitment.

**Job satisfaction vs. Organizational commitment**

Job satisfaction	Pearson Correlation	.332 <sup>**</sup>
	Sig. (2-tailed)	<b>.000</b>
	N	467

**Interpretation:**

From the above Table, it's understood that correlation is significant at the 0.01 level (2-tailed). It's evident that there is positive correlation between job satisfaction and Commitment.

**Findings:**

- Majority agrees that they have clear progression towards their goals.
- Most of the respondents(61%) agreed that they have focus of attention on work.



- It was found out that (47%) employees have proud feeling towards their work.
- Utmost (55%) nurses agree that they had a feel of self actualization.
- Majority(56%) of nurses have a sense of accomplishment and (55%) agrees that they have priority in quality work.
- Most (44%) of respondents agrees that they are treated with respect
- Almost (49%) of nurses agrees that their opinions and suggestions are considered.
- Experience has no relationship with respondent's employee engagement.
- There is positive correlation between Physical & Emotional Wellbeing and Commitment.
- There is positive correlation between job satisfaction and Commitment.

#### **Suggestions:**

- The quality of work-life also shifts based on the hospital so nurses should be given some opportunity to an employee's day by day, a weekly or monthly schedule is frequently seen as an enormous plus for employees and can be more vital than compensation in some cases.
- It is recommended that hospital management need to make transparent performance appraisal, conduct training programs that would improve the abilities and capabilities of the nurses.
- The nurses who perform challenging work must be motivated to perform better.
- Hospitals must be giving the welfare facilities to nurses. Measuring engagement is vital to each organization.
- Career opportunities and development should be improved inside hospitals.

#### **Conclusion**

Employee engagement is challenging in today's workforce, but it is particularly critical within the healthcare setting. The significance of employee engagement has broadly been expanded among specialists and analysts. It has been demonstrated that engaged employees can essentially contribute to the organizational victory as they are exceedingly enthusiastic and committed to the work that leads them to way better execution. Nowadays, therefore, organizations are attempting to investigate comprehensive ways and present a few ideas by which they may create and progress the level of employee engagement. To extend engagement the management ought to guarantee that the hospital environment concentrates on the fair and prompt benefit to their customers to begin with and after that the group individuals so that an employee can blend with and deliver the best services.



RADIO LABELING TO THE COMPLETE RELATED GRAPHS

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Abstract:

In 2001 Gray Chartrand introduced the notation of radio labeling [1]. The application of radio labeling is used in computer science, cell biology, radiology (cancer treatment) and networking. In this paper our aim is to label the vertices and edges of complete related graphs. Our special interest is to find a general formula to label the vertices and edges of the graphs and to find the radio number of the graphs.

Key Words:Labeling, Radio Labeling, Radio number.

Introduction:

The graph labeling problem is one of the recent developing area in graph theory. Alex Rosa first introduced this problem in 1967 [4]. Radio labeling is motivated by the channel assignment problem introduced by W.K. Hale in 1980 [2].Liu and Zhu first determined the radio number in 2005 [3].

Radio Labeling is use for X-ray crystallography, coding theory, network security, network addressing, channel assignment process, social network analysis such as connectivity, scalability, routing, computing and cell biology etc.

Definition: 1.1

A graph G is an ordered pair (V(G),E(G)) consisting of a non-empty set V(G) of vertices and a set E(G), disjoint from V(G), of edges, together with an incidence function  $\psi_G$  that associate with each edge of G is an unordered pair of vertices of G.

Definition: 1.2

Walk is an alternating sequence of vertices and edges starting and ending with vertices.

A walk in which all the vertices are distinct is called a path. A closed path is called a cycle.

Definition: 1.3

A complete graph is a simple undirected graph in which every pair of distinct vertices are connected by a unique edge, complete graph with m vertices is denoted by  $K_m$ .

Definiton: 1.4

A bipartite graph is a graph whose vertex set can be partitioned into two subsets  $V_1$  and  $V_2$ , such that each edge has one end in  $V_1$  and one end in  $V_2$ .

A bipartite graph is said to be complete if every vertex of  $V_1$  is joined to every vertex of  $V_2$ . A complete bipartite graph with  $|V_1| = m$  and  $|V_2| = n$  is denoted by  $K_{m,n}$ .

Definiton: 1.5

A star  $S_n$  is the tree of order n with maximum diameter 2. In which case a star of  $n > 2$  has n-1 leaves.

Definiton: 1.6

A wheel graph is a graph formed by connecting a single vertex to all vertices of a cycle. A wheel graph with n vertices is denoted by  $W_n$ . That is  $W_n = K_1 + C_{n-1}$  for every  $n \geq 4$ .

Definiton: 1.7

The **friendship graph**  $F_n$  is a planar undirected graph with  $2n+1$  vertices and  $3n$  edges. The friendship graph  $F_n$  can be constructed by joining  $n$  copies of the cycle  $C_3$  with a common vertex.

**Definition: 1.8**

A **shell graph** is defined as a cycle  $C_n$  with  $(n-3)$  chords sharing a common end point which is denoted by  $Sl_n$ .

**Definition: 1.9**

The **triangular snake**  $T_n$  is obtained from the path  $P_n$  by replacing each edge of the path by a triangle  $C_3$ .

**Definition: 1.10**

A **double triangular snake**  $Dl(T_n)$  consist of two triangular snakes that have a common path.

**Definition: 1.11**

**Duplication of a vertex**  $v$  of a graph  $G$  produces a new graph  $G'$  by adding a new vertex  $v'$  such that  $N(v') = N(v)$ . In other words a vertex  $v'$  is said to be duplication of  $v$  if all the vertices which are adjacent to  $v$  in  $G$  are also adjacent to  $v'$  in  $G'$ . For a graph  $G$ , the graph obtained by duplication of all the vertices of  $G$  is denoted by  $D(vG)$ .

**Definition: 1.12**

The **sum** of graphs  $G$  and  $H$  is each vertices of  $G$  is adjacent with every vertex of  $H$  and it is denoted by  $G+H$ .

**Definition: 1.13**

A **labeling** or valuation of a graph  $G$  is an assignment  $f$  of labels to the vertices of  $G$  that induces for each edge  $x-y$  a label depending on the vertex labels  $f(x)$  and  $f(y)$ .

**Definition: 1.14**

The **distance** between any two vertices  $u$  and  $v$  denoted by  $d(u, v)$  is the length of a shortest  $u-v$  path.

**Definition: 1.15**

Let  $G$  be a graph and  $v$  be a vertex of  $G$ . The **eccentricity** of the vertex  $v$  is the maximum distance from  $v$  to any other vertex of  $G$ .

$$\text{That is } e(v) = \max \{d(v, w) : w \in V(G)\}.$$

**Definition: 1.16**

The **diameter** of  $G$  is the maximum eccentricity among the vertices of  $G$ . Which is denoted by  $diam(G) = \max \{e(v) : v \in V(G)\}$ .

**Definition: 1.17**

The **span** of  $f$  is defined as  $\max \{|f(u) - f(v)| : u, v \in V(G)\}$

**Definition: 1.18**

A **radio labeling** of  $G$  is an assignment of nonnegative integers to the vertices of  $G$  satisfying,  $|f(u) - f(v)| \geq diam(G) + 1 - d_G(u, v) \forall u, v \in V(G)$ . The **radio number** denoted by  $rn(G)$  is the minimum span of a radio labeling for  $G$ .

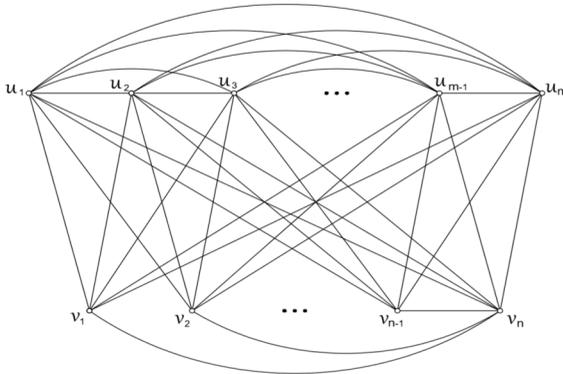
**Theorem: 2.1**

Let  $G = K_m + S_n; n > 3$  where  $K_m$  be a complete graph with  $m$  vertices and  $S_n$  be a star graph with  $n$  vertices then  $rn(G) = 2m + n$ .

**Proof:**

Given  $G = K_m + S_n; n > 3$  where  $K_m$  be a complete graph with  $m$  vertices and  $S_n$  be a star graph with  $n$  vertices. Therefore,  $|V(G)| = m + n$  and

$|E(G)| = \frac{m(m-1)}{2} + n(m+1) - 1$ . The graph  $G$  is represent in (figure:1) as below.



(figure:1)

The vertex set of  $G$  is  $V(G) = \{u_i, v_j / 1 \leq i \leq m, 1 \leq j \leq n\}$  where

$u_i \in V(K_m)$  and  $v_j \in V(S_n)$ . Choose any pair of vertices  $(u_i, u_j) \in V(K_m)$

$$\Rightarrow d(u_i, u_j) = 1$$

..... (1)

The vertex

$$v_n \in N(v_i) \Rightarrow d(v_i, v_n) = 1; 1 \leq i \leq n-1$$

..... (2)

Choose any pair of vertices  $(x,y)$  which has distance greater than one.

That is  $d(x, y) > 1$  where  $x, y \in V(S_n)$ .

$$(x, y) \in N(u_i) \Rightarrow d(x, y) = 2$$

$$\text{and } d(u_i, v_j) = 1$$

..... (3)

From equations (1) to (3),  $diam(G) = 2$

Define  $f : V(G) \rightarrow N \cup \{0\}$ .

$$f(v_n) = t \quad \text{where } t \text{ be any non negative integer}$$

$$f(v_j) = t + j + 1; 1 \leq j \leq n - 1$$

$$f(u_i) = t + n + 2i; 1 \leq i \leq m$$

By the above labeling,  $f(v_n) = t$  is minimum and  $f(u_i) = t + n + 2m$  is maximum for any value of  $i$  and  $j$ .

Therefore,  $rn(G) = n + 2m$ .

Hence the proof

**Theorem: 2.2**

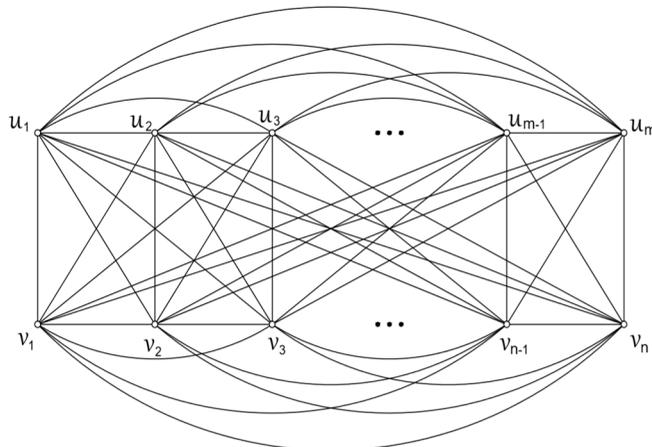
Let  $G = K_m + K_n$  where  $K_m$  be a complete graph with  $m$  vertices and  $K_n$  be a complete graph with  $n$  vertices then  $rn(G) = 2(m + n - 1)$ .

**Proof:**

Let  $G = K_m + K_n$  where  $K_m$  and  $K_n$  are complete graph with  $m$  and  $n$  vertices,

$$|V(G)| = m + n \quad \text{and} \quad |E(G)| = \frac{m(m-1) + n(n-1)}{2} + mn.$$

The graph  $G$  is represent in (figure:2) as follows.



(figure:2)

The vertex set of  $G$  is  $V(G) = \{u_i, v_j / 1 \leq i \leq m, 1 \leq j \leq n\}$  where  $u_i \in V(K_m)$  and  $v_j \in V(K_n)$ . Since  $K_m$  and  $K_n$  are complete. Therefore,  $G = K_m + K_n$  is also complete.

Therefore,  $diam(G) = 1$ .

Define  $f : V(G) \rightarrow N \cup \{0\}$  is

$$f(u_i) = i - 1; 1 \leq i \leq m$$

$$f(v_j) = m + j - 1; 1 \leq j \leq n$$

By the above vertices labeling of G,  $f(u_1) = 0$  is minimum and

$$f(v_j) = m + n - 1 \text{ is maximum for any value of } i \text{ and } j.$$

Therefore,  $rn(G) = m + n - 1$ .

Hence the proof.

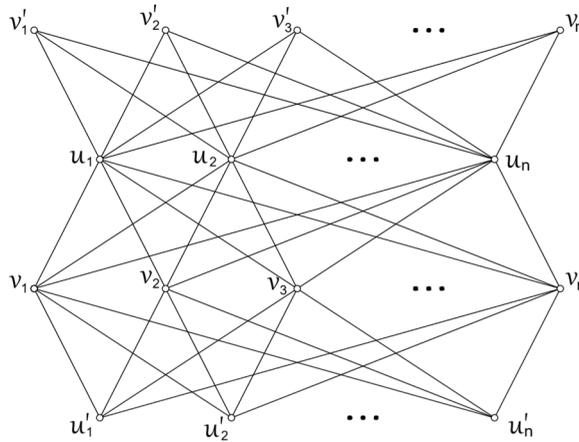
**Theorem: 2.3**

Let  $G = D(K_{m,n})$ ;  $m \leq n$  and  $n > 1$  be a duplication of complete graph with  $2(m+n)$  vertices then

$$rn(G) = \begin{cases} 6m; m = n \\ 2(2n + m) - 1; m < n \end{cases}$$

**Proof:**

Let  $G = D(K_{m,n})$ ;  $m \leq n$  and  $n > 1$  be a duplication of complete graph with  $2(m + n)$  vertices and  $3mn$  edges is represent in (figure:3) as follows.



(figure:3)

The vertex set of G is  $V(G) = \{u_i, v_j, u'_i, v'_j / 1 \leq i \leq m, 1 \leq j \leq n\}$  where

$$u_i, v_j \in V(K_{m,n}).$$

$$(v_j, v'_j) \in N(u_i) \Rightarrow d(u_i, v_j) = d(u_i, v'_j) = 1$$

..... (4)

$$(u_i, u_i') \in N(v_j) \Rightarrow d(v_j, u_i) = d(v_j, v_i') = 1$$

..... (5)

From equations (29) and (30),  $u_i - u_i'$  path passing through the vertex  $v_j$ .

$$\text{Therefore, } d(u_i, u_i') = 2 \quad \text{..... (6)}$$

Similarly the path  $v_j - v_j'$  passing through the vertex  $u_i$ .

$$\text{Therefore, } d(v_j, v_j') = 2 \quad \text{..... (7)}$$

Choose any pair of vertices (x,y) which has distance greater than two. That is  $d(v_i', u_i') > 2$ .

$$\text{THE path } v_i' - u_i' \text{ passing through the vertices } u_i \text{ and } v_i. \text{ Therefore, } d(v_i', u_i') = 3$$

..... (8)

By equations (4) to (8),  $\text{diam}(G) = 3$

Define  $f : V(G) \rightarrow N \cup \{0\}$  is as follows.

$$f(v_j') = 2(j-1); 1 \leq j \leq n$$

$$f(u_i') = 2i-1; 1 \leq i \leq m$$

$$f(u_i) = \begin{cases} 2(m+i)-1; 1 \leq i \leq m & \& m = n \\ 2(2n+i)-1; 1 \leq i \leq m & \& m < n \end{cases}$$

$$f(v_j) = \begin{cases} 4m+2j; 1 \leq j \leq n & \& m = n \\ 2(n+j-1); 1 \leq j \leq n & \& m < n \end{cases}$$

By the above vertices labeling,  $f(v_j') = 0$

is minimum. Either  $f(v_j) = 6m$  and  $f(u_i) = 2(2n+m)-1$  is maximum respectively on  $m = n$  and  $m > n$  for any value of  $i$  and  $j$ .

Therefore,

$$rn(G) = \begin{cases} 6m; m = n \\ 2(2n+m)-1; m < n \end{cases}$$

Hence the proof.

**Theorem: 2.4**

Let  $G = K_m + F_n; n > 3$  where  $K_m$  be a complete graph with  $m$  vertices and  $F_n$

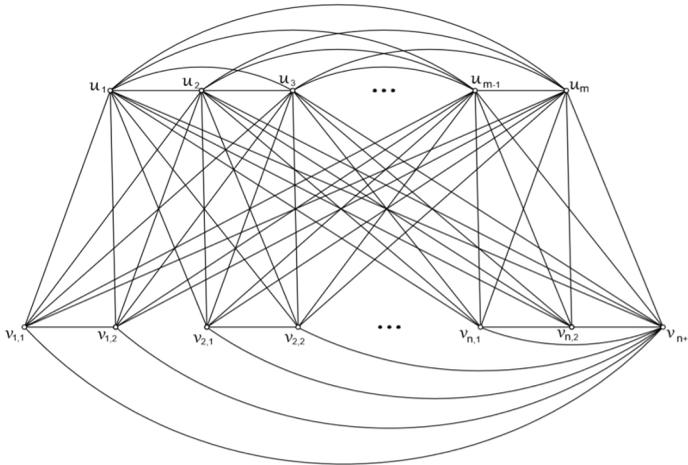
be a friendship graph with  $2n+1$  vertices then  $rn(G) = 2(m+n)+1$ .

**Proof:**

Given  $G = K_m + F_n; n > 3$  where  $K_m$  be a complete graph with  $m$  vertices and  $F_n$  be a friendship graph with  $2n+1$  vertices.

$$|V(G)| = m + 2n + 1 \text{ and } |E(G)| = \frac{m(m-1)}{2} + 3n + (2n+1)m.$$

The graph  $G$  is represent in (figure:4) as follows.



(figure:4)

The vertex set of  $G$  is  $V(G) = \{u_i, v_{j,l}, v_{n+1} / 1 \leq i \leq m, 1 \leq j \leq n \ \& \ l = 1, 2\}$  where

$u_i \in V(K_m)$  and  $(v_{j,l}, v_{n+1}) \in V(F_n)$ . Choose any pair of vertices

$$(u_i, u_j) \in V(K_m) \Rightarrow d(u_i, u_j) = 1$$

..... (9)

The vertex  $v_n \in V(F_n)$  is a neighbourhood of vertices  $v_{j,l} \in V(F_n)$

$$\Rightarrow d(v_{n+1}, v_{j,l}) = 1$$

..... (10)

The vertex  $v_{j,l}$  is a neighbourhood of  $v_{j,l+1}$ .

$$\Rightarrow d(v_{j,l}, v_{j,l+1}) = 1$$

..... (11)

Now we choose any pair of vertices  $(x, y)$  which has distance greater than one. That is

$$d(x, y) > 1 \text{ where } (x, y) \in V(F_n).$$

$$(x, y) \in N(u_i) \Rightarrow d(x, y) = 2$$

..... (12)

$$d(u_i, v_{j,l}) = d(u_i, v_{n+1}) = 1$$

..... (13)

By equations (9) to (13),  $diam(G) = 2$

Define  $f : V(G) \rightarrow N \cup \{0\}$ .

$$f(v_{j,l}) = j - 1; 1 \leq j \leq n \text{ and } l = 1$$

$$f(v_{j,l}) = n + j - 1; 1 \leq j \leq n \text{ and } l = 2$$

$$f(v_{n+1}) = 2n + 1$$

$$f(u_i) = 2(n + i) + 1; 1 \leq i \leq m$$

By the above labeling,  $f(v_{j,l}) = 0$  is minimum and  $f(u_i) = 2(m + n) + 1$  is maximum for any value of i and j.

Therefore,  $rn(G) = 2(m + n) + 1$ .

Hence proved.

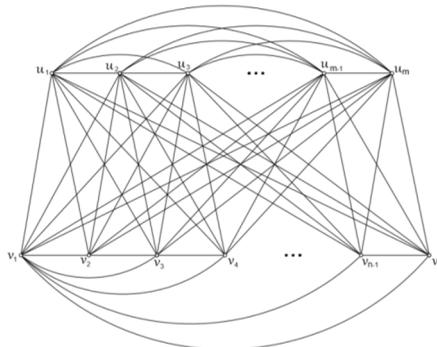
**Theorem: 2.5**

Let  $G = K_m + Sl_n; n > 4$  where  $K_m$  be a complete graph with m vertices and  $Sl_n$  be a shell graph with n vertices then  $rn(G) = n + 2m$ .

**Proof:**

Given,  $G = K_m + Sl_n; n > 4$  where  $K_m$  be a complete graph of order m and  $Sl_n$  be a shell graph with n vertices. Therefore,  $|V(G)| = m + n$  and

$$|E(G)| = n(m + 2) + \frac{m(m - 1)}{2} - 3. \text{ The graph G is represent in (figure:5) as below.}$$



(figure:5)

The vertex set of  $G$  denoted by  $V(G) = \{u_i, v_j / 1 \leq i \leq m, 1 \leq j \leq n\}$  where  $u_i \in V(K_m)$  and  $v_j \in V(Sl_n)$ .

Now we choose any pair of vertices  $(u_i, u_j) \in V(K_m)$ .

$$\Rightarrow d(u_i, u_j) = 1$$

..... (14)

The vertex  $v_j$  is a neighbourhood of the vertex  $v_{j+1}, v_{j-1}$ .

Therefore,  $\Rightarrow d(v_j, v_{j+1}) = d(v_j, v_{j-1}) = 1$

..... (15)

$$N(v_1) = v_j \Rightarrow d(v_1, v_j) = 1$$

..... (16)

Choose any pair of vertices  $(x, y)$  which has distance greater than one. That is  $d(x, y) > 1$  where  $(x, y) \in V(Sl_n)$ .  $(x, y) \in N(u_i)$

$$\Rightarrow d(x, y) = 2$$

..... (17)

$$d(u_i, v_j) = 1$$

..... (18)

By equations (14) to (18),  $diam(G) = 2$

Define  $f : V(G) \rightarrow N \cup \{0\}$ .

$f(v_1) = t$  where  $t$  is any non negative integer.

$$f(v_j) = \frac{j+1}{2} + t \forall \text{ odd } i \text{ and } j \neq 1$$

$$f(v_j) = \left\lfloor \frac{n+1}{2} \right\rfloor + \frac{j}{2} + t \forall \text{ even } j$$

$$f(u_i) = n + t + 2i; 1 \leq i \leq m$$

By the above labeling,  $f(v_1) = t$  is minimum and  $f(u_i) = n + t + 2m$  is maximum for any value of  $i$  and  $j$ .

Therefore,  $rn(G) = n + 2m$ .

Hence proved.

**Theorem: 2.6**

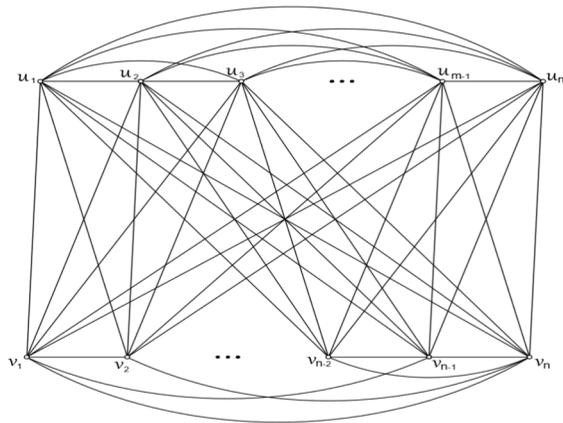
Let  $G = K_m + W_n$ ;  $n > 2$  where  $K_m$  be a complete graph of order  $m$  vertices and  $W_n$  be a wheel graph of order  $n$  then

$$rn(G) = \begin{cases} 2(n-1) + 2m; n < 5 \\ \frac{n-1}{2} + 2(m+2); n = 5 \\ n + 2m; n > 5 \end{cases}$$

**Proof:**

Given,  $G = K_m + W_n; n > 2$  where  $K_m$  be a complete graph of order  $m$  and  $W_n$  be a wheel graph of order  $n$ . Therefore,  $|V(G)| = m + n$  and

$|E(G)| = \frac{m(m-1)}{2} + 2(n-1) + mn$ . The graph  $G$  is represent in (figure:6) as below.



(figure:6)

The vertex set of  $G$  is  $V(G) = \{u_i, v_j / 1 \leq i \leq m, 1 \leq j \leq n\}$  where  $u_i \in (K_m)$  and  $v_j \in (W_n)$ . Choose any pair of vertices  $(u_i, u_j) \in V(K_m)$

Then  $d(u_i, u_j) = 1$   
 ..... (19)

The vertex  $v_j$  is a neighbourhood of the vertex  $v_{j+1}, v_{j-1}$

$d(v_j, v_{j-1}) = d(v_j, v_{j+1}) = 1$   
 ..... (20)

$v_{n-1} \in N(v_1) \Rightarrow d(v_1, v_{n-1}) = 1$   
 ..... (21)  $v_j \in N(v_n) \Rightarrow d(v_j, v_n) = 1$   
 ..... (22)

Choose any pair of vertices  $(x, y)$  which has distance greater than one. That is  $d(x, y) > 1$  where  $(x, y) \in V(W_n)$ .

$$(x, y) \in N(u_i) \Rightarrow d(x, y) = 2$$

..... (23)

$$d(u_i, v_j) = 1$$

..... (24)

By equations (19) to (24),  $diam(G) = 2$

Define  $f : V(G) \rightarrow N \cup \{0\}$ .

$$f(v_j) = \begin{cases} 2(j-1); 1 \leq j \leq n \text{ \& } n < 5 \\ \frac{j+3}{2} \text{ if } j \text{ is odd, } j \neq n \text{ \& } n \geq 5 \\ \frac{j}{2} + 4 \text{ if } j \text{ is even, } j \neq n \text{ \& } n = 5 \\ \left\lceil \frac{n+3}{2} \right\rceil + \frac{j-2}{2} \text{ if } j \text{ is even, } j \neq n \text{ \& } n > 5 \\ 0 \text{ if } j = n, n \geq 5 \end{cases}$$

$$f(u_i) = \begin{cases} 2(n-1) + 2i; 1 \leq i \leq m \text{ \& } n < 5 \\ \frac{n-1}{2} + 2(i+2); 1 \leq i \leq m \text{ \& } n = 5 \\ n + 2i; 1 \leq i \leq m \text{ \& } n > 5 \end{cases}$$

By the above labeling,  $f(v_j) = 0$  is minimum and either  $f(u_i) = 2(n-1) + 2m$ ,

$$f(u_i) = \frac{n-1}{2} + 2(m+2) \text{ and } f(u_i) = n + 2m \text{ is maximum on } n < 5, n = 5 \text{ and}$$

for any value of  $i$  and  $j$ .

$$rn(G) = \begin{cases} 2(n-1) + 2m; n < 5 \\ \frac{n-1}{2} + 2(m+2); n = 5 \\ n + 2m; n > 5 \end{cases}$$

Hence the proof.

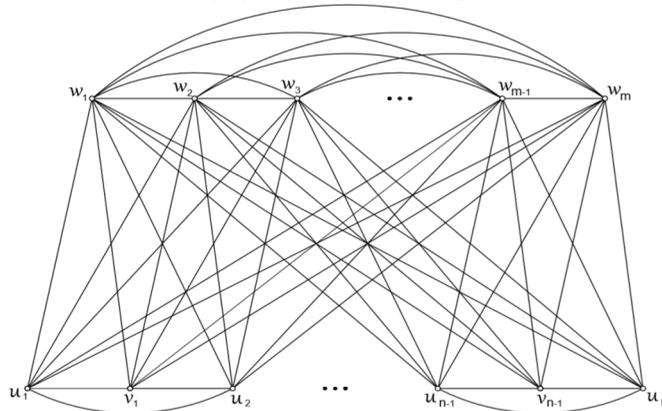
**Theorem: 2.7**

Let  $G = K_m + T_n; n > 2$  where  $K_m$  be a complete graph of order  $m$  vertices and  $T_n$  be a triangular snake with  $2n-1$  vertices then

$$rn(G) = \begin{cases} 2(m+n)-1; n=3 \\ 2(n+m-1); n>3 \end{cases}$$

**Proof:**

Given,  $G = K_m + T_n; n > 2$  where  $K_m$  be a complete graph of order  $m$  and  $T_n$  be a triangular snake with  $2n-1$  vertices. The graph  $G$  is represent in (figure:7) as below.



(figure:7)

$$|V(G)| = m + 2n - 1 \text{ and } |E(G)| = \frac{m(m-1)}{2} + 3(n-1) + m(2n-1).$$

The vertex set of  $G$  is  $V(G) = \{u_i, v_i, w_j / 1 \leq i \leq n, 1 \leq j \leq m\}$  where

$w_j \in V(K_m)$  and  $u_i, v_i \in V(T_n)$ . Choose any pair of vertices  $(w_i, w_j) \in V(K_m)$

$$\Rightarrow d(w_i, w_j) = 1$$

..... (25)

The vertex  $u_i$  is adjacent with  $u_{i-1}, u_{i+1}$

$$\text{Therefore, } \Rightarrow d(u_i, u_{i-1}) = d(u_i, u_{i+1}) = 1$$

..... (26)

The pair of vertices  $(u_i, u_{i+1})$  is neighbourhood of  $v_i$ .

$$\text{Therefore, } d(u_i, v_i) = d(u_{i+1}, v_i) = 1.$$

..... (27)

Choose any pair of vertices  $(x, y)$  which has distance greater than one. That is  $d(x, y) > 1$  where  $(x, y) \in V(T_n)$ . The vertices  $(x, y)$  are the neighbourhood of  $w_j \in V(K_m)$ .

Therefore,  $d(x, y) = 2$   
 ..... (28)

$d(u_i, w_j) = d(v_i, w_j) = 1$   
 ..... (29)

By equations (25) to (29),  $diam(G) = 2$ .

Define  $f : V(G) \rightarrow N \cup \{0\}$ .

$$f(u_i) = \begin{cases} \frac{i-1}{2}; i \text{ is odd} \\ n+i; i=2 \ \& \ n=3 \\ n + \left\lfloor \frac{n-1}{2} \right\rfloor + \frac{i-2}{2}; i \text{ is even} \ \& \ n > 3 \end{cases}$$

$$f(v_i) = \left\lfloor \frac{n}{2} \right\rfloor + i - 1; 1 \leq i \leq n-1$$

$$f(w_j) = \begin{cases} 2(n+j)-1; 1 \leq j \leq m \ \& \ n=3 \\ 2(n+j-1); 1 \leq j \leq m \ \& \ n > 3 \end{cases}$$

By the above labeling,  $f(u_i) = 0$  is minimum and either  $f(w_j) = 2(n+m)-1$  and  $f(w_j) = 2(n+m-1)$  is maximum respectively on  $n = 3$  for any value of  $i$  and  $j$ .

Therefore,  $rn(G) = \begin{cases} 2(m+n)-1; n=3 \\ 2(n+m-1); n > 3 \end{cases}$

Hence the proof.

**Theorem: 2.8**

Let  $G = K_m + Dl(T_n); n > 2$  where  $K_m$  be a complete graph with  $m$  vertices and  $Dl(T_n)$  be a double triangular snake graph with  $3n-2$  vertices then

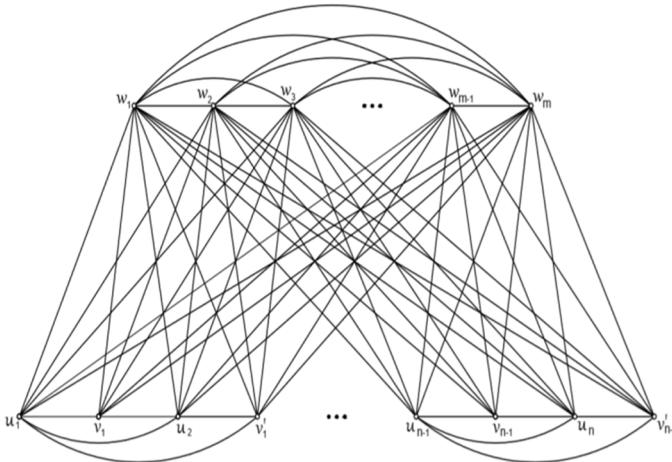
$$rn(G) = \begin{cases} 3n + 2m - 1; n = 3 \\ 3(n-1) + 2m; n > 3 \end{cases}$$

**Proof:**

Given,  $G = K_m + Dl(T_n); n > 2$  where  $K_m$  be a complete graph with  $m$  vertices and  $Dl(T_n)$  be a double triangular snake graph with  $3n-2$  vertices. Therefore,

$$|V(G)| = m + 3n - 2 \text{ and } |E(G)| = \frac{m(m-1)}{2} + 5(n-1) + m(3n-2).$$

The graph  $G$  is represent in (figure:8) as below.



(figure:8)

The vertex set of  $G$  is  $V(G) = \{u_i, v_i, v'_i, w_j / 1 \leq i \leq n, 1 \leq j \leq m\}$  where  $u_i, v_i, v'_i \in V(Dl(T_n))$  and  $w_j \in V(K_m)$ .

Choose any pair of vertices  $(w_i, w_j) \in V(K_m)$

$$\Rightarrow d(w_i, w_j) = 1$$

..... (30)

$$N(u_i) = \{v_{i-1}, v_i, v'_{i-1}, v'_i, u_{i-1}, u_{i+1}\}$$

$$\Rightarrow d(u_i, v_{i-1}) = d(u_i, v_i) = d(u_i, v'_{i-1})$$

$$= d(u_i, v'_i) = d(u_i, u_{i-1}) = d(u_i, u_{i+1}) = 1$$

.....(31)

Choose any pair of vertices  $(x, y)$  which has distance greater than one where  $(x, y) \in V(Dl(T_n))$ .

$$(x, y) \in N(w_i)$$

$$d(x, y) = 2$$

..... (32)

$$d(u_i, w_j) = d(v_i, w_j) = d(v'_i, w_j) = 1$$

..... (33)

By equations (30) to (33),  $\text{diam}(G) = 2$ .

Define  $f : V(G) \rightarrow N \cup \{0\}$ .

$$f(u_i) = \begin{cases} \frac{i-1}{2}; i \text{ is odd} \\ 2n-1; i = 2 \text{ \& } n = 3 \\ n + \left\lfloor \frac{n-1}{2} \right\rfloor + \frac{i-2}{2}; i \text{ is even \& } n > 3 \end{cases}$$

$$f(v_i) = \left\lfloor \frac{n}{2} \right\rfloor + i - 1; 1 \leq i \leq n-1$$

$$f(v'_i) = \begin{cases} 2n+i; 1 \leq i \leq n-1 \text{ \& } n = 3 \\ 2(n-1)+i; 1 \leq i \leq n-1 \text{ \& } n > 3 \end{cases}$$

$$f(w_j) = \begin{cases} 3n+2i-1; 1 \leq j \leq m \text{ \& } n = 3 \\ 3(n-1)+2i; 1 \leq j \leq m \text{ \& } n > 3 \end{cases}$$

By the above labeling,  $f(u_i) = 0$  is minimum and either  $f(w_j) = 3n + 2m - 1$  and  $f(w_j) = 3(n-1) + 2m$  is maximum respectively on  $n = 3$  and  $n > 3$  for any value of  $i$  and  $j$ .

$$\text{Therefore, } m(G) = \begin{cases} 3n + 2m - 1; n = 3 \\ 3(n-1) + 2m; n > 3 \end{cases}$$

Hence the proof.

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2010&11	68	36
2011&12	96	40
2014&15	316	50
2016&17	1004	74
2017&18	2071	106
2018&19	3114	51

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## “MO SCHOOL ABHIYAN”– AN INITIATIVE FOR SCHOOL DEVELOPMENT

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### **Introduction**

“Mo School Abhiyan” is a new initiative undertaken by the Honb’le Chief Minister Sri Naveen Patnaik, Govt. of Odisha under School & Mass education department. It is a first-of-its-kind initiative by a state for strengthening citizen-government partnership in which the former leads in designing the programme, defining its goals and steering its implementation. It has been launched on the occasion of Children’s Day i.e. 14<sup>th</sup> November, 2017 in order to encourage alumni, philanthropists and others to contribute to the enhancement of the school ecosystem. They will be provided with a platform to donate funds, materials, and service for overall development of the schools in the state of Odisha. Funds for the implementation of the Mo School Abhiyan come primarily from two sources - contributions from Donors, and twice the amount (2x) of each such contribution provided from an initial dedicated fund of Hundred Crore rupees created for the purpose by the government. This programme will aim to create a platform for Alumni to connect, collaborate and contribute to revamping the government and government-aided schools in Odisha. The followings are the objectives of Mo School Abhiyan:-

- Facilitate alumni to connect and engage with their alma maters,
- Leverage the experience, success and influence of the alumni and its vast world wide network to impart best practices in schools.
- Create an enabling environment for schools to harness the vast alumni resources and its intellectual capital.
- Facilitate Alumni in equipping students with the physical and material infrastructure required for multifaceted development.
- Promote alumni driven programmes to groom school children to become dreamers, doers, makers, growers, explorers, experimenters and entrepreneurs.

### **The rationale of the study**

Mo School Abhiyan is an initiative started by Govt. of Odisha with a vision of active participation of alumni of respective schools, interested public and community at large in overall development of schools. In Sambalpur municipal corporation a total number of 38 secondary schools are participated in Mo School Abhiyan in 2018-2019 academic session, when these program was launched all over the state. Only few related literature available in this area and



they are as follows- Harrison (1995) conducted a study on college relations and fund raising expenditures :Influencing the probability of alumni giving to higher education. The findings of the study revealed that cost of fund raising and college relations data for each of three years from 17 colleges and universities have been combined with the schools institutional characteristics to predict ratios of alumni donors to total alumni for each school. With factor analysis , expenditure and institutional variables were classified into three descriptor influences on giving fund. Raising effort, donor wealth and school resources. The expected ratio of donors to number of available alumni for each school was then projected with the use of legit coefficients derived from the limited factor model. Husan & Shu-Lin (2009) conducted study on giving something back: Alumni donation to educational universities in Taiwan. The researcher adopted descriptive survey method of 510 alumni from four different universities of education and the results demonstrate that that while university of education alumni do indeed make generous donations, only 3.5% of their donations go to their alma matter. Moreover, different types of fundraising programs have dramatically different effects on different donor groups. Prew (2009) conducted a study on community involvement in school development: A modifying school improvement concepts to the needs of South African township schools. The researcher adopted case study of 96 schools in Soshanguve township outside Pretoria. The Soshanguve School Development Project (SSDP), a partnership between the local education district office and a nongovernment organization (Link Community Development), aimed to implement a school development planning process in all the schools in the township. Over the course of the project, the school development approach used led to a novel, highly contextualized response to the needs of the local communities and schools and ultimately to full community participation in most of the schools—and so to real school development within a developing world context.

From the above discussion it is clear that many research studies found alumni and community support provide a better infrastructure and environment to educational institutions. Thus the researcher took a keen interest to know the present status, progress of the project and project undertaken by the school under Mo School Abhiyan.

### **Research Questions**

The following are the research questions of present study-

1. What is the present strength of teaching staffs & student in school participated in Mo School Abhiyan?
2. what are the projects undertaken under Mo School Abhiyan?
3. What is the present status of projects undertaken in Mo School Abhiyan ?

### **Objectives of the study**

The following are the objectives of the study-

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1. To study the total strength of teaching staffs & students in school participated under Mo School Abhiyan.
2. To study the projects undertaken under Mo School Abhiyan.
3. To study the present status of project undertaken in schools of Mo School Abhiyan?

### Method

The main purpose of this study was to study the present status of schools under Mo School Abhiyan. Hence, in order to fulfil the main objectives of the study descriptive survey method was adopted by investigator.

### Population

The purpose of the present study was to know the present status of schools under Mo School Abhiyan. So all secondary school of Sambalpur municipal corporation of urban area participated in Mo School Abhiyan constitute population of the present study.

### Sample

For the selection of the sample of the present study the researcher followed purposive sampling procedure. A total number of 38 secondary schools are there in urban areas of Sambalpur municipality corporation. Out of them 15 schools are participated in Mo school Abhiyan. The researcher selected 10 secondary schools as following purposive random sampling method.

### Tools Used

The researcher used Self made information blank to collect required data. .

### Analysis & Interpretation of Data

After collecting the relevant information the scores were tabulated and analyzed. For the analysis of the data the researcher adopted simple percentage techniques.

### Analysis and Interpretation of Data

**Table No - 1 Student Strength in Sample School**

S.L.No.	Name of the School	Student Strength		
		Boys	Girls	Total
1	N.G Town High School, Sambalpur	180	-	180
2	C.S Govt. High School, Samalpur	63	-	63
3	Nanakram Govt. High School, Sambalpur	38	23	61
4	Budharaja Govt.HighSchool,Sambalpur	147	112	259
5	Kainsir, High School, Sambalpur	195	172	367
6	Sobharam Budhia high School, Sambalpur	84	87	171
7	Govt. Hindi, High School, Sambalpur	116	123	239
8	Janardhan Pujari highSchool,Sambapur	77	69	146
9	MahammadpurNodalHighSchool,Sambalpur	55	85	140
10	SDS ,Govt. Girls High School	-	88	88
	Total	955(55.71)	759(44.29%)	1714(100%)

From above Table it shows that the 10 sample schools participated in Mo school Abhiyan, the total students strength is 1714 (100%) ,out of them boys

are 955(55.71%), girls are 759(44.29%) and all this schools are located in urban areas coming under Sambalpur municipal corporation.

**Table No. - 2**

**Teacher Strength in Sample School**

S.L. no.	Name of the School	Teacher Strength		
		Male	Female	Total
1	N.G Town High School, Sambalpur	03(30%)	07(70%)	10(100%)
2	C.S Govt. High School, Samalpur	01(10%)	09(90%)	10(100%)
3	Nanakram Govt. High School, Sambalpur	—	10(100%)	10(100%)
4	Budharaja Govt. High School,Sambalpur	02 (14.29)	12(85.71%)	14(100%)
5	Kainsir, High School, Sambalpur	05( 71.42 )	02(28.58%)	07(100%)
6	Sobharam Budhia, High School,Sambalpur	06( 75%)	02(25%)	08(100%)
7	Govt. Hindi, High School, Sambalpur	01( 14.29%)	06( 85.71%)	07(100%)
8	Janardhan Pujari, High School,Sambapur	05( 62.5%)	03(37.5%)	08(100%)
9	Mahammadpur Nodal HighSchool,Sambalpur	02%(28.5%)	05(71.5%)	07(100%)
10	SDS ,Govt. Girls High School		03(100%)	03(100%)
	Total	25(29.77% )	59(70.23 )	84(100%)

The above table clearly indicates that the total teacher strength in 10 sample schools are 84 (100%),out of them male teachers are 25 (29.77%) & female teachers are 59(70.23%). The average number of teacher per school is 8.4.

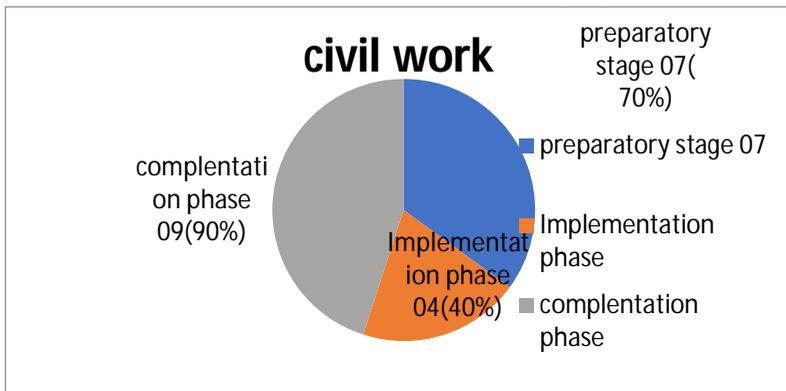
**Table No.-3**

**Civil Work Related Project Selected by School**

No .	Name of the Project	Total No. Of project selected by school	percen tage	Present Status		
				Work at Prelimi nary stage	Work going on	Work Comple ted
1	Repairing & Renovation of existing classroom	6	60%	2	1	3
2	New,Classroom/Additional classroom	2	20%	1	-	1
3	Library Room	1	10%	1	-	-
4	Boundary Wall	3	30%	2		1
5	Bicycle Shed	1	10%	-		1
6	Urinal	2	20%	-	1	1
7	Toilet	1	10%	-		1
8	Staff Common room	1	10%	-	1	
9	Prayer Hall	2	20%	1	1	
10	Dining Hall	1	10%	-		1
<b>Total</b>		<b>20</b>		<b>07(35%)</b>	<b>04(20%)</b>	<b>09(45%)</b>

From the above table it reveals that a total number of 20 projects were undertaken in 10 sample school under civil work. Out of them 06(60%) schools selected project like repairing & renovation of existing classroom and in 03(30%) school preferred for construction of boundary wall. Similarly 02(20%) of school each construction of additional classroom, urinal and prayer hall were selected under civil work. In 01(10%) schools each were undertaken construction of library room, bicycle shed, toilet, dining hall and prayer hall.

So far as the progress of projects is concerned in case of 07(35%) schools, the project work is in preparatory phase, in 04(20%) schools the project work is in implementation phase and in case of 09(45%) schools, the project work is in completion phase.



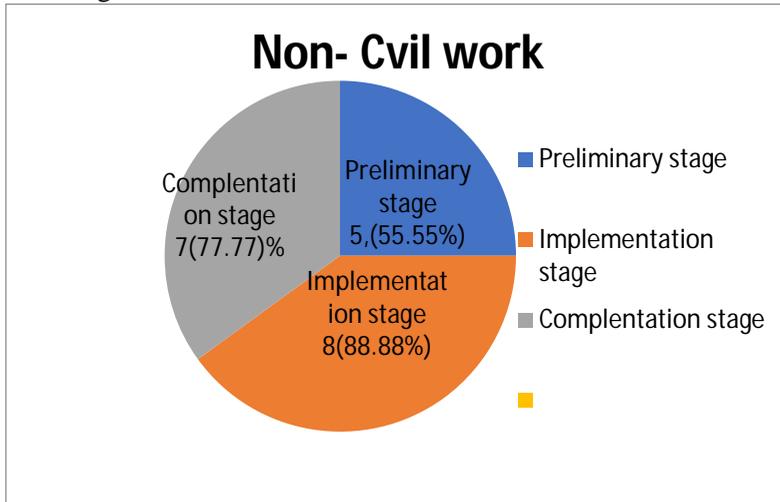
**Table-4**

**Non- Civil Work Related Project Selected by School**

No.	Name of the Project	Total No. of project selected by school	Percentage	Present Status		
				Work at Preliminary stage	Work going on	Work Completed
1	Furniture for students & staffs	7	70%	03	1	3
2	Clean drinking water source	1	10%	-	-	1
3	Aqua Guard/ cool water systems	2	20%	-	-	2
4	Pipe drinking water & overhead tank	1	10%	-	1	-
5	Improvement of playground	1	10%	-	1	-
6	Electronic equipment	5	50%	2	3	1
7	Internal pathway	1	10%	-	1	-
9	Garden improvement	2	20%	-	1	-
Total				05 (25%)	08(40%)	07(35%)

From above table it indicates that a total number of 20 projects were carried out by 10 sample schools under non civil work. Out of them in 07(70%) schools undertaken purchasing furniture for students and staffs and in case of 05(50%) schools wished to purchase electronic equipments. In 02(20%) schools each selected purchasing of aqua guard with cool water system and garden improvement for their schools. Again in 01(10%) schools each decided to spend clean drinking water source, overhead tank and internal pathway for school development work.

So far as the progress of project is concerned in case of 05(25%) schools the project is in preliminary stage, in 08(40%) schools the project work is in implementation phase and in case of 07(35%) schools the project work is in completion stage.



**Table-5**

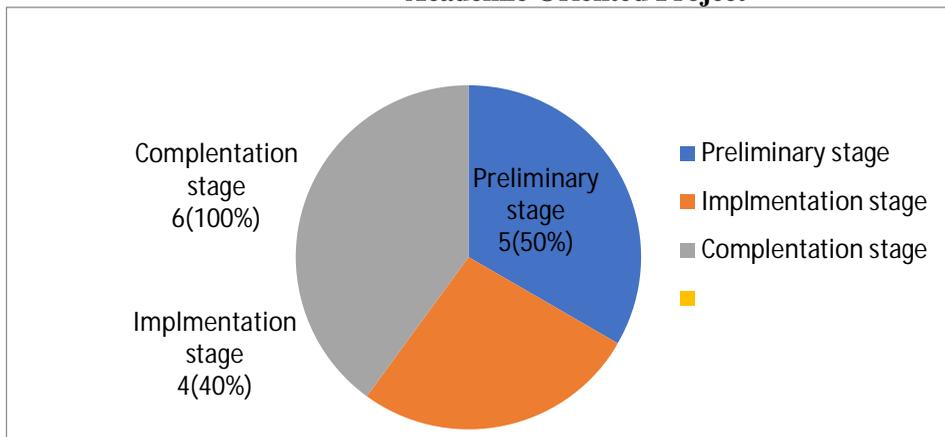
**Academic Oriented Project Selected by School**

Sl. No.	Name of the Project	Total No. of school selected	Percentage	Present Status		
				Work at Preliminary stage	Work going on	Work Completed
1	Sports infrastructure	1	10%	-	-	1
2	Coaching class	2	20%	-	-	2
3	Distribution of prize to students in annual day	4	40%	2		2
4	Science laboratories/Equipments	2	20%	-	2	
5	TLM	4	40%	1	2	1
6	Display boards	2	20%	2	-	
<b>Total</b>		<b>15</b>		<b>05(33.33%)</b>	<b>04(26.66%)</b>	<b>06(40%)</b>

From table it shows that a total number of 15 project were undertaken by 10 sample schools under academic oriented project. Out of them 04(40%) schools each were decided to distribute prizes to students in annual day and purchasing of teaching learning material. Again in case of 02(20%) schools each selected to purchase of science equipment and display board, and special coaching classes given by alumni members for students improvement in Mathematics, Science and English subjects. In 01(10%) schools decided to create sports infrastructure.

So far as the progress of project is concerned in case of 05(33.33%) of schools the project work is preliminary stage, in 04(26.66%) schools the project work is in implementation stage and in case of 06(40%) school the project work is in completion stage.

#### Academic Oriented Project



#### Major Findings

The followings are the major findings of the present study.

01. A total number of 20 project were undertaken by the 10 sample schools under civil work. Out of them in 6(60%) of schools selected project like repairing and renovation of existing classroom
02. Again in 3(30%) schools were preferred to construction of boundary wall for school development .
03. Similarly in 2(20%) schools each decided to construction of new classroom, prayer hall and urinal for students.
04. So far as progress of these project is concerned in case of 07(35%) schools the project work is in preparatory phase, in 04(20%) of schools the project work is in implementation stage and in case of 09(45%) schools, the project work is completion phase.



05. Similarly a total number of 20 projects were carried out by 10 sample schools under non-civil work. Out of them in 07(70%) schools undertaken purchasing of furniture for students and staffs .
06. Again in 05(50%) school decided for spending of electrification of classroom, common room and headmaster room.
07. About 02(20%) schools each selected for purchasing of cool water system and improvement of garden.
08. So far as progress of these project is concerned in case of 05(25%) schools the project work is in preparatory phase, in 08(40%) of schools the project work is in implementation stage and in case of 07(35%) schools, the project work is completion phase.
09. Similarly a total number of 15 projects were carried out by 10 sample schools under academic related work. Out of them in 04(40%) schools undertaken purchasing of teaching learning material for school .
10. About 02(20%) schools each preferred for expenditure on science laboratories, display board and special coaching class for mathematics science and English students.
11. Again in 01(10%) school decided for purchasing of sports material for students.
12. So far as progress of these project is concerned in case of 05(33.33%) schools the project work is in preparatory phase, in 04(26.67%) of schools the project work is in implementation stage and in case of 06(40%) schools, the project work is completion phase.

### **Conclusion**

Mo school abhiyan is a tremendous step taken by government of Odisha to strength community participation for the holistic development of the school. A good number of secondary schools situated in urban areas of sambalpur municipal corporation. Some good practices also observed by the researcher in course of data collection of schools. Besides that alumni members contribute money and also donate essential goods like fan, almirah, map, globe sports material and prizes which is required by the schools. Although a good number of secondary schools were participated in this program still many schools may be encouraged. Thus more awareness and sensitization is needed among parents, alumni for better participation and success of the programme.



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- a general pool from which for the Mo----- School programme



## MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT ACT (MGNREGA)

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India being a democratic country provides equality to all the people in the country which is important for preserving the dignity of an individual. Food for livelihood program has been the initiative taken by the Government of India for decent standard of living. Later on NREGA (National Rural Employment Guarantee Act) has been introduced in the year 2005, which was later renamed with the renowned leader Mahatma Gandhi as MGNREGA (Mahatma Gandhi National Rural Employment Guarantee Act) which was passed in September 2005. This meant for the Indian labour law and social security measure that aims to guarantee the right to work and livelihood sustenance. It aims to enhance livelihood security in rural areas by providing at least 100 days of wage employment in the beginning of a financial year to every household whose adult members volunteer to do unskilled manual work. MGNREGA is to be implemented mainly by Gram Panchayats through rural people and the involvement of contractors is banned. The objectives of MGNREGA are as follows

### **Objectives of MGNREGA**

- Enhancing livelihood security by guaranteed wage employment. Employment under MGNREGA is a legal entitlement. Employment is to be provided within 5 kms of an applicant's residence and minimum wages are to be paid. If work is not provided within 15 days of applying, applicants are entitled to an unemployment allowance.
- To create durable assets such as roads, canals, ponds and wells etc.,
- The motive behind is to reduce rural-urban migration.
- Protecting the environment and nature.
- Proactively include the lower section into the society and development of social equity.
- To remove poverty through this Act.

- Improvement of productivity of agriculture and regeneration of water resources, and

### Some of the Provisions in the Constitution of India

The act aims to follow the Fundamental Rights (FR) and Directive Principles of State Policy (DPSP) enunciated in Part-III and Part- IV of the Constitution of India respectively. Both the FR and DPSP aims at improving the better standards of living among people in the country. The below Table-I explains the relation between the objectives of MGNREGA and the Articles of FR and DPSP along with the explanation of Articles as mentioned in the Constitution of India.

**TABLE-I**

### MGNREGA Objectives In Relation With Articles Of Fr And Dpsp Along With The Articles Explanations As In The Constitution Of India

S.NO	ARICLES	OBJECTIVES	ARTICLE EXPLANATION AS IN CONSTITUTION OF INDIA
1	Article 16	Providing opportunity for employment	Guarantees equality of opportunity in matters of public employment.
2	Article 21	Assurance of livelihood security	Guarantees the right to life with dignity to every citizen of India.
3	Article 40	Implementation by gram panchayats	Mandates the state to organize village panchayats and endow them with such powers and authority as may be necessary to enable them to function as units of self government.
5	Article 41	Providing a right to work	That directs state to secure to all citizens the right to work.
5	Article 46	Providing social equity	Requires the state to promote intrests and work for the upliftment of scheduled tribes and protect them from discrimination and exploitation.
6	Article 48A	Protecting the environment	That directs the state to protect environment.

### Source

[https://en.m.wikipedia.org/wiki/National\\_Rural\\_Employment\\_Guarantee\\_Act,\\_2005](https://en.m.wikipedia.org/wiki/National_Rural_Employment_Guarantee_Act,_2005).

The law by providing a equal opportunity in employment follows Fundamental Right enshrined in Article 16 guarantees equality of opportunity in matters of public employment and prevents state from discriminating against anyone in matters of employment on the grounds

of religion, race, caste, sex, descent, place of birth, place of residence or any of them. In accordance with the act imparting dignity to the rural people through an assurance of livelihood security is consistent with Article 21 which guarantees the right to life with dignity. Conferring the primary responsibility of implementing on Gram Panchayats, the act is consistent with Article 40 which mandates the state to organize Village Panchayats and endow them with such powers and authority as may be necessary to enable them to function as units of self government. The 73<sup>rd</sup> Constitutional Amendment to the Constitution of India that granted constitutional status to Gram Panchayats is further reinforced by the MGNREGA that endowed the rural government institutions with authority to implement the law. By providing right to work which is consistent with Article 41 that directs the state to secure to all citizens the right to work. It also provides income to the incumbents. Providing social equity follows Article 46 that requires the state to promote interests of and work for the economic uplift of the scheduled tribes and protect them from discrimination and exploitation. The statute also seeks to protect the environment through rural works like plantation on the road side, tank bunds and irrigation canals etc., which is consistent with Article 48A that directs the state to protect the environment.

The below Table-II shows the funds releases under MGNREGA State Wise data from 2014-15 to 2018-

**Report of Funds Released Under Mgnrega State Wise From 2014-15 To 2018-19 (Crores)**

**TABLE-II**

S.NO	NAME OF STATE	YEAR WISE FUND RELEASED UNDER MGNREGA					INCREASE / DECREASE OF FUNDS FROM 2014-15 TO 2018-19
		2014-15	2015-16	2016-17	2017-18	2018-19	
1	Andhra Pradesh	290314.10	307380.33	394021.19	513947.92	587555.80	297241.7
2	Arunachal Pradesh	2704.16	4395.10	15675.99	20717.18	8862.79	6158.63
3	Assam	50023.46	87830.06	125459.79	112734.56	66312.62	16289.16
4	Bihar	95968.24	102412.26	166740.56	247432.12	188457.13	92488.89
5	Chhattisgarh	150570.49	106341.30	223193.55	291154.33	214203.24	63632.75
6	Gujarat	35442.93	30598.72	64323.81	82688.22	75168.01	39725.08
7	Haryana	16715.29	12470.72	28771.33	30140.64	23579.19	6863.9



8	Himachal Pradesh	35542.86	39610.32	38860.83	58824.48	45065.24	9522.38
9	Jammu & Kashmir	52171.08	55801.83	80408.52	125417.69	36507.78	-15663.3
10	Jharkhand	72433.41	97879.90	167914.17	136076.31	112948.26	40514.85
11	Karnataka	171687.07	99155.27	225864.88	296448.54	220942.10	49255.03
12	Kerala	158758.02	15263.88	158248.96	185824.77	161666.72	2908.7
13	Madhya Pradesh	245163.12	236732.20	344891.62	377770.49	331323.61	86160.49
14	Maharashtra	79951.77	123834.73	165708.9	186350.34	147022.34	67070.57
15	Manipur	21997.13	25532.29	34370.41	15853.20	16504.69	-5492.44
16	Meghalaya	27785.90	22182.56	86069.23	87424.89	43396.39	15610.49
S.NO	NAME OF STATE	YEAR WISE FUND RELEASE UNDER MGNREGA					INCREASE / DECREASE OF FUNDS FROM 2014-15 TO 2018-19
		2014-15	2015-16	2016-17	2017-18	2018-19	
17	Mizoram	11141.23	28517.36	14451.26	20155.36	30236.14	19094.91
18	Nagaland	11305.27	26665.95	50152.80	110738.62	5664.48	-5640.79
19	Odisha	103530.34	147941.05	189526.84	220366.86	161825.81	58295.47
20	Punjab	18948.18	24533.37	49073.46	62141.23	36624.71	17676.53
21	Rajasthan	297609.87	269583.23	481816.86	472828.41	378122.16	80512.29
22	Sikkim	7386.41	8623.44	13262.56	10636.13	7211.82	-174.59
23	Tamil Nadu	378180.33	547037.47	455277.91	585644.33	265419.13	-112761.2
24	Telangana	191966.00	182484.92	180684.74	254806.87	265011.18	73045.18
25	Tripura	63662.48	135894.19	101629.14	40740.93	25580.75	-38081.73
26	Uttar Pradesh	251341.40	269569.44	391584.94	370223.71	390364.01	139022.61
27	Uttarakhand	28636.22	45076.65	51435.08	71865.11	38040.99	9404.77
28	West Bengal	374495.29	471174.20	537722.79	596035.58	574105.22	199609.93
29	Goa	137.95	246.82	425.85	56.02	48.83	-89.12

## SOURCE

- <https://nrega.nic.in/netnrega/home.aspx>.

The funds sanctioned under MGNREGA to the state of Andhra Pradesh has been increased drastically from 2014-15 to 2018-19. In the state of Arunachal Pradesh the funds sanctioned has been increased from 2014-



15 to 2017-18 and decreased in 2018-19. In the state of Assam the funds sanctioned has been increased from 2014-15 to 2016-17 and decreased in 2017-18 and 2018-19. In the state of Bihar the funds sanctioned has been increased from 2014-15 to 2017-18 and decreased 2018-19. In the state of Chhattisgarh the funds sanctioned has been decreased from 2014-15 to 2015-16 and increased in 2016-17 and 2017-18 and again decreased in 2018-19. In the state of Gujarat the funds sanctioned has been decreased from 2014-15 to 2015-16 and increased in 2016-17 and 2017-18 and again decreased in 2018-19. In the state of Haryana the funds sanctioned has been decreased from 2014-15 and 2015-16 and increased in 2016-17 and 2017-18 and again decreased in 2018-19. In the state of Himachal Pradesh the funds sanctioned has been increased from 2014-15 to 2015-16 and decreased in 2016-17 and again decreased in 2018-19. In the state of Jammu and Kashmir the funds sanctioned has been increased from 2014-15 to 2017-18 and decreased in 2018-19. In the state of Jharkhand the funds sanctioned has been increased from 2014-15 to 2016-17 and decreased in 2017-18 and 2018-19. In the state of Karnataka the funds sanctioned has been decreased from 2014-15 to 2015-16 and increased in 2016-17 and 2017-18 and again decreased in 2018-19. In the state of Kerala the funds sanctioned has been decreased from 2014-15 to 2015-16 and increased in 2016-17 and 2017-18 and again decreased in 2018-19. In the state of Madhya Pradesh the funds sanctioned has been decreased from 2014-15 to 2015-16 and increased in 2016-17 and 2017-18 and again decreased in 2018-19. In the state of Maharashtra the funds sanctioned has been increased from 2014-15 to 2017-18 and decreased in 2018-19. In the state of Manipur the funds sanctioned has been increased from 2014-15 to 2016-17 and decreased in 2017-18 and 2018-19. In the state of Meghalaya the funds sanctioned has been decreased from 2014-15 to 2015-16 and increased in 2016-17 and 2017-18 and again decreased in 2018-19. In the state of Mizoram the funds sanctioned has been increased from 2014-15 to 2015-16 and decreased in 2016-17 and again increased in 2017-18 and 2018-19. In the state of Nagaland the funds sanctioned has been increased from 2014-15 to 2017-18 and decreased 2018-19. In the state of Odisha the funds sanctioned has been increased from 2014-15 to 2017-18 and decreased in 2018-19. In the state of Punjab the funds sanctioned has been increased from 2014-15 to 2017-18 and decreased in 2018-19. In the state of Rajasthan the funds sanctioned has been decreased from 2014-15 to 2015-16 and increased in 2016-17 and again decreased in 2017-18 and 2018-19. In the state of the funds sanctioned has been increased from 2014-15 to 2015-16 and decreased in 2016-17 and again decreased in 2018-19. In the state of Sikkim the funds sanctioned has been increased from 2014-15 to 2016-17 and decreased in 2017-18 and 2018-19. In the state of Tamil Nadu the funds sanctioned has been increased from 2014-15 to 2015-16 and decreased in 2016-17 and again increased in 2017-18 and later



decreased in 2018-19. In the state of Telangana the funds sanctioned has been decreased from 2014-15 to 2016-17 and increased in 2017-18 and 2018-19. In the state of Tripura the funds sanctioned has been increased from 2014-15 to 2015-16 and decreased in 2016-17,2017-18 and 2018-19. In the state of Uttar Pradesh the funds sanctioned has been increased from 2014-15 to 2016-17 and decreased in 2017-18 and again increased in 2018-19. In the state of Uttarakhand the funds sanctioned has been increased from 2014-15 to 2017-18 and decreased in 2018-19. In the state of West Bengal the funds sanctioned has been increased from 2014-15 to 2017-18 and decreased in 2018-19. In the state of Goa the funds sanctioned has been increased from 2014-15 to 2016-17 and decreased in 2017-18 and 2018-19.

## CONCLUSION

From the above Table-II In 2015-15 and 2015-16 the lowest funds sanctioned states was Arunachal Pradesh and highest funds sanctioned state was Tamil Nadu. In 2016-17 the lowest funds sanctioned state was Mizoram and highest funds sanctioned state was West Bengal. In 2017-18 the lowest funds sanctioned state was Sikkim and highest funds sanctioned state was West Bengal. And in 2018-19 the lowest funds sanctioned state was Nagaland and highest funds sanctioned state was Andhra Pradesh. The states are provided more or less funds under MGNREGA than the above said states.

In the implementation process of this program there are some lapses. They are there is a delay in payments to the beneficiaries, there is a corruption at ground level to some extent in some of the states etc.,Though initially there were drawbacks like late payments, wrong records and corruption it has overcome by initiating the Direct Cash Transfer in which amount gets credited directly into the accounts and by introducing Aadhar the maintainance of the record has been correctly maintained and by frequent social audits corruption has been controlled.

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- <http://rural.nic.in/finance/budget/financial-information>.



## FOOD INTAKE OF EXPECTANT MOTHERS AND ITS ASSOCIATION WITH BIRTH WEIGHT OF NEWBORNS

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### Abstract

Inadequacy of nutritional requirement among women is a significant health and nutritional problem during pregnancy and reproductive age, which might bring harmful consequence to reproductive health as well as contributing factors for child mortality and morbidity and child survival for reducing the privileges of low birth weight. The objective of the present research was to study the association of maternal food intake with the birth weight of the newborns. Lakhanpur and Jharsuguda Block of Jharsuguda district of Odisha, India was selected as study area and purposive sampling method was followed. 300 women in third trimester of pregnancy till their delivery were selected from the total population. The findings of the present study indicate that statistically a strong association was observed between cereal, pulses intake of mother and birth weight of newborns. With the increase of percentage of pulses and cereals intake during third trimester of pregnancy the percentage of low birth weight was found to decrease. But no statistical association was found between intake of leafy vegetable, other vegetables, milk and oil and sugar intake of expected mothers with birth weight of newborns.

**Keywords:** Third Trimester, Pregnant Women, Birth Weight, Maternal Dietary Intake

### 1. Introduction:

Pregnancy is a crucial and most intensive period for foetal development. Diagnosis of any risk factor that could affect the foetal outcome is negatively associated in this phase. Low birth weight is a single most predictor which is closely related with mortality, morbidity physical development and survival of new borns (Sathenahalli V.B. et al.2015).

As pregnancy is physiologically and nutritionally a highly demanding period, so a balanced diet is highly essential for maternal well-being and delivery of a healthy baby. Low socio-economic class people from developing country such as India observe their similar diet during pre-pregnancy, expected, lactating period. Extra food and nutrients required for the weight gain during



pregnancy is generally neglected in different segment of the society which ultimately affect birth outcomes(NIN, 2011) and bring harmful consequence to reproductive health as well as contributing factors for child mortality and morbidity and child survival. To reduce mortality and morbidity among children, maternal nutrition need to be focused (Agarwal G. et al. 2012).Nutritional deficiency during pregnancy is a mutable factor for sick and low birth weight. So this study was carried out to determine the impact of food intake of expectant mothers on birth weight of new borns.

## 2. OBJECTIVE:

The objectives of the present research is to study the association of food intake of expectant motherswith the birth weight of the new-borns.

## 3. Methodology:

3.1. **Study Area:** For the present study LakhanpurandJharsuguda Block of Jharsuguda district ofOdisha was selected as study area. 957 Anganwadicenters at Jharsuguda district out of them 16 numbers of Anganwadi centers of Lakanpur block and 12 Anganwadi centers of Jharsuguda Block were selected randomly for the present study.

3.2. **Research Design:** Considering the different literature and keeping objectives in the mind exploratory cum descriptive research was most adopted for the present study.

3.3. **Sampling Design:** For the present study, purposive sampling method was followed. 300 women in third trimester of pregnancy till their delivery were selected from the total population.

### 3.4. Tools and techniques:

All expected mothers were interviewed on predesigned schedule and their dietary intake were recorded.

#### 3.4.1. Dietary survey:

- Food frequency questionnaire: The oral food frequency questionnaire method was used to estimate the intake of food by the pregnant women and to ascertain the frequency of consumption of certain foods and nutrients in the list on daily, weekly or monthly basis.
- 24 hour diet recall method: Dietary intake was assessed by using 24 hour recall method. For the 24 hour recall method, the subject was asked to recall all foods and beverages consumed during the past 24 hours. The use of common household utensils and models of portion sizes was used to estimate the amount of food they consumed and then the food amount converted in to raw amount to calculate the nutritional value. In case of packaged foods, information was obtained from the nutrition facts on the package. The average food intake was calculated for each respondent& compared with RDA (ICMR) using food composition table.

- Distribution of respondent according to their percentage of food intake as comparison to RDA was classified into four groups. That Severely inadequate (less than 50%), inadequate (50%-69%), Moderately adequate (70%-89%), Adequate (more than 90%).

3.4.2. **Birth Weight:** Weight of the newborn was recorded immediately after delivery.

#### 4. RESULT AND DISCUSSION:

##### 4.1. Birth weight of newborns

**Figure No-1: Distribution of newborns on the basis of their birth weight**

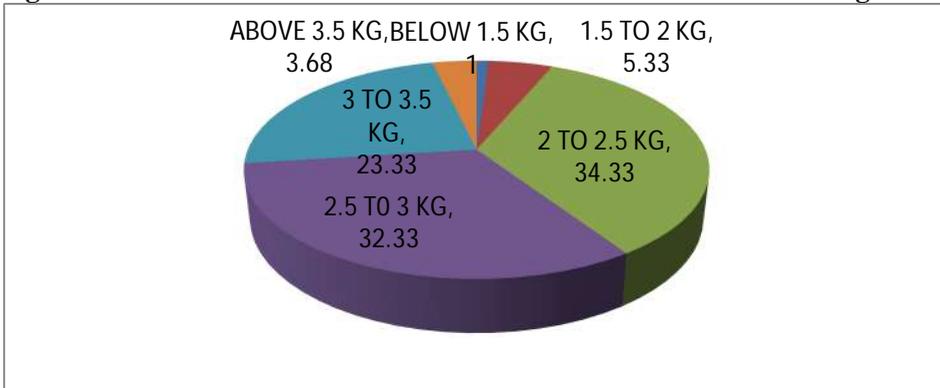


Figure no-1 shows distribution of newborns according to their birth weight. It was observed that only 1% newborns had Very Low Birth Weight, 39.66% newborns had LBW during birth and 59.34% newborns had normal birth weight. Agrawal A and Sharma V (2017) investigated the incidence of LBW and found that maximum 41% newborns had 2.5 to 3.49 kg birth weight, whereas result of present study showed that 55.66% newborn had 2.5kg to 3.5 kg weight during their birth.

##### 4.2. Cereals Intake of Mothers And Birth Weight Of Newborns

Table No-1: Association Between cereals Intake of Mothers And Birth Weight Of Newborns

Cereals	Below 1.5 Kg.	1.5Kg. To 2 Kg.	2 Kg. to 2.5 Kg.	2.5 Kg. to 3 Kg.	3 Kg. to 3.5 Kg.	Above 3.5 Kg.	Total	Chi Square Value
Inadequate	1(50.00)	0(0.00)	1(50.00)	0(0.00)	0(0.00)	0(0.00)	2(100.00)	CALCULATED VALUE=224.59 Tabulated Value: 18.307 DF-10
Moderately adequate	2(1.07)	16(8.56)	101(54.01)	62(33.16)	6(3.21)	0(0.00)	187(100.00)	
Adequate	0(0.00)	0(0.00)	1(0.90)	35(31.53)	64(57.66)	11(9.91)	111(100.00)	

The Table no 1 shows the association of cereals intake and birth weight of newborns. It was interesting to note that the percentage of NBW newborns was nil among the mothers who had inadequate cereal intake whereas only

0.90% LBW newborns born to the mother who had adequate cereal intake during their third trimester of pregnancy. With the increase in percentage of cereals intake the percentage of low birth weight found to be decreased. It was also observed that percentage of very low birth weight children and low birth weight increase with inadequacy in cereal intake of mothers i.e. 50% very low birth weight and 50% low birth weight. No normal birth weight baby born to mothers having inadequate cereal intake. There was strong statistical association was found between birth weight and cereal intake of expected mothers. Amarnath et al. (2014) also found that association between birth weight and cereal intake of pregnant women. Prudhivi et al. (2015) similarly found that the percentage of low birth weight was more among the mothers who had inadequate food intake.

### 4.3. Pulses Intake of Mothers And Birth Weight Of Newborns

TABLE NO-2: ASSOCIATION BETWEEN PULSES INTAKE OF MOTHERS AND BIRTH WEIGHT OF NEWBORNS

Pulses	Below 1.5 Kg.	1.5Kg. To 2 Kg.	2 Kg. to 2.5 Kg.	2.5 Kg. to 3 Kg.	3 Kg. to 3.5 Kg.	Above 3.5 Kg.	Total	Chi Square Value
Inadequate	0(0.00)	4(80.00)	1(20.00)	0(0.00)	0(0.00)	0(0.00)	5(100.00)	CALCULATED VALUE=249.62 Tabulated Value: 18.307 DF-10
Moderately adequate	3(1.61)	12(6.45)	102(54.84)	66(35.48)	2(1.08)	1(0.54)	186(100.00)	
Adequate	0(0.00)	0(0.00)	0(0.00)	31(28.44)	68(62.39)	10(9.17)	109(100.00)	

Table- 2 depicts the association of pulses intake of mothers with birth weight of newborns. It was observed that the percentage of NBW newborns was nil among the mothers who had inadequate pulses intake and cent percent NBW newborns born to the mothers who had adequate cereal intake during their third trimester of pregnancy. It was also observed that with the increase in percentage of pulses intake, the percentage of low birth weight decreased. Mothers who had inadequate pulse intake, they had incidence of cent percent low birth weight newborns. There was strong association between birth weight and pulses intake of expected mothers found in this study. Amarnath et al. (2014) also found that association between birth weight and pulses intake of pregnant women. Prudhivi et al. (2015) similarly found that the incidence of low birth weight was less among the mothers who had adequate food intake as compared to inadequate food intake mothers.

#### 4.4. Leafy vegetables intake of mothers and birth weight of newborns

Table no-3: association between leafy vegetables intake of mothers and birth weight of newborns

Leafy Vegetables	Below 1.5 Kg.	1.5Kg . To 2 Kg.	2 Kg. to 2.5 Kg.	2.5 Kg. to 3 Kg.	3 Kg. to 3.5 Kg.	Above 3.5 Kg.	Total	Chi Square Value
Inadequate	0(0.00)	1(7.69)	7(53.85)	3(23.08)	2(15.38)	0(0.00)	13(100.00)	CALCULATED VALUE=7.86 Tabulated Value: 18.307 DF-10
Moderately adequate	2(0.89)	13(5.78)	78(34.67)	74(32.89)	48(21.33)	10(4.44)	225(100.00)	
Adequate	1(1.61)	2(3.23)	18(29.03)	20(32.26)	20(32.26)	1(1.61)	62(100.00)	

The Table no 3 indicates the association between leafy vegetable intake and birth weight of newborns. Majority of mothers were found to take leafy vegetable in moderate amount out of them 0.89% and 40.45% had very low birth weight and low birth weight newborns respectively. No significant association was found between birth weight and leafy vegetable intake of expected mothers but Amarnath et al.(2014) found that association between birth weight and leafy vegetables intake of pregnant women.

#### 4.5. Other vegetables intake of mothers and birth weight of newborns

Table no- 4: association between other vegetable intake of mothers and birth weight of newborns

Other Vegetables	Below 1.5 Kg.	1.5Kg. To 2 Kg.	2 Kg. to 2.5 Kg.	2.5 Kg. to 3 Kg.	3 Kg. to 3.5 Kg.	Above 3.5 Kg.	Total	Chi Square Value
Severely inadequate	0(0.00)	0(0.00)	4(100.00)	0(0.00)	0(0.00)	0(0.00)	4(100.00)	CALCULATED VALUE=16.69 Tabulated Value: 24.996 DF-15
Inadequate	2(0.94)	12(5.66)	76(35.85)	68(32.08)	44(20.75)	10(4.72)	212(100.00)	
Moderately adequate	1(1.20)	4(4.82)	23(27.71)	29(34.94)	25(30.12)	1(1.20)	83(100.00)	
Adequate	0(0.00)	0(0.00)	0(0.00)	0(0.00)	1(100.00)	0(0.00)	1(100.00)	

The Table no 4 indicates that association of other vegetable intake and birth weight of newborns. It was observed only 0.33% mothers had adequate other vegetable intake and 27.66% mothers had moderately adequate other vegetable intake. Majority mothers had inadequate other vegetable intake in their diet. It was observed that with increase inadequacy in other vegetable intake prevalence of LBW new born also increases. There was no statistical association between birth weight and other vegetable intake of expected mothers in the study but Amarnath et al.(2014) found association between birth weight and other vegetables intake of pregnant women in their study.

#### 4.6. Milk and milk products intake of mothers and birth weight of newborns

Table no-5: association between milk & milk products intake of mothers and birth weight of newborns

Milk & Milk Products	Below 1.5 Kg.	1.5Kg. To 2 Kg.	2 Kg. to 2.5 Kg.	2.5 Kg. to 3 Kg.	3 Kg. to 3.5 Kg.	Above 3.5 Kg.	Total	Chi Square Value
Severally inadequate	0(0.00)	11(9.73)	46(40.71)	34(30.09)	18(15.93)	4(3.54)	113(100.00)	CALCULATED VALUE=17.27 Tabulated Value: 18.307 DF-10
Inadequate	0(0.00)	0(0.00)	1(100.00)	0(0.00)	0(0.00)	0(0.00)	1(100.00)	
Adequate	3(1.61)	5(2.69)	56(30.11)	63(33.87)	52(27.96)	7(3.76)	186(100.00)	

The Table no 5 showed the association between milk and milk products intake and birth weight of newborns. Majority of mothers intake adequate milk and milk products out of them 4.3% and 30.11% had very low birth weight and low birth weight newborns respectively. It was also observed that inadequate milk and milk products intake was found among one mother who had LBW newborns. Mothers who had not included milk in their diet, had maximum LBW newborns i.e. 50.44%. No significant association between birth weight of newborns and milk and milk products intake of expected mothers was found in this study. But Amarnath et al.(2014) found association between birth weight and milk intake of pregnant women in their study.

#### 4.7. Fat & oil intake of mothers and birth weight of newborns

Table no-6: association between fat & oil intake of mothers and birth weight of newborns

Fat & Oil	Below 1.5 Kg.	1.5Kg. To 2 Kg.	2 Kg. to 2.5 Kg.	2.5 Kg. to 3 Kg.	3 Kg. to 3.5 Kg.	Above 3.5 Kg.	Total	Chi Square Value
Severally inadequate	0(0.00)	1(5.56)	7(38.89)	2(11.11)	8(44.44)	0(0.00)	18(100.00)	CALCULATED VALUE=16.12 Tabulated Value: 24.996 DF-15
inadequate	0(0.00)	2(5.88)	12(35.29)	11(32.35)	8(23.53)	1(2.94)	34(100.00)	
Moderately adequate	1(1.72)	3(5.17)	25(43.10)	22(37.93)	5(8.62)	2(3.45)	58(100.00)	
adequate	2(1.05)	10(5.26)	59(31.05)	62(32.63)	49(25.79)	8(4.21)	190(100.00)	

The Table no 6 is showing the association of oil and fat intake of mothers and birth weight of newborns. Majority of mothers were found to take adequate oil and fat out of them 6.31% and 31.05% had very low birth weight and low birth weight newborns respectively whereas 5.88% and 35.29% LBW newborns

born to the mothers who had adequate intake of oil and fat . No significant difference was found in intake of fat & oil of mothers & incidence of low birth weight among new borns. There was no statistical association found between birth weight and fat and oil intake of expected mothersbut Amarnath et al.(2014) found association between birth weight and oil and fat intake of pregnant women.

#### 4.8.Sugar & jaggery intake of mothers and birth weight of newborns

Table no-7: association between sugar & jaggery intake of mothers and birth weight of newborns

Sugar &Jaggery	Below 1.5 Kg.	1.5Kg. To 2 Kg.	2 Kg. to 2.5 Kg.	2.5 Kg. to 3 Kg.	3 Kg. to 3.5 Kg.	Above 3.5 Kg.	Total	Chi Square Value
Severally inadequate	0(0.00)	8(6.96)	43(37.39)	39(33.91)	22(19.13)	3(2.61)	115(100.00)	CALCULATED VALUE=13.68 Tabulated Value: 24.996 DF-15
inadequate	2(2.00)	4(4.00)	39(39.00)	31(31.00)	21(21.00)	3(3.00)	100(100.00)	
Moderately adequate	1(1.59)	3(4.76)	16(25.40)	21(33.33)	18(28.57)	4(6.35)	63(100.00)	
adequate	0(0.00)	1(4.55)	5(22.73)	6(27.27)	9(40.91)	1(4.55)	22(100.00)	

The Table no 7 reveals that association of sugar and jiggery intakeof mothers and birth weight of newborns. Majority of mothers diet was found to be severely inadequate in sugar and jaggery out of them 44.35% had low birth weight newborns whereas 27.28%LBW newborns born to the mothers who had adequate intake of sugar and jiggery which is about 40% of the prevalence of LBW incidence. There was no statistical association between birth weight and sugar and jaggery intake of expected mothers was found in this study.Amarnath et al.(2014) found that association between birth weight and sugar intake of pregnant women in their study.

#### Conclusion:

Statistically a strong association was observed between cereal, pulses intake of mothers and birth weight of newborns.with increase inthe percentage of pulses and cereals intake during third trimester of pregnancythe percentage of low birth weight deceases among new borns. No statistical association was found between leafy vegetable, other vegetables, milk, oil and sugar intake of expected mothers with birth weight of newborns, but a significant role of those food stuffs in prevalence of LBW is found in this study. As health of new bornspredominantly depends on diet and health of mothers, thus emphasis should be given on



adequate food intake of mothers through education & food supplementation to reduce incidence of low birth weight among newborns from the society.

### Acknowledgement

I would like to thank Dr.ChandrashreeLenka, H.O.D, P.G. Department of Home Science,Sambalpur University for her guidance to prepare the paper.

**Funding:** No funding sources

**Conflict of interest:** None declared

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## CINEMAS OF INDIAN NATION AND REGIONS

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### **Abstract**

Benedict Anderson's Imagined Communities describes how print media was instrumental in imagination of the nation state. Partho Chatterjee responds to Anderson's formulation in his text, Whose Imagined Community by arguing that cultural heterogeneity is always in a tussle with homogenised imagination of a nation. Hence, in India, cinema played a peculiar role as mass media, in aiding the formation of modern Indian nation state; yet at the same time regional cinemas of India somewhat challenge the imagination of a nation by facilitating the cultural idiom of different regions. This paper makes a brief overview of diverse cinema practices and its interaction with nation-state of India. At a meta-level, the paper attempts to dispose the notion of 'cinema of India' and argues for pluralized cinemas of India.

### **Introduction**

The idea of nation is one of the key concepts of modernity. While its experience may be overwhelming and in many ways natural, yet a careful reflection will reveal the arbitrariness of this idea of the nation. It is an imagined, abstract construct claiming a socio-political universality for its subject. But for its own realization the nation fiercely clings on varying cultural phenomenon's and projects these dynamic cultural processes as static features. Through these cultural identifications the nation hopes to find a unifying thread for its citizens. Many a times these signs of identification are either linguistic or are derived in the geographical bound. Benedict Anderson, in his text, Imagined Communities, calls nation an imagined political community, whose imagination is both limited and sovereign.

Anderson attempts to find reasons for the possibility of nation despite its inherent paradoxes. He asserts that nation was made possible chiefly because of the emergence of the print capitalism. "..... the development of increasingly rapid communications drove a harsh wedge between cosmology and history. No surprise then that the search was on, so to speak for a new way of linking fraternity, power and time meaningfully together. Nothing perhaps more precipitated this search, nor made it more fruitful, than print-capitalism, which made it possible for rapidly growing numbers of people to think about themselves, and to relate themselves to others, in profoundly new ways."



(Anderson, 2006, p. 37). Anderson packs the essence of his argument in these words, "the convergence of capitalism and print technology on the fatal diversity of human language created the possibility of a new form of imagined community, which in its basic morphology set the stage for the modern nation. The potential stretch of these communities was inherently limited, and, at the same time, bore none but the most fortuitous relationship to existing political boundaries." (Anderson, 2006. p. 48)

In the context of Indian nation the imagination had many more difficulties. In Anderson's field of view - which is largely Europe - the prominence to the vernacular language given by the print-capitalism, allowed a new linguistic link for the fraternity on the basis of which nation was imagined. But for the Indian nation the linguistic link was not available as thread for the diverse cultures that were hoped to be united. In-fact the diverse linguistic range was the very challenge that resisted the formation of Indian nation. Thus in the Indian context, the abstractedness of the nation cannot be easily concealed as it is readily perceived. But what allowed the existence of Indian nation was the appeal of the modernity, which gave the hope of emancipation to various underprivileged sections (that cut across all the spheres in the Indian regions) who were subjected to unfair treatment for ages. In the Indian context the instrument which served the purpose of propagating the idea of modernity and thus of nationalism, was the modern medium of cinema. The anti-colonial struggle fused with the promise of modern, liberal, egalitarian sphere was actively spread by the foremost institution of modernity, i.e. cinema.

But the conflict for India as a nation never resolved. The integrity of the Indian nation has always been at threat by the regional nationalism. Partha Chatterjee in response to Anderson's essay writes the essay, *Whose Imagined Community*. In this essay he questions the colonial framework in which nations are conceived. He argues that in the pursuit of providing a universalized political domain (which he claims is an external domain), the structural powers are oblivious to the cultural specificities (the inner domain). Thus the forced jacketing of various cultural groups into an arbitrary nation (which is completely blind to inner domain of various communities) has resulted in certain homogenization of different cultural praxis. Thus the tussle of the region and nation remains inherent in the colonial formulation of India as nation. This paper traces those instances which demonstrate the role of cinema in making the imagination of nation possible. The paper also attempts to foresee the role cinema assumes for itself for the further discourse of nation which will perhaps base itself on these promising lines of Partha Chatterjee, "The point, therefore, is no longer one of simply demarcating and identifying the two domains (inner



and outer) in their separateness, which is what was required in order first to break down the totalizing claim of a nationalist historiography. Now the task is to trace in their mutually conditioned historicities the specific forms that have appeared, on the one hand, in the domain defined by the hegemonic power of nationalist modernity, and on the other, in the numerous fragmented resistances to that normalizing project.” (Chatterjee, 2012, p.224)

□ People in specific Indian region have always taken refuge in popular folk tales and mythologies. These folk narratives have invariably served a connection for people of certain community. Since development of sophisticated technologies of communication is a very recent development, it is through folk narratives and mythologies that communities persisted with their authentic connection. But with the institution of various modes of mass media people were able to experience a certain simultaneity. Because of these mediums the ‘people’ turned to become ‘masses’. Cinema is one of such significant mass medium, and the formation of masses is an important activity for any possibility of the realization of the nation, which further turns masses into citizens. It is no surprise that for a long time, starting from Dada Saheb Phalke, Indian films were based on these mythological stories. Especially in the times of silent cinema, when the narrative communication was limited, film-makers naturally took refuge in telling known stories.

□ With films like *Achut Kanya* (Rai & Osten, 1936) a transition was made from mythology to social reality. The transition was inspired to explore the reflective capacity of cinema. This was facilitated by the inclusion of sound which allowed film-makers to pursue psychological strands over the moments of action in the narrative. Thus the frontal devotional cinematic frames gave way to complex array of shots reflecting social reality. While the anti colonial struggle provided a major thrust in uniting the nation; the spirit of being together and forming a collective in order to struggle, was majorly infused in the masses by cinema. As the screen benefited by borrowing the stream of Gandhian ideas, the screen in turn delivered by reciprocating those ideas back into mass consciousness. This allowed an imagination of an Indian nation possible. Films like *Neecha Nagar* (Halim & Anand, 1946), fabricated with left-Gandhian ideology, are important examples as to how the Indian patriotism was both synonymous and inspired from the ideas of sacrifice and justice. Chetan Anand reflects through this film the crucial question for the emerging nation i.e. the struggle that the proletariat class has to go through in order to face the privileged class of greedy capitalists.

The criticism of the national prejudices also found a space in Indian cinema

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with films like *Garam Hawa*. The neglect and distrust and constant othering of the Islamic culture was depicted with an utmost sensitivity in the film. The historical ideas and the moral conception shared unanimously in the sub-continent region, have also helped the mass practice of cinema in India. *Mother India* made by Mehboob Khan in 1957 is a classic example of this. The film portrayed how the chastity and the honor of the woman was at stake in the struggle for her existence. The character played by Nargis is somewhat allegorical to the Indian nation, whose chastity and moral uprightness is a sense of honor for each of its citizen.

### **The Star Phenomenon - The Source of Intertextuality**

While the mobilization of various relevant social concerns has been a major factor in giving Indian cinema such tremendous appeal and popularity yet it alone cannot be seen as the factor responsible for grasping the popular imagination. These social concerns have always required a certain hook, a locus point which acts as the junction for the symbolic (the narrative) of the film and the viewer to meet. This junction has been provided in the figure of a star. The star figure is that phenomenon which is seamlessly produced by the similar narrative situations of different films; his charisma, his capacity to attract, and his capacity to become a point of identification are located in certain consistent characteristics traits of the various roles that actor plays. So the star figure is not just another node, not just another agent of the film narrative, but is a huge transcendental figure, the familiarity of whose persona is rented by different films to provide the film a firm ground. Also at the same time films reaffirm the star figure by representing him again in a narrative situation that is in tandem to the constructed characteristics of the star personality. So in a cyclic process the plot of a film finds an anchor in the figure of star and yet at the same time the star figure itself is constituted and strengthened by the repeated portrayal of certain characteristics in each film.

The mobilizing force of cinema especially in Indian context is incomplete without the discussion of this star phenomenon. Amitabh Bachchan has been the star figure in Bombay cinema, who hallucinated the masses with his charisma for over fifteen years. As Madhav Prasad argues, he was phenomenon much required for a new, cinematic conception in Bombay. "... He (Amitabh) remained a semantic excess of the narrative process, available for future exploitation" (Prasad, 2000, p.141). The National Cinema of eighties as described above was out of the nationalist, didactic mode to a more situational representation of the independent India plagued by underworld activities. As Madhav Prasad describes, the cinema post emergency was wishing to renovate itself by basing a unique focus on the scripts. A peculiar aspect of these films



was that they were heavily reliant on the dialogues for the dramatic effect in the film.

The social context of the script as described earlier was based on the absorption of the marginalized figure in the criminal universe. Amitabh Bachchan embodied this marginalized character and his angry young man torso was the instrument of defiance that instituted the possibility of rising above the underprivileged bitterness that a marginal figure has to bear. Amitabh Bachchan thus becomes this site of the mass identification. The mass identification happens because he serves as the possibility of the institution of the subject. The psychoanalytic moment of identification with the protagonist character is clearly because of the symbolic force of the proletarian concerns generated in the narrative. It is in the comfort of the suture provided by the figure of Amitabh (which is both, an imaginary as well as symbolic) that the desired narrative transition was made by Bombay cinema in the eighties. It should be noted that the transcendental figure of the Amitabh, the star, was not already available inherently in Amitabh the person, to be borrowed by the narrative, it was at the same time actively fabricated by these narrative. For instance in any film before Zanjeer, say Hrishikesh Mukherjee's Anand, Amitabh hasn't really been a figure dominant beyond the narrative. In all these films Amitabh is just another node in the narrative. It is only with active cinematic construction in Zanjeer, Deewar and Sholay that Amitabh is endowed with a certain aura.

What is important to note that this grand aura doesn't compete with the narrative of the film in-fact it strengthens the narrative. The demand to see Amitabh Bachchan on screen doesn't require a dilution or a break in narrative action, as it would, generally be the case with a female star. This is because the body of Amitabh gains relevance only in the symbolic of proletarian concerns; i.e. the body of angry young man allows for a possibility of the emancipation from the higher forces of oppression.

Just as Amitabh was a major source of strength and an intertextual relay for many films produced by Bombay Cinema in the eighties, there were MGR and later Rajnikanth, in Tamil Cinema to serve as the locus for popular imagination. MSS Pandian in his essay Culture and Subaltern Consciousness: An Aspect of MGR Phenomenon (Pandian, 1989), points out how the figure of the MGR was made popular by actively constructing an image which was like them a sub-altern figure but was not ready to take the oppression directed at him. MGR was a figure created by operating certain symbols because of which he resembled the defiant heroes of the popular sub-altern ballads in Tamil Nadu. In this text Pandian concludes, "...through particular constructions of MGR's biography,



his films were portrayed as an imitation of his real life, one can cite several examples of the effectiveness of this obliteration of distance between the cinematic and the real.” (Pandian, 1989, PE-66).

On the other hand, Rajan Krishnan through his essay, Rajni's Shivaji: Screen and Sovereign, explains the sovereign hold that Rajnikanth has over the minds of Tamils. He also constructs the significant influence of the name 'Shivaji' that persists because of the certain past. He explains how the Maratha ruler Shivaji had captured the whole of the southern India, and was a symbol and a hero for his resistance against the Brahmin hegemony. On the other hand Rajnikanth whose original name is also Shivaji, had become a popular choice for replacing MGR political position in the late 80s.

### Epilogue

The ever increasing production of the regional cinema, is a positive cultural activity, it revives the diverse processes, and enriches one's regional existence. But nationalists may have their own reasons to be anxious because of this rise in regional cultural activity that too in mass medium of cinema. Regional cinema is most certainly, a reminder of one's own regional identity and makes national imagination difficult. Regionalism has therefore often challenged national imagination, and with the rise in regional cinema it wouldn't be illogical to infer a possible distancing that a national subject may feel and find the abstract nature of the nation (which claims universality by ignoring heterogeneity of various cultures) redundant and imposed.

But perhaps that is just one view, the other perspective on the rise of regional cinema, some may argue that regional cinema is in the favor of the imagination of an abstract category of nation. How? Well it cannot be denied that through cinema one gets an opportunity, to feel and enliven a distant part of the region. In vast subcontinent region certain areas have failed to attract any representation. This lack of representation has also resulted in the lack of place for those inhabiting those regions, in the active, (experiential) imagination of the nation as a whole (at-least in the mainstream imagination of the nation as whole). Thus certain spheres are an active constituent of the nation only in geographical terms. The political and cultural aspirations of people inhabiting these regions thus don't get reflected in the national imagination. It is here in such situations that new age cinema - which tells stories with all its complications and cultural specifications and is provided with new age possibilities of distributions - can give nationalism a proper organic foundation. This argument derives its weight from Kracuer's observation that cinema makes



us re-realize how we are a family of a one man. In the Epilogue of his book Theory of Films (Kracauer, 1960) he incorporates the statement of a New York Times reader who's describing his/her experience of watching *Arapajito*, "What seems to me to be remarkable about 'Arapajito' is that you see this story happening in a remote land and see these faces with their exotic beauty and still feel that the same thing is happening every day somewhere in Manhattan or Brooklyn or the Bronx." (Kracauer, 1960, p.311)

The point that Kracauer is trying to make is that how despite capturing in detail all the specificities of its subject the cinematographic apparatus still reveals the universal concerns that allow an unparalleled scope of empathy. We now have revolutionary means through which finally every kid in Ahmedabad can share and connect with the joys of another kid in Mizoram. The regional cinema in this new age can perhaps destabilize the center by allowing a possibility of imagining spheres outside the purview of the mainstream, and this imagination is not a stereotype, but an unwinding of the stereotypes spread by the limitations of the mainstream cinema practice. Perhaps the search of the universal lack on the basis of which nations can be formed, was a wasteful search. Instead it was required to search those instruments, those means, which bring to our notice those elements depicting our universal lack. Can we then claim that new age cinema with all the new technological possibilities of sharing at its disposal, constitutes to the discovery of that instrument that locates the universal lack? Will it reveal the hidden true bond for humanity through which not just national, but a global community can be imagined? Well the real answers are best left for the future, but for the moment, one can rejoice this possibility best expressed in these words of Kracauer "If you disregard for a moment articulate beliefs, ideological objectives, special undertakings, and the like, there still remain the sorrows and satisfactions, discords and feasts, wants and pursuits, which mark the ordinary business of living. Products of habit and microscopic interaction, they form a resilient texture which changes slowly and survives wars, epidemics, earthquakes, and revolutions. Films tend to explore this texture of everyday life, whose composition varies according to place, people, and time. So they help us not only to appreciate our given material environment but to extend it in all directions. They virtually make the world our home." (Kracauer, 1960, p.311)

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**RURAL CUSTOMERS PERCEPTION ABOUT USE OF E-BANKING SERVICES WITH SPECIAL REFERENCE TO PUBLIC SECTOR BANKS IN NAGAPATTINAM DISTRICT - AN EMPIRICAL STUDY**

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**Abstract:** The primary objective of this study was to assess the rural customers perception about use of E-banking services. Therefore, the descriptive research method was used. To assess the perception of rural customers both qualitative and quantitative data were collected and used. Both primary and secondary data were collected from sample banks and customers. The multistage random sampling technique was used to select the sample banks and sample respondents in the study area. There are 73 public sector bank branches are functioning in rural areas of sample district. Out of this only 23 branches (30 percent ) have determined as sample banks of the study by using proportionate random sampling techniques. The population of the study was treated as unknown due to bank officials are not given the list of customers. Thus, the total of 384 rural customers was determined as sample size of the study by using Cochran sample size determination formula for unknown population. The analysis result reveals that the sample public sector customers have good perception about to use of e-banking services in many ways i.e., irrespective of banks majority of the educated, salaried and business and profession occupation customers have the knowledge about e-banking services and use more and majority of the sample customers have stated that the computer self efficacy, cost charged by banks, role of safety, 24 hours service, role of privacy, role of bank officials and neighbours and friends have influenced lot to use of e-banking services than social influence and advertisement. On the other side, majority of the customers have stated that security is the biggest question while using e-banking services.

**Keywords:** E-banking services, Customer perception, Public sector banks, Rural Customers.

### **1. Introduction**

Indian banking sector has been considerably changed after economic liberalisation in 1991. After that the Indian banking sector became open to world market due to this the Indian banks faced technological problems i.e., customer service to meet international competition. To meet out these challenges the banks moved to internet banking. It refers to the use of Internet for banking services like account opening through internet, fund transfer to different accounts, links the accounts of all branches etc. The services through Internet banking are e-tax payment; access the account to check balance, online trading of shares, online remittance of money, electronic bill payment system, railway reservation, transfer of funds from one



customer's account to other, application of loan, etc.<sup>1</sup>. Thus, the ultimate aim of introducing Electronic Banking (E-banking) was to provide different services to customers at their convenient.

## 2. STATEMENT OF PROBLEMS

The electronic banking provides various benefits to banks, customers and businesses such as lesser transaction cost, reduced human error, lesser paper work, reduced fixed cost, customer satisfaction, faster work, less cost and etc for banks, convenience to use, less transaction cost, easy to do, no time and geographical boundary and etc for customers and account reviews, better productivity, lower costs, lesser errors, reduced fraud and etc for business. At present all major banks in India provides electronic banking services to their customers. To strengthen the electronic banking system in India the Reserve Bank of India established National Payment Corporation of India under the provisions of the Payment and Settlement Systems Act, 2007 to provides various banking services to their customer at their convenience. The electronic banking services provide many benefits to customers particularly rural customers. However, the rural e-banking users are facing several challenges and problems such as traditional banking habits, security, transactional difficulty, technical issues, network problems, customer service, lot of formalities and delay for recovery of funds, technological problems, access charges are high, network problems and etc. In this backdrop, this study has conducted entitled “**Assess the Rural Customers Perception about use of E-banking services with special reference to Public Sector Banks**” in Nagapattinam District.

## 3. OBJECTIVES OF THE STUDY

The objectives of the study are:

1. To know the demographic profile sample public sector banks customers.
2. To assess the rural customers perception about use of E-banking services.

## 4. HYPOTHESIS OF THE STUDY

1. There is no relationship between the demographic variables of sample customers and their opinion about use of e-banking services in different aspects i.e., technological, financial, usage, security and social aspects of using e-banking services.

## 5. LIMITATIONS OF THE STUDY

To assess the customer perception is one the difficult task to get truthful opinion from bank customer. Thus, the study has the following limitations.

- a) Nagapattinam district has selected purposively. Therefore, this study has limited with geographical area of Nagapattinam District only.
- b) This study analysed only perception of public sector bank customers about use of e-banking services provides by sample banks. Therefore, this study not analysed or covered other functions of banks.
- c) The researcher has analysed only public sector banks customers' opinion. Thus, the findings may vary from comparative analysis of public vs private sector banks.

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<sup>1</sup> Dhananjay B and Suresh Chandra B (2015).



## 6. RESEARCH METHODOLOGY

This study was studied to assess the rural customer perception about use of e-banking services provides by public sector banks in sample Nagapattinam district. Therefore, the descriptive research method was used. To assess the perception of rural customers both qualitative and quantitative data were collected and used. To test the hypothesis the relevant information was collected from sample public sector banks rural customers. Therefore, primary and secondary data were collected from sample banks and customers.

### 6.1. Selection Banks

The multistage random sampling technique was used to select the sample banks and sample respondents in the study area. There are 73 public sector bank branches are functioning in rural areas of sample district. Out of this only 23 branches (30 percent ) have determined as sample banks of the study by using proportionate random sampling techniques. To select the branches of banks, the simple random sampling technique was used. The selection was made by using number of year's service and availability of data.

### 6.2 Selection of sample customers

The population of the study i.e., list of customers of sample banks could not be obtained from sample banks. Because, the bank officials responded that it is the policy of banks therefore we could not give the list of customers. Therefore, population of the study was treated as unknown. The total of 384 rural customers was determined as sample size of the study by using Cochran sample size determination formula for unknown population. Further, the proportionate random sampling technique was used to determine the sample size of each sample banks.

## 7. DATA COLLECTION

The primary data was collected from sample customers by using structured interview schedule. The secondary data about the services given by banks were collected from sample banks officials and banks websites and other relevant information were collected from various reports, magazines, books, journals and other relevant records.

## 8. TOOLS AND TECHNIQUES USED

To test the framed hypothesis relevant statistical techniques were used such as to present the average the simple percentage was used and to assess the perception of sample customers' multiple linear regressions analysis was used.

## 9. RESULTS AND DISCUSSION

### 9.1 Demographic Profile of Sample Customers

**Age:** The age wise distribution of sample customers revealed that t most of the sample customers were under the age group of 31-50.

**Gender:** Majority of the sample respondent were female which indicates more rural women involves banking activities.

**Educational Qualification:** Majority of the sample customers (rural customers) are completed upto school level education and graduated and very few customers are not completed formal education.



**Occupation:** Majority of the public sector banks customers are agriculturist and wage labours and majority of the private sector bank customers are doing business.

**Monthly Income:** The analysis result clearly shows that irrespective of banks majority of the customers have earned upto Rs.20,000 per month.

### 9.2 Bank related variables

**Number of years account held with bank:** Majority of the public sector banks customers have held account with above five years and majority of the private sector banks customers have held account with 3-4 years.

**Transfer Limit:** Irrespective of banks majority of the public and private sector banks customers have stated that they were satisfied about transfer limit allowed in e-banking services.

**Received Discount and Rewards:** Irrespective of banks majority of the public and private sector banks customers have stated that they were neither nor satisfied about the discounts and rewards received for using e-banking services.

**Service Cost charged by banks:** Majority of the public and private sector banks customers have stated that based on the e-banking service cost charged by banks has influenced to use of e-banking services.

**Role of Bank officials:** Majority of the public and private sector banks customers have stated that the bank officials have motivating the customers to use e-banking. However, one tenth of public sector banks customers have stated that the bank officials have not motivates or gives information to use e-banking services.

**Role of 24 hours services:** Majority of the public and private sector banks customers have stated that the 24 hours e-banking services provided by banks have influenced to use of e-banking services.

**Role of safety:** Majority of the public and private sector banks customers have stated that based on the safety mechanism provided by banks the customers are using e-banking services.

### 9.3 Perception of Rural Customers about use of E-Banking services

The sample public sector banks customers perception about use of e-banking services was measured using five points Likert's scale statements i.e., strongly agree, agree, neither nor agree, disagree agree and strongly disagree. The customers perception about use of e-banking services were grouped into five aspects i.e., technological aspects, financial aspects, usage aspects, security aspects and social aspects. To test the relationship the null hypothesis was framed and tested by using Multiple Linear Regression techniques i.e., "There is no relationship between the demographic and bank related variables of sample public sector banks customers and their perception about various aspects of using e-banking services". The demographic variables age, gender, education, occupation and income and the bank related variables number of years account held, transfer limit allowed, received discounts and rewards, service cost charged, role of bank officials, role of 24 hours services and role of safety were used as independent variables. The analysis result is presented in following table.

**Table 1**  
**Relationship between the sample public sector banks customers opinion about use of e-banking services and their demographic and banks related variables - Multiple Linear Regressions**

Independent Variables	Tech. Aspects	Financial Aspects	Usage Aspects	Security Aspects	Social Aspects
<b>Demographic Variables</b>					
Age	-2.514**	0.202	0.458	-2.001	2.843**
Gender	1.023	2.699**	1.089	2.871**	2.006
Education	0.002	2.917**	-2.612**	-2.880**	1.874
Occupation	2.032	-2.748**	1.087	2.647**	3.251**
Income	1.245	0.987	-2.001	0.214	2.568**
<b>Banks related Variables</b>					
Number of years account held	0.123	-0.845	3.240**	2.011	1.753
Transfer limit allowed	1.254	-2.586**	0.211	1.589	1.004
Received discounts and rewards	0.258	3.564*	2.841**	1.068	1.921
Service cost charged	2.006	-2.699**	-2.775**	1.982	1.041
Role of bank officials	1.230	1.845	2.870**	0.147	0.562
Role of 24 hours services	1.005	2.941**	3.567*	2.611**	2.614**
Role of safety	-2.599**	1.413	0.789	2.752**	0.750
Constant	<b>10.547</b>	<b>34.071</b>	<b>20.396</b>	<b>23.008</b>	<b>34.007</b>
<b>R2</b>	<b>0.0472</b>	<b>0.578</b>	<b>0.581</b>	<b>0.569</b>	<b>0.494</b>
<b>N</b>	<b>260</b>	<b>260</b>	<b>260</b>	<b>260</b>	<b>260</b>

Source: Compiled from primary data

\* Significant at 1 percent level      \*\* Significant at 5 percent level.

**Technological Aspects:** The result of multiple linear regression analysis shows that the demographic variables of sample customers i.e., gender, education, occupation and income and the bank related variables number of years account held, transfer limit allowed, received discounts and rewards, service cost charged, role of bank officials and role of 24 hours services provided by banks do not have any relationship with their perception about technical aspects for using e-banking services. **Hence, the stated null hypothesis is accepted.** However, the demographic variable age and bank related variable role of safety are the influencing factors about the customers’ perception regarding the use of e-banking services. **Hence, the stated null hypothesis is rejected** for the variable age and role of safety to using e-banking services. The demographic variable age and bank related variables role of safety exert negative relationship at 5 percent level about the sample customers’ perception regarding the use of e-banking services. It implies that the sample customers’ opinion about the technical aspects of using e-banking services is based on their age and role of safety. Hence, the result shows that majority of the sample public sector bank customers i.e., lesser age group customers are have good perception about technological aspects of e-banking services



and majority of the customers stated the less safety in technological aspects of using e-banking services.

**Financial Aspects:** The sample customers opinion about financial aspects of using e-banking services and their demographic variables and bank related variables shows that the demographic variables age and income and the bank related variables number of years account held, role of bank officials and role of safety do not have any relationship with their perception about financial aspects for using e-banking services. **Hence, the stated null hypothesis is accepted.** However, the demographic variables gender, education and occupation and bank related variables transfer limit allowed, received discounts and rewards and service cost are the influencing factors about the customers' perception regarding the use of e-banking services in financial aspects. **Hence, the stated null hypothesis is rejected** for the variables gender, education, occupation, transfer limit allowed, received discounts and rewards and service cost charged by banks for using e-banking services. The demographic variables gender and education exerts positive relationship at 5 percent level and bank related variable received discounts and rewards exerts positive relationship at 1 percent level about the sample customers' perception regarding the use of e-banking services in financial aspects. On the other side the demographic variable occupation and the bank related variables transfer limit allowed and service cost charged by banks exerts negative relationship at 5 percent level. It implies that the sample customers' opinion about the financial aspects of using e-banking services is based on their gender, education, occupation, transfer limit allowed by banks, received discounts and rewards for using e-banks and service cost charged by banks. Hence, the result shows that majority of the sample public sector bank customers i.e., female customers and higher educated customers and received higher discounts rewards customers are have good perception about financial aspects of e-banking services. However, majority of the business holders, need higher transfer limit and using e-banking regularly for payments and receipts customers are have lesser perception about financial aspects of e-banking services.

**Usage Aspects:** The relationship between sample customers opinion about usage aspects of using e-banking services and their demographic variables and bank related variables shows that the demographic variables age, gender, occupation and income and the bank related variables transfer limit allowed by banks and role of safety do not have any relationship with their perception about usage aspects for using e-banking services. **Hence, the stated null hypothesis is accepted.** However, the demographic variable education and bank related variables number of years account held in banks, received discounts and rewards, service cost charged, role of bank officials and role of 24 hours service are the influencing factors about the customers' perception regarding the usage of e-banking services. **Hence, the stated null hypothesis is rejected** for the variables education, number of years account held in banks, received discounts and rewards, service cost charged, role of bank officials and role of 24 hours service provided by banks for using e-banking services. The banks related variable role of 24 hours service exerts positive relationship at 1 percent level and the variables number of years account held, received discounts and rewards and role of bank officials exert positive



relationship at 5 percent level. On the other side the demographic variable education and the bank related variable service cost charged by banks exert negative relationship at 5 percent level. It implies that the sample customers' opinion about the usage aspects of using e-banking services is based on their education, number of years account held, received discounts and rewards for using e-banking, service cost charged by banks, role of banks officials and role of 24 hours service. Hence, the result shows that majority of the sample public sector bank customers i.e., more number of years account held in banks, received discounts and rewards customers, information received from bank officials about e-banking services and role of 24 hours service provided by banks are increased the perception of e-banking users in financial aspects. However, majority of the higher educated customers have lesser perception about e-banking services in usage aspects and also the service cost charged by banks has decreased the level perception about usage aspects of e-banking services.

**Security Aspects:** The sample customers opinion about security aspects of using e-banking services and their demographic variables and bank related variables shows that the demographic variables age and income and the bank related variables number of years account held, transfer limit allowed by banks, received discounts and rewards, service cost charged by banks and role of bank officials do not have any relationship with their perception about security aspects for using e-banking services. **Hence, the stated null hypothesis is accepted.** However, the demographic variables gender, education, and occupation and bank related variables role of 24 hours service and role of safety are the influencing factors about the customers' perception regarding the use of e-banking services in security aspects. **Hence, the stated null hypothesis is rejected** for the variables gender, education, occupation, role of 24 hours service and role of safety for using e-banking services. The demographic variables gender and occupation and the banks related variable role of 24 hours service and role of safety exert positive relationship at 5 percent level. On the other side the demographic variable education exerts negative relationship at 5 percent level. It implies that the sample customers' opinion about the security aspects of using e-banking services is based on their gender, education, occupation, role of 24 hours service and role of safety for using e-banking services. Hence, the result shows that majority of the sample public sector bank female customers and business and profession occupation holders are have higher perception about use of e-banking in security aspects and also the role of 24 hours service provided by banks and role of safety have increased the perception of e-banking users in security aspects. However, majority of the higher educated customers have lesser perception about security aspects of e-banking services.

**Social Aspects:** The relationship between sample customers opinion about social aspects of using e-banking services and their demographic variables and bank related variables shows that the demographic variables gender and education and the bank related variables number of years account held, transfer limit allowed by banks, received discounts and rewards, service cost charged by banks, role of bank officials and role of safety do not have any relationship with their perception about social aspects for using e-banking services. **Hence, the stated null hypothesis is accepted.**

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However, the demographic variables age, occupation and income and bank related variable role of 24 hours service are the influencing factors about the customers' perception regarding the use of e-banking services in social aspects. **Hence, the stated null hypothesis is rejected** for the variables age, occupation, income and role of 24 hours service provided by banks for using e-banking services. The demographic variables age, occupation and income and the banks related variable role of 24 hours service exert positive relationship at 5 percent level. It implies that the sample customers' opinion about the social aspects of using e-banking services is based on their age, occupation, income and role of 24 hours service for using e-banking services. Hence, the result shows that majority of the sample public sector banks customers i.e., higher age group customers, business and profession occupation holders, higher income group customers have the higher perception about use of e-banking in social aspects and also the role of 24 hours service provided by banks have increased the perception of e-banking users in social aspects.

## 10. CONCLUSION AND RECOMMENDATIONS

The sample public sector customers have good perception about to use of e-banking services in many ways. However, they have negative perception in certain functions and services of e-banking service. Therefore, based on this the following suggestion has been given both for public sector banks and customers. They are:

1. Irrespective of banks majority of the educated, salaried and business and profession occupation customers have the knowledge about e-banking services and use more. Therefore, the banks may give special awareness programme to all type of rural customers about various types of e-banking services and its benefits.
2. Majority of the sample customers have stated that the computer self efficacy, cost charged by banks, role of safety, 24 hours service, role of privacy, role of bank officials and neighbours and friends have influenced lot to use of e-banking services than social influence and advertisement. Therefore, the banks may concentrate on cost of service, safety mechanism, bank officials may more interact with rural customers about e-banking services than giving advertisement.
3. Majority of the customers have stated that security is the biggest question while using e-banking services. Therefore the banks should ensure security aspects to their customers and give special awareness periodically to its rural customers about safety use of e-banking services.

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## ENTREPRENEURIAL BEHAVIOUR OF COMMERCIAL VEGETABLE FARMERS IN THRISSURDISTRICT

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### **Abstract**

The study entitled entrepreneurial behaviour of commercial vegetable farmers in Thrissur district was conducted with the main objectives to study the entrepreneurial behaviour of vegetable farmers and the constraints faced by them. The study was conducted in two blocks of Thrissur district with maximum availability of commercial vegetable farmers. The sample consisted of 60 commercial vegetable farmers who are registered under VFPCCK of the selected blocks which were selected using simple random sampling. The data were collected and analyzed using percentage method and index method. Entrepreneurial behaviour of the farmers were analyzed based on the general practices followed by them and also based on the variables like innovation orientation, achievement motivation, risk taking ability, decision making ability, information seeking behaviour, cosmopolitanness, leadership ability and market orientation. The study revealed that farmers were highly oriented about innovation, but some of them were in fear of loss and showed disagreement against innovations. Almost more than half of the farmers were taking decisions related to various aspects of vegetable cultivation, in consultation with others. They were showing a medium level of decision making ability. The farmers were highly cosmopolitan as they were in good contact with the outside social system. It is clear from the study that the farmers are good leaders with good leadership skills and capabilities.

**Keywords:** Entrepreneur, Behaviour, Vegetable farmers, Cosmopolitanness

### **1.Introduction**

The entrepreneurs are the key persons of any country for promoting economic growth and technological growth. The development of entrepreneurship is directly related to the socio-economic development of the society. Entrepreneurial behaviour of farmers is operationally defined as cumulative outcome of six components namely innovativeness, economic motivation, decision making ability, risk orientation, information seeking behaviour and leadership. In this study focus will be given to entrepreneurial behaviour of vegetable farmers.



The production of vegetables in Kerala is increasing yearly. In 2016-17 Kerala contributed 35.72 lakh metric tonnes of vegetables to the total production of 1628.97 lakh metric tonnes of vegetables in India and the area under vegetables cultivation in Kerala was 1.47 lakh hectares (National Horticulture Database, NHB, 2017).The production level should be increased and production & related commercial activities should be done in an economical manner. So there is a significance in studying the entrepreneurial behaviour of farmers in Thrissur district.

## **2. STATEMENT OF THE PROBLEM**

Vegetables plays an important role in our agricultural sector, by providing food, nutritional and economic security and more importantly, producing high returns per unit area and time. The main problem in our state is the less amount of production. The vegetable cultivation in our state is not enough to meet the needs of people in our state. In order to meet the demand vegetables are imported from Tamil Nadu. The problem is that the vegetables imported from those states are creating health problems among consumers due to heavy use of pesticides. The officials from Tamil Nadu itself stated that farmers are using pesticides even 5 to 10 times more than the permissible limit (Times of India, June 10, 2015).

In order to make changes and to bring improvement there is need to study the entrepreneurial behaviour of the vegetable farmers. By understanding their behaviour and the constraints faced by them, appropriate strategies can be framed for encouraging vegetable farmers and through that production of vegetable can also be increased.The main objective of the study was to examine the entrepreneurial behaviour of vegetable farmers.

## **3. METHODOLOGY OF THE STUDY**

The study was conducted in two blocks of Thrissur district with maximum availability of commercial vegetable farmers. The study was based on both primary and secondary data.Commercial vegetable farmers who are registered under VFPCCK of selected blocks constitute the population and proportionately 60 farmers were selected.Primary data were collected directly from the farmers using structured survey schedule. The secondary data were collected from published sources such as reports, journals, periodicals, internet and other media.The entrepreneurial behaviour of the farmers was analysed by using percentage method and index method. The major variables used in the analysis were innovation orientation, achievement motivation, risk taking, farm decision making ability, information seeking behaviour, cosmo politeness, leadership ability and marketing orientation.



### **Review of literature**

Rai et.al. (2014), through a study tried to identify farm entrepreneurs for involving them in agricultural development. He conducted a study on entrepreneurial behaviour of vegetable farmers in Bhopal district of M.P. From the selected villages 120 respondents were selected for study. The study was intended to conceptualise the entrepreneurial behaviour of vegetable growers in terms of their social-personal, agro-economic, extension communication and socio-psychological traits. The study revealed that majority of the farmers have medium level of entrepreneurial behaviour.

Patel et.al. (2014) conducted a study about the entrepreneurial behaviour of dairy farmers with 80 dairy farmers selected from all the dairy farmers of Panagar block of Jabalpur District of Madhya Pradesh who are practicing dairy and possessing minimum six dairy animals. The data were collected through semi-structured pre-tested interview schedule and analysed. The studies revealed that majority of dairy farmers were found to have medium level of entrepreneurial behaviour followed by high and low level of entrepreneurial behaviour. Hence, special consideration is required to develop the entrepreneurship in dairy farmers.

Mpandeliet.al. (2014) conducted a study on constraints and challenges facing the small scale farmers in Limpopo Province in South Africa. The study revealed that challenges linked to financial, assets, land ownership and biophysical factors are the major challenges faced by them. Specific constraints included market information and market access price of inputs, availability of inputs, irrigation, cost of transport and natural constraints.

**Bargaliet.al. (2015) conducted a study on contribution of rural women in vegetable cultivation in home gardens of Nainital District in Kumaun Himalaya.** The study revealed that women plays an important role in vegetable cultivation in home gardens. Majority were participating independently and remaining with men. Characteristics of rural women such as age, level of education, family size, home garden size, knowledge about home garden etc. vary from place to place and affect contribution of rural women insignificantly. In order to ensure their active participation there is a need to change in policies, law and development programmes.

### **4. Results and Discussions**

The result of the study are analysed and presented under the following heads.

#### **4.1 Socio-Economic Profile of the Respondent Farmers**

It reveals that majority of the respondents (46.6 percent) were in the age group of 55-65 years. This can be inferred that old people are more interested in vegetable farming to protect environment where as new generation is keeping distance from vegetable farming. Among the farmers 98.7 percent respondents were male. Most of the respondents (46.7) have education up to 10<sup>th</sup> class and only 3.3 percent respondents were illiterate. It shows that vegetables were cultivated mainly by educated and literate farmers. With regard to income level of sample respondents 73.3 percent of the respondents were earning monthly income of less than 10000. It means that selected farmers were having a medium standard of living.

#### **4.2 Area of the Vegetable Farmers**

Based on the land owned by the farmers the farmers can be classified as marginal small and large farmers. The following table shows the classification of entrepreneur farmers based on the land owned by them.

**Table 4.2 Total Land holding of the vegetable farmers**

<b>Sl.No</b>	<b>Area</b>	<b>No. of farmers</b>	<b>Percentage</b>
1	Marginal farmers	45	75
2	Small Farmers	13	21.7
3	Large Farmers	2	3.3
	<b>Total</b>	<b>60</b>	<b>100</b>

Source – Compiled from field survey

Table 4.2 reveals that 75 percent of the framers were marginal farmers, means most of them have land between 0 and 2.5 acre. It also shows that only 3.3 percent have land more than 5acre.

#### **4.3 Experience in Vegetable Cultivation**

The study reveals that majority of the farmers were having an experience of more than 15 years. Farmers were well known about everything related to cultivation and it was due to their experience in this. A few percent (5 percent) came under the category of less than 5 years. Even though they were less experienced, almost all of them were successful farmers and earning in good way.

#### **4.4 Components of Entrepreneurial Behaviour in Vegetable Farmers**

The components includes innovation orientation, achievement motivation, risk taking ability, decision making ability, information seeking behaviour, cosmo politeness, leadership ability and market orientation. By analysing these components the level of entrepreneurial behaviour in commercial vegetable farmers can be examined.

#### 4.4.1 Innovation Orientation

Innovation orientation indicates how innovative a farmer is and his interests in and desire to seek changes in farming and his willingness to introduce such changes in his activities when found practical and feasible.

**Table 4.3 Innovation orientation behaviour of farmers in vegetable farming**

SL. No.	Statements	Total Score	Index	Rank
S1	I search out new working methods, techniques or instruments	279	93	2
S2	I generate original solutions for problems	273	91	4
S3	I find new approaches to execute tasks	267	89	5
S4	I systematically introduce innovative ideas into work practices	254	84.6	6
S5	I put effort in the development of new things	244	81.3	7
S6	I would feel restless unless, you try out an innovative method which you have come across.	258	86	5
S7	I am cautious about trying new practices.	274	91.3	3
S8	I like to keep up to date information about the subjects of my interest.	287	95.6	1
S9	I would not prefer to wait for others to try out new practices first.	227	75.6	8
	<b>Composite</b>		<b>87.5</b>	

Source: Compiled from field survey.

Form Table 4.3 it is clear that most of the farmers were interested in searching new working methods and techniques. Now a days the vegetable cultivation is becoming unpredictable, but farmers are ready to make changes in their practices to earn more profit. So that they can improve their income level. Most of them were finding solutions independently for their problems. But some farmers were not ready to make any innovations due to risk factors. In generally it can be says that, though there are risk involved in the vegetable cultivation farmers are highly innovative in their behaviour.

#### 4.4.2 Achievement Motivation

Achievement motivation refers to the striving of respondents to do work with a standard of excellence which may be task related or self-related.

**Table 4.4 Achievement motivation behaviour of farmers in vegetable farming**

SL. No.	Statements	Total Score	Index	Rank
S1	I am enjoying my work very much	288	96	2
S2	I work hard at everything I undertaken until I am satisfied with the result.	290	96.6	1
S3	I succeed in my occupation even if I have been neglectful of my family	228	76	7

S4	I have determination and driving ambition to achieve certain things in life even if these qualities make me unpopular	245	81.6	5
S5	I won't take rest until I finish my work	287	95.6	3
S6	Even when my interests are in danger , I concentrate on my job and forget my obligation to others	231	77	6
S7	I get difficult goals for myself and try to attain them	263	87.6	4
	<b>Composite</b>		<b>87.2</b>	

Source: Compiled from field survey.

The above table shows that dedication to work is one of the major motivational factors that keep farmers to continue their occupation. Many of them depend upon agriculture for their livelihood from their childhood onwards and they find happiness in continuing their ancestral occupation which also adds to be a motivational factor. According to them agriculture is most profitable business. But due to various reasons like pest and disease attack, high cost of cultivation, unpredictable climate change etc. their income is reducing from past few years.

#### 4.4.3 Risk Taking Ability

Vegetable cultivation is always prone to uncertainties and risks. However risk taking ability in case of a commercial vegetable farmer is readiness to face challenges whenever they occur and aiming profitability at the better chance of success.

**Table 4.5 Risk taking ability of the vegetable farmers**

Source – Compiled from field survey

SL. No .	Statements	Total Score	Index	Rank
S1	I should adopt mixed cropping to avoid greater risks involved in single crop cultivation	285	95	1
S2	I should rather take a more of a chance in making more profit that to be content with a smaller but less profit	268	89.3	3
S3	I am willing to take a greater risk than an average one and it usually does better financially.	264	88	4
S4	I should take risks when I know that chance of success is fairly high.	274	91.3	2
S5	I should try new ideas that may enhance production/profitability even though no one is adopted it yet.	229	76.3	5
S6	I should try an entirely new method which involves risk but worthy.	225	75	6
	<b>Composite</b>		<b>85.8</b>	

Table 4.5 reveals the risk taking ability of the farmers. Farmers were cultivating more than one crop at a time. Most of the farmers were following mixed cropping. A few number of farmers were concentrating only on single crop due

to some reasons like unavailability of land and inadequacy of capital. Farmers were ready to adopt risk involving activities if the chance of success is fairly high. But some of them showed disagreement in trying new methods and techniques due to fear of loss.

#### **4.4.4 Farm Decision Making Ability**

Decision making ability is the degree to which an entrepreneur justifies his or her selection of most efficient means from among the available alternatives on the basis of scientific criteria for achieving maximum economic profits.

**Table 4.6 Decision making ability of the vegetable farmers**

SL. No.	Statement	Total Score	Index	Rank
S1	I take decision to start commercial vegetable production	118	98.3	1
S2	I take decision to avail loans	100	83.3	3.5
S3	I take decision to try out other crops	99	82.5	5
S4	I take decision to hire labours	103	85.8	2
S5	I take decision regarding storage and marketing of vegetables	64	53.3	9
S6	I take decision regarding value addition of the produce	2	1.7	10
S7	I take decision to purchase or hire machinery and equipment	89	74.2	8
S8	I take decision to meet the agricultural extension worker or any organisation	100	83.3	3.5
S9	I decide to subscribe for magazines	93	77.5	6
S10	I decide to attend training	90	75	7
	<b>Composite</b>		<b>71.5</b>	

Source – Compiled from field survey

Table 4.6 reveals that most of the farmers taken the decision to start vegetable cultivation independently. It may be due to the reason that agriculture is their ancestral occupation. Regarding the loan most of the farmers taken decision independently and a few of them were not using loan amount in their capital. A major problem faced by the farmers were higher labour charges, even though a larger percent of the farmers were using hired labour for completion of their work. A few number of farmers were not using labour even though their land holding was high. Most of the farmers were following multiple cropping method to avoid the risk of loss. Storage and marketing is an important face in the vegetable cultivation. Most of the farmers decided about storage and marketing independently and the remaining farmers decided in consultation with various persons and institutions like VFPCCK, Krishibhavan etc. Among these 60 respondents only one (1.7percent) farmer was focusing on value addition of the product and remaining all were directly selling their vegetables through VFPCCK. Most of the farmers were having their own implements necessary for vegetable cultivation and more than half of farmers decided independently for the purchase or hiring of machineries or implements. The

remaining farmers were purchasing or hiring machineries or implements in consultation with fellow farmers, farmer groups and other institutions. A large number of farmers were meeting extension officers or other organisations regularly for the betterment of their production and for farmers it was not a waste of time. All the farmers were subscribing and reading magazines related to agriculture and vegetable production from many sources, mainly from VFPCCK. Among the respondents a larger number of farmers were regularly or occasionally attending training classes related to many areas of agriculture conducted by various institutions such as VFPCCK, Krishibhavan, and Panchayat. But a small number of persons were not willing to attend any training classes, who were depending on other sources for information.

#### **4.4.5 Information Seeking Behaviour**

According to Wilson (1999, 2000), information-seeking behaviour includes those activities a person may engage in when identifying their own needs for information, searching for such information in any way, and using or transferring that information..

**Table 4.7 Information seeking behaviour of farmers from formal sources**

SL. No.	Sources of Information	Total Score	Index	Zone
1	Scientists of KAU	20	16.7	8
2	Agriculture extension worker	71	59.2	7
3	Agriculture officer	90	75.0	6
4	KVK	100	83.3	4
5	VFPCCK	120	100.0	2
6	Agricultural Seminars	94	78.3	5
7	Print media (Newspapers, magazines, books, brochures etc.)	120	100.0	2
8	Electronic media (Television, Radio, Internet and mobile phone)	120	100.0	2
	<b>Composite</b>		<b>76.6</b>	

Source – Compiled from field survey

Above table shows the information seeking behaviour of farmers from formal sources. A few number of the farmers were depending on scientists of KAU for information and among them, some were using the advices of scientists only when problem arises. Most of the farmers were in contact with agriculture extension worker for extension activities and all the farmers used to seek information from agriculture officer. KVK and VFPCCK were the institutions more close to farmers not only as a source of information but also for other services for farmers. A large number of farmers were regular attenders of various agriculture seminars conducted by VFPCCK, Panchayat, Krishibhavan, KAU etc. and a few farmers were not willing to attend any training classes of agriculture seminars. All the farmer were daily users of various print and

electronic medias and they are trying to collect information from various formal information sources. This shows a high level of information seeking behaviour of the farmers.

#### 4.4.6 Cosmo Politeness

Cosmo politeness refers to the degree to which a farmer is oriented to his or her immediate outside social system as an entrepreneur. It shows how much he is connected with the outside world.

**Table 4.8 Cosmo politeness behaviour of the vegetable farmers**

SL. No.	Statements	Total Score	Index	Rank
S1	I think there is a need to collect additional information from outside the village for successful vegetable cultivation	117	97.5	5
S2	I should try to get information on vegetable crop management practice from outside village by using mass media facilities	103	85.8	6
S3	I should learn many things not only from the happenings and experiences of my village only	119	99.2	3
S4	Keeping contact with progressive vegetable growers is useful for me for managing the vegetable cultivation	118	98.3	4
S5	Visiting the subject matter specialist is not a waste of time for me	120	100	1.5
S6	VFPCCK/KVK/KAU exhibition or seminars / Agricultural exhibition helps me to gather recent information	120	100	1.5
	<b>Composite</b>		<b>96.8</b>	

Source – Compiled from field survey

The above table shows that all the farmers were considering exhibitions and seminars conducted by VFPCCK, KVK and KAU as a reliable source to gather recent information which helps them to improve their production and income. Consulting the specialists when problem arises and for their betterment was not a waste of time for them. It is inferred that the farmers are highly cosmo polite which means they were widely connected with the outside social system rather than limiting their activities within their house or village.

#### 4.4.7 Leadership Ability

Leadership is the ability of a person to make sound decisions and inspire others to perform well. Effective leaders are able to set and achieve challenging goals, to take swift and decisive action even in difficult situations. Strong communication skills, self-confidence, the ability to manage others and a willingness to embrace change are the characteristics of good leaders.

**Table 4.8 Leadership ability of the vegetable farmers**

SL. No.	Statements	Total Score	Index	Rank
S1	I like to see problems of fellow farmers resolved.	279	93	10.5
S2	I enjoy sharing information with others.	294	98	5
S3	I persevere on an activity until I completed.	297	99	2
S4	I enjoy success and strive for it.	297	99	2
S5	I consider myself to be a flexible person.	287	95.6	8

S6	I work at maintaining good interpersonal relationships.	297	99	2
S7	People look to me for advice.	270	90	12
S8	I am an effective decision maker.	290	96.6	6
S9	I am original in my ideas/activities.	283	94.3	9
S10	I like Initiating new things.	279	93	10.5
S11	I feel confident with my capabilities.	296	98.6	4
S12	I consider myself to be an achiever in life.	289	96.3	7
	<b>Composite</b>		<b>96</b>	

Source – Compiled from field survey

Above table shows the leadership quality of the farmers. From last few years farmers were facing so many problems in cultivation in both financial and physical ways. But the farmers were ready to face the situations and they were confident in their capabilities. The previous table 4.20 stated that dedication towards the work was the major motivational factor for the farmers. So they worked hard till they were satisfied with the result and enjoyed when they were getting good results. They were self-confident in their skills and maintain good relationships and helped others by giving advices and in other forms. They were confident in their decisions and considered themselves as achievers in life. It is clear that the farmers are good leaders with good leadership skills and capabilities.

#### 4.4.8 Market Orientation

Market orientation indicates how a farmer discovers and meets the needs and desires of their customers through their products. This study reveals that how the vegetable farmers of Thrissur district are market oriented.

#### Table 4.9 Market orientation of farmers in vegetable cultivation

Table 4.9 explains how much the farmers are market oriented. The environment

SL. No.	Statements	Total Score	Index	Zone
S1	I cultivate vegetables to earn profits	286	95.3	9
S2	I always be watchful about the demand of each vegetable in the market.	297	99	2
S3	I always seek what the market wants.	297	99	2
S4	I cultivate vegetables after assuring there is a market	297	99	2
S5	I sell my produce in the market on a regular basis	298	99.3	7.5
S6	I know the inputs requirements for vegetable cultivation	299	99.6	5
S7	I am aware about the input supply source	298	99.3	7.5
S8	I know which markets to sell to	299	99.6	5
S9	I know the differences in prices and costs (conscious of prices, delivery costs, transport, storage etc.)	299	99.6	5
	<b>Composite</b>		<b>98.8</b>	

is changing from earlier times. Modern techniques and methods are helping



people in all sectors in different ways for their improvement. Most of the farmers were cultivating vegetables with the only intention of making profits. But the remaining were cultivating vegetables with the primary intention of giving lesson to the coming youth that agriculture is important. They were concentrating on profit also. They were known about the costs and prices of their inputs and outputs. It proves that the farmers are highly market oriented.

#### **4.5 Conclusion**

The analysis and findings of the study highlights that the entrepreneurial behaviour of the commercial vegetable farmers is at high level. The study revealed that most of the farmers are showing a high level of entrepreneurial behaviour. The findings of the study highlights that, most of the farmers were marginal farmers and they were using dry land more for cultivation. If more farmers are adopting this method a major part of their cost of cultivation can be eliminated. Most of the farmers were cultivating cowpea and bitter guard, due to the reason of low chance of loss due to pest and disease. The results indicate that the farmers were highly oriented about innovation, but some of them were in fear of loss and showed disagreement against innovations. Dedication to work was the major motivational factors that keep farmers to continue their occupation. Most of the farmers were following mixed cropping to avoid the risk of loss. Farmers were ready to adopt risk involving activities if the chance of success is fairly high. Almost more than half of the farmers were taking decisions related to various aspects of vegetable cultivation, in consultation with others. They were showing a medium level of decision making ability. The farmers were highly cosmopolitan and they were in good contact with the outside social system. It is clear from the study that the farmers are good leaders with good leadership skills and capabilities. Apart from earlier days the farmers were more aware about all the necessary things related to production and marketing of their products.

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## DIVINE LOVE IN ARABIC POETRY

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### **Abstract**

The theme of Divine love in Arabic poetry occupies a unique position in Arabic Sufi poetry. Since, the poetry was the aristocrat mode of expression of literary attributes in pre-Islamic Arabia and it continued even after the advent of Islam in the Arabian Peninsula. The esoteric teaching of Prophet Mohammed (PBUH) gave birth to Sufism in Islam. The ascetic movement of Hasan al-Basri further enriched the Sufism. Therefore, Sufi poets also begin to express their mystical taste through poetry imitating the ornament of Pre-Islamic antique ode with thematic modifications. Divine Love in Arabic poetry is main element of Sufi theophany. Rabi'a al-Basri first introduced this theme in Arabic poetry. Since the Sufi ethics depend on reunion with God from this world of phenomena so without love to Him meeting is impossible. Love to God fabricated in Sufi poetry as if it is yearning of infatuated lover for his earthly beloved. Theme of Divine Love became a popular doctrine for next generation of Sufi poets. Almost, all the Sufi poets composed verses on this theme in order to infuse the flaming of Divine Love in their hearts.

The object of this research paper is to analyze and highlight the aspect of Divine Love portrayed in Arabic Sufi poetry shedding light on the Qur'anic principles and Prophetic traditions quoting relevant verses.

**Keyword:** Divine Love, Sufi theophany, Rabi'a al-Basri, Qur'anic principle etc.

### **Introduction**

The theme of Divine Love occupies a unique position in Arabic Sufi poetry. Divine Love is an unnatural love. It is related to God. It arises due to emotional faith in God to obtain His nearness strictly observing the Qur'anic principles and Prophetic traditions. The idea of Divine Love introduced from the esoteric teaching of Prophet Mohammed (PBUH) to some of his bosom companions. Some companions of prophet Mohammed (PBUH) used to wear woolen garment imitating the custom of Christian monks and tried to purify their souls performing supererogatory prayers. These men were used to call Sufis. They renounced the world, avoided earthly pleasure and engaged themselves in rapture, ecstasy and meditation to realize the eternal peace and beauty in lonely deserts and cave of mountains. Since the poetry was the sophisticated mode of



expression of literary attributes in Arabia, therefore Sufis also started to express their mystical taste applying the ornament of Pre-Islamic antique ode with thematic modifications. They composed poetry on the theme of eternal quality of man like renunciation, patience, poverty, reliance, resignation, nature of God, relation between man and God, source of knowledge, Divine Love etc. Among these themes Divine Love is more popular subject in Arabic Sufi poetry.

The love lyric developed under Umayyad was called Udharitheghazal and Umariteghazal. The Udharithite love lyric was actually sung by the infatuated lover roaming behind the earthly beloved. The aim of frustrated lover was to unite with beloved even after death like Layla and Majnun. Their personification of love became a clue for Divine Love to the Sufi poets. They used to take example of love mad layla and Majnun to express their Divine Love.

### **Development of Divine Love**

The ascetic movement headed by Hassan al-Basri (642-728A.D.) opened the way of Sufi poetry; which paved the space of Divine Love in Arabic poetry. The Sufi poets emphasized to preach the religion through poetry more than sermons. The love theme found its main expression in Sufi poetry, in which the relation between God and man and the person searching for His love were symbolically ascribed. Early Sufi poets in Arabic, expressed the soul's deep yearning for union with the Beloved; the ultimate Reality. Later on, Sufi poets used the symbols of wine (God's intoxicating love), the wine cup (the Sufi's heart), and the cup bearer (the spiritual guide) in their poetry. The wine house is the religion of love and it is compared to the religion of law symbolized by the Mosque. Rabi'a al-Adawiya introduced the theme of Divine Love in Sufi poetry. She yearned only for love of God not for hope of reward (Paradise) or fear of punishment (Hell). There are many Sufi poets in Arabic who yearned for love relationship with God that would led them to an intimate experience of God and finally to a total union with Him.

The theory of 'Love and Beauty' is the core concern of Sufi philosophy. Since love is Divine gift, it manifests in man through the Names of Divine attributes. The word 'love' denotes its Arabic word 'حُبٌّ' likewise; 'حَبٌّ' means 'seed'. Both the words derive from the same root. Since the seed is essence of green herbage which cultivates the universe and love is essence of living organism. So, there is analogously relationship between the two and those are acting independently in their own sphere and love acts as an instinct of human essence. Whereas, love requires reciprocal relationship between love and object of love and so, Sufi doctrine of love implies love relationship between God and man.



The Qur'anic verse has witnessed the love relationship between man and God: 'O, Prophet! Say to the people, if you want to love Allah then follow me, Allah will love you' (قُلْ إِنْ كُنْتُمْ تُحِبُّونَ اللَّهَ فَاتَّبِعُونِي يُحْبِبْكُمُ اللَّهُ).<sup>1</sup> The content of the verse provides conditional love. The condition is to follow the Prophet in every step of life, his noble deeds, his sayings, etc. in order to obtain love of God. The mystic philosopher and theologian Ibn 'Arabi says that fundamental factor underlying all Divine manifestations is love and it may easily be assumed that love is the supreme purpose of existence. There is something behind the love, which is beauty. Man loves beauty, because God is beautiful and God's beauty (نور) is the source of all creation.

### Critical Analysis of Divine Love

According to Sufis, "performing of a single worship in love of God is better than thousand fold of prayer performing in fear of punishment. There is a well known Hadith-e-Qudsi: God said, those who seek nearness to Me seek nearness through nothing, I love more than the performance of what I have made incumbent upon them. My servants never cease to seek nearness to Me through supererogatory works until I love him. Then when I love him I am his hearing through which he hears, his sight through which he sees, his hands through which he grasps, and his feet through which he walks. For Ibn 'Arabi, love pervades all beings and holds together. However, much love may differ in its form and expression; it is fundamentally one, for it represents the Divine essence. Since the highest object of man's love is God, that object too is in love. Thus, his formation of love may be defined as 'love loves love'. Some outstanding Sufi poets composed verses on the theme of Divine Love are discussed below:

Malik bin Dinar (d. 745, A.D.), was the son of a Persian slave from Sejestan (kabol) and he became disciple of Hassan-al-Basri. He expressed the esoteric knowledge through poetry, which he learned from his master Hassan. His poetical fragments are suitable in diction like Pre-Islamic lyrical form. His poetry contains the knowledge of Divine Love and Divine Illumination which reflect in the heart of every mystic through which he can ascent towards the Reality. The Divine Illumination may be termed as the ladder reaching to Ultimate Reality or it is a power to realize the one's own self which automatically gives the knowledge of God. Therefore, grace of God may fall in the heart of mystic, thereby he acquires the illumination (baraqa) and the illumination creates a visionary world, in which mystic roams with agitated love and feels intimacy of God, as Malik bin Dinar expressed in the following verse:

ان عرفانى ذى الجلال لعز و ضياء و بهجة و سرور  
و على العارفين أيضا بهاء و عليهم من المحبة نور

The gnosis of the glorified is Honor, Light, Delight and Joy.

The Gnostics, too are enshrouded with beauty

The light of love falls on them.<sup>ii</sup>

The above quoted verses of Malik bin Dinar are substantive proof of mystical principles of Divine Love and doctrine of gnosis. Whenever a Gnostic realizes God, every mercy and love of God reveals in his heart through manifestation of the attributes of God and then it become all sources of joy and pleasure for the mystic who renounced the worldly pleasure.

The early mystic poets of Islam interpreted deep yearning of their souls in order to make it pure and clean. They avoided the sinful acts, worldly pleasure and fixed their attention in God. They acquired some necessary qualities like satisfaction, piety, poverty, patience, resignation, and so on and they expressed the taste of these qualities through poetry. But Rabi'a al-Basri (717-801 A.D.) is the first and foremost mystic who introduced the theme of Divine Love in Arabic poetry. She lived in love to God and thereby she freed herself from other anxieties. Love is the only weapon to union with God, which is not covered by logic or intellect. Because, love is super logical; and it exposes reality in various forms in the emotional environment of the mind of lover. She did not serve God for fear of hell or for hope of paradise; rather she served God only for His love. As she recited eloquent lyrical verse alleging two kinds of love flaming in his heart—

أحبك حبين: حب الهوى      و حبا لانك أهل لذاكا  
فأما الذى هو حب الهوى      فشغلى بذكرك عن سواكا

I have loved with two loves: A selfish love and a love worthy of Thee,

In Your remembrance to the exclusion of others,

As for the love which is selfish, I am absorbed therein<sup>iii</sup>

Abd al-Wahid bin Zayd prefers the word 'Ishq' and 'shawq' to express the Divine Love, whereas Rabi'a al-Basri uses the words 'Mohabbat' and 'Hobb'. The above quoted verses imply the two kinds of love. One is selfish love which means the love for only God and excludes the others and another kind of love which is invoked by His beauty and Majesty and which is unveiled for her. The phenomenal world is doubled in nature having its opposite direction. There are being and non-being, good and evil, real and unreal etc. As for concerning the being, this is derived from Him, who is real and eternal existence. But so long the phenomenal states of being continue the element of non-being holds it back. Union with God is possible only after death of body. Nevertheless, it is possible in a certain scale in this phenomenal world too by love and devotion. So, love alone can win back to the soul of man its Divine source to reunion with the Ultimate Reality.



The poetess says that religion of love is more sublime than any other religion, which has no limit. Her love may rationalize by taking example of Udhari poet like Majnun and Layla. Her doctrine of love in Sufi poetry literature became an interesting theme for Sufi poets of next generation. Love is universal will which is considered to be the intermediary link between God and man. Therefore, Rabi'a also existed by dint of love, lived in love and submitted to love for reunion with Beloved.

Love is immortal and it doesn't die with the dying of body. It attached with the soul. Dhu-l-Nun al-Misri (796-854 A.D.) loved the only God and wanted to love Him even after death of his body. He expressed the anguish of love in more passionate language using strict rhyme and measure. The poet describes his incessant love to God stating that his love relationship with God will never ceases, because after his death his love will remain continue and he wanted to become immortal even after his death, so that he may reside continue with everlasting God.

Divine Love may be called a taste of mind and food of soul. Whoever has tasted it, he becomes immortal and lives an everlasting life union with God, which Dhu-l-Nun expressed in the poem "That Taste" and its English version done by Dr. Javad NoorBaksh as follows:

He who tasted the everlasting love  
shall be the sincere friend to all the slaves  
He who tasted the everlasting love  
shall be little himself to all the slaves  
He who tasted the everlasting love  
shall be the solace on the path of the slaves  
He who tasted the everlasting love  
shall be intimated with the lord of the slaves.<sup>iv</sup>

The above quoted poem contains the theme of Divine Love, which is existing in the heart of creature and it subsists relationship between man and God but one who realizes Divine Love and tastes it, leaves the worldly pleasure, chooses the path of Sufis, considers himself fellow creature, forgets all relationships and lives in the remembrance of God only for sack of His everlasting love. Thus, love makes bridge of relationship between man and God. Now, it may be said that love is Divine gift; which is attached to the soul from the very date of creation. It need not be learn from man. Its nature is spontaneous and inherent. Thus, the Sufis try to recover the Divine quality of soul, what had lost, through emotional love. The love thus symbolizes, is the emotional element in religion, the rapture of the seer, the courage of the martyr, the faith of the saint, the only basis of moral perfection and key to spiritual knowledge. Practically, it is self renunciation and self sacrifice, the giving up of all possessions; like wealth,

honor, will, life and whatever else men-value for the sack of Beloved without any hope of reward.

The intoxicated votary of Sufism Mansur al-Hallaj (858-922 A.D.) was the exponent of love school. His Diwan of Arabic mystical Poetry is consisting of many voluminous poems dealing with elements of Divine Love. He confidently describes the yearning of soul for beloved in his poem. Rabi'a's love lyric is distinct from al-Hallaj. Rabi'a loved God considering that God is other than a being, who created her; but Hallaj interpreted as, loving God who is identical with him. Mystics roam in the Garden of wisdom with agitated love and enjoy colorful imaginations, dreams and visions and lose their consciousness in the consciousness of God. The ecstasy (نشوة) of love wipes out the distinction between the creator, creature and the created one. In the supreme mystical state, Hallaj is convinced of his essential identity with the Ultimate Being:

انا من اهوى و من اهوى انا      نحن روحان حللنا بدنا  
فاذا ابصرتنى ابصرته      و اذا ابصرته ابصرتنا

I am He whom I love, and He whom I love is I

We are two spirits dwelling in one body.

If thou seest me, thou seest Him.

And thou seest Him, thou seest us both.<sup>v</sup>

The above quoted poem of Hallaj placed him as a perfect intoxicated votary of Sufi poetry. The state of union with his Beloved keeps no difference between his love and the loved one as if, both the same entity breathing by same heart. In actual sense, the poet aims to express the taste of his love, in which state revelation of Divine name 'wadud' (ودود) fully manifested in his heart and his heart is completely illuminated by such love. In such state, the poet disappears himself in the love for Beloved like the water mingled in pure wine.

Shibli elucidated the difference of mystical experience between him and Hallaj by reciting the following quatrain:

باح مجنون عامر بهواه      و كتمت الهوى ففرت بوجدى  
واذا كان فى القيامة نودى      اين اهل الهوى؟ تقدمت الوجدى

Majnoon of 'Amar declared his love While,

I concealed my passion and thus succeeded to attain the state of ecstasy.

Only I shall step forward when they call

For the lovers, on the Day of Judgment.<sup>vi</sup>

The main theme of the above poem is that the taste of concealed love is sweeter than formal love. Shibli concealed his love from common people. But Mansural-Hallaj stated that hidden love is like the useless fire hidden in the stone, reciting the mind blowing poem below:

الحب ما دام مكتوما على خطر      وغاية الامن ان تندو من الحذر

و اطيب الحب ما نم الحديث به كالنار لا تأت نفعاً و هي في الحجر

Hidden love is always in danger.

Greatest peace comes from approaching what one fears!

Hidden love which is spoken of

Is like the useless fire hidden in stone.<sup>vii</sup>

Love burns the heart like the burning of raw wood in fire. When one end of raw wood is placed in the fire and the water absorbed in the raw wood comes out from the other end. It is a process to digest the raw wood in fire. Likewise, Divine Love burns the heart and tears come out from eyes and it is the process to digest the Divine Love in heart. Shibli's poetry contains the theme of extreme ecstasy seized to him, in which he used to enjoy the colorful visions of Divinity.

Ibn al-Farid's (1181-1235 A.D.) famous ode 'Khamriyya' is a masterly analysis of poet's deep yearning of soul. Wine was used to denote the meaning of Divine Love. On the other hand, Sufi poets used wine as a symbol to signify their ecstasy of Divine Love in reference to the earthly love for comprehension to the common reader as secular poetry. Long before Farid, there were Sufi poets like Hallaj, Shibli, Jilani and Shahrzuri also sang wine poems to express their mystical feelings. But Farid enriched the wine poem using it as a symbol for expressing spiritual flaming. This lively poem is glowing with all the charms of lyrical poem, having dual themes. While he recited, it is difficult to surmise whether he is talking to earthly beloved or Divine Beloved, as he recites—

شربنا على ذكر الحبيب مدامة سكرنا بها من قبل ان يخلق الكرم  
لها البدر كأس وهي شمس يديرها هلال وكم يبدو اذا مزجت نجم

In the memory of the Beloved we quaffed a vintage that made us drunk before the creation of the vine.

Its cup is the full moon; itself a sun which a new moon caused to circle.

When it is mingled (with water), how many stares appear.<sup>viii</sup>

The poet did not start with the theme, used by traditional poet of the past. Rather, he directly begins with the main subject. The poet and his companion who followed the mystical path were drunken by wine (Divine Love) before creation of vine (body). The wine symbolically used for love of God, which is absorbed in the heart of mystic. In the first verse, the poet aims to interpret his mystical philosophy that before the detention of soul in body, it was in the knowledge of God (first intelligence). When God made Adam out of mud and breathe His spirit into him; and thus soul is a part of first intelligence or it may be called universal being or it was in the eternal memory of God. Perhaps, for this reason Allah says in the Holy Qur'an— *لقد خلقنا الانسان في احسان تقويم* (certainly we have created man in excellent image, Sura: Teen). Perhaps for this reason, there is no similarity of facial shape even between two persons among millions of people.

A considerable number of poems contain in the Diwan of Ibn ‘Arabi (1165-1240 A.D.) on the theme of love relationship between man and God. He states that the fundamental point of all religion is worship of God, whatever may be the form of prayer; it is not the matter of concern. In order to perform worship, there must produce love for the object of worship and that object is God. As he says-

وَحَقُّ الْهَوَىٰ أَنْ الْهَوَىٰ سَبَبُ الْهَوَىٰ  
وَلَوْلَا الْهَوَىٰ فِي الْقَلْبِ مَا عَبَدَ الْهَوَىٰ

Truth of love is that love is the cause of all love,

If there would not have been love in the heart,

would not have worshiped the love i.e. God.<sup>ix</sup>

Here, the poet expresses his anguish of reciprocal love in term of fine lyrical art. The poet induces to invoke that love is intermediary link between man and God; till love exists relation also exists. Due to love, lover forgets his existence; and lives in the existence of beloved. State of passionate love is the supreme state of love phenomena, which the poet tries to rationalize through earthly love of Majnun and Layla. Since the poet is lover of God, he forgets even his own existence, while he remembers his beloved and remains constant in the stat of remembrance, which state is infallible state; in which he receives the response of his love and enjoys every refreshment in his soul, as if lover, love and beloved are one entity.

### **Conclusion**

It has been understood from the poetry of Sufi poets that their use of subtleties of linguistic expression of Divine Love is so appropriate and awe-inspiring that as if, it is itself a guide for the readers towards mystical reality. Their symbolic poems contain the most esoteric knowledge of Sufi theophany. The knowledge of some ultimate visions, the beautiful vision can better be expressed through symbols than ordinary language. Sufis believe that Divine quality of soul which has lost due to eating of forbidden fruit, may regain even in this world through realization of Divine Love. Thus, Arabic Sufi poetry became a vehicle for transmitting the sense of integrity, fraternity, secularism and universalization of love and understanding throughout the world. In this respect, Ibn‘Arabi is more perfect visionary artist; who was capable to represent the vision of Hidden Treasure, vision of mystical reality of the universe and vision of Divine Love more clearly than other Sufis in order to provide self consciousness and common awareness to the mankind.



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## EVALUATION OF PHYSICAL EXERCISE, YOGIC EXERCISE AND COMBINATION OF PHYSICAL AND YOGIC EXERCISE ON NON-INSULIN DEPENDENT DIABETES MELLITUS (NIDDM) PATIENTS

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### **Abstract:**

Asana is a very ancient practice of yoga. It plays an important role in every find of yoga sadana. "Asanas" in Sanskrit means posture. To achieve the purpose of the study sixty NIDDM patients were randomly selected as subjects from Sivaram Siddha Medical College & Hospital OPD in Salem district and their age ranged between 30 and 50 years. They were randomly divided into 4 groups of fifteen each, in which Group I underwent physical exercise training, Group II Yogic training, Group III Combination of Physical and Yoga training and Group IV acted as control Group. In the present study the following factors were selected as variables physical variables grip strength and flexibility Physiological variables, systolic blood pressure and diastolic blood pressure. Combination of physical exercise and yogic exercise produced a significant development on grip strength, flexibility, diastolic blood pressure, better than the physical exercise and yogic exercise did, except systolic blood pressure. Physical exercise produced a significant development on grip strength, resting diastolic blood pressure, better than the yogic exercise did, except flexibility and resting systolic blood pressure. Yogic exercise programme improved flexibility better than the physical exercise programme could. The yogic exercise programme improved resting systolic blood pressure better than the physical exercise and combination of physical exercise and yogic exercise could. Combination of physical exercise and yogic exercise programme improved resting systolic blood pressure better than physical exercise programme could.

**Keywords:** Grip Strength, Flexibility, Systolic Blood Pressure, Diastolic Blood Pressure

### **Introduction**

Physical inactivity is considered more dangerous than Physical activity. When life has become convenient beyond our wildest dreams, when physical exertion threatens to become absolute, we pay more attention to our television sets, dish washers, washing machines, vacuum cleaners and other



machines. People in our country, the young and the old, do not get enough exercise. Modern society is steadily drifting away from the habit of physical work. Most of our work is done by a machine or a computer and a person has to simply sit and watch the work done by them. Inactive people are more likely to add more weight, become obese and develop impaired cardiac function. They have poorer tolerance of physical and mental stress and they are less able to cope with illness and injury. Moreover, inactivity accelerates the process of ageing. The changing trend in lifestyle, industrialization, automation, mechanization and above all the concentration on speed, all these take men to obesity. Growing old is inevitable, but growing old youthfully becomes possible only when we keep our body supple, strong and fit.

### **Physical Fitness**

Fitness is a gift of life. Maintaining of good physical fitness is a gift in present life. But today's life with various miserable factors, everyman has to overcome them. A person who is considered to be completely fit means that he is able to meet any situation irrespective of occupation and activity etc. Fitness is affected due to various reasons such as no proper medical care, no preventive measure, bad health habits and non-availability of good nutritional food. Barrow has stated that "Fitness include the mental, emotional, social as well as the physical aspects and all these components of total fitness play a significant role for a full and happy life. Physical fitness is one's highest possession and it is a pathway to lead healthful living. It has to be earned through a daily routine of physical exercises".

Full name of this physical disorder consists of two words 'Diabetes' and 'Mellitus'. The word (or term) 'Diabetes', which owes its origin to Unani language, means 'That which comes out or that which flows' and the term 'Mellitus' (a word of Latin origin) means 'sugar' or 'honey'. Hence, the term 'Diabetes Mellitus' means flow of sugar. In Siddha the term 'Madhumeha' means 'Rain of honey' where 'honey' stands for 'Sugar'. Hence, Diabetes Mellitus and 'Madhumeha' are synonyms and they convey the same sense. The urine is loaded with excessive content of sugar and the urinary flow, irrespective of the quantity passed in 24 hours, is also on the higher side and it may be called diabetic origin. When the body fails to utilize the released quantity of sugar, it spills over in to the blood stream and renders the blood laden with sugar. When blood fails to absorb sugar, the excessive quantity passes on to kidneys and loads the urine with sugar.

Asana is a very ancient practice of yoga. It plays an important role in every form of yoga sadana. "Asanas" in Sanskrit means posture. The term asana can be defined on the basis of the criteria of 'stability' and 'comfort'. Asanas form a major part of what is known as the system of the yogic

physical culture. Asana means a state of being in which one can remain steady calm, quiet and comfortable both physically and mentally.

**Methods and materials**

To achieve the purpose of the study sixty NIDDM patient were randomly selected as subjects from Sivaraj Siddha Medical College & Hospital OPD in the Salem district and their age ranged between 30 and 50 years. They were randomly divided into 4 groups of fifteen each, in which Group I underwent physical exercise training, Group II Yogic training, Group III Combination of Physical and Yoga training and Group IV acted as control Group. The subjects in control group were not engaged in any activity other than their regular curriculum i.e. conventional exercise during this training period. The subjects were free to withdraw their consent in case of feeling any discomfort during the period of their participation but there was no drop out during the study.

**SELECTION OF VARIABLES**

In the present study the following factors were selected as variables.

**TABLE-1**

Physical Variables		
S.No	Variables	Test
1	Grip Strength	Grip dynamometer
2	Flexibility	Sit and reach test
Psychological Variables		
1	Systolic Blood Pressure	Sphygmomanometer
2	Diastolic Blood Pressure	Sphygmomanometer

**STATISTICAL PROCEDURE**

The data collected from the four groups namely Physical exercise group, yogic Group, combined physical exercise and yogic Group and Control Group on selected physical physiological and bio chemical variables were statistically analyzed to determine the significant difference, if any, applying analysis of covariance (ANACOVA).

**TABLE - 2**

**ANALYSIS OF COVARIANCE FOR THE DATA ON GRIP STRENGTH OF PHYSICAL EXERCISE GROUP, YOGA GROUP, COMBINATION OF PHYSICAL EXERCISE AND YOGIC EXERCISE GROUP**

Test	PEG	YG	COM. G	CG	SV	Df	SS	MS	F Ratio
Pre-test Mean	35.60	36.73	34.20	35.60	B.G	3	48.40	16.13	0.78
					W.G	56	1160.53	20.72	
Post –test mean	37.20	38.20	36.47	35.27	B.G	3	68.72	22.91	0.94
					W.G	56	1361.47	24.31	
Adjusted Mean	37.13	36.97	37.83	35.20	B.G	3	56.23	18.74	7.11*
					W.G	55	144.94	2.64	



\*= Significant at 0.05 level BG=Between Groups WG=With in Groups
PEG: Physical Exercise Group, YG: Yoga Group, COM.G: Combination group,
CG: Control Group, SV: Source of variance, DF: degrees of freedom, SS: Sum of Square, MS: Mean Square

Table- 2 shows that the pre-test means on grip strength of physical exercise group, yogic exercise group, combination of physical exercise and yogic exercise group and control group are 35.60, 36.73, 34.20 and 35.60 respectively and the obtained F ratio is 0.78. Since the obtained F ratio of 0.78 for pre-test means on grip strength is lesser than the required table value of 2.77, it is found to be insignificant at 0.05 level of confidence for 3 and 56 degrees of freedom. The post-test means on grip strength of physical exercise group, yogic exercise group, combination of physical exercise and yogic exercise group and control group are 37.20, 38.20, 36.47 and 35.27 respectively and the obtained F ratio is 0.94. Since the obtained F ratio of 0.94 for post-test means on grip strength is lesser than the required table value of 2.77, it is found to be insignificant at 0.05 level of confidence for 3 and 56 degrees of freedom. The adjusted post-test means on grip strength of physical exercise group, yogic exercise group, combination of physical exercise and yogic exercise group and control group are 37.13, 36.97, 37.83 and 35.20 respectively and the obtained F ratio is 7.11. Since the obtained F ratio of 7.11 for adjusted post- test means on grip strength is higher than the required table value of 2.77, it is found to be significant at 0.05 level of confidence for 3 and 55 degrees of freedom.

The results of the study indicate that there is statistically significant difference among the adjusted post-test means of physical exercise group, yogic exercise group, combination of physical exercise and yogic exercise group and the control group on grip strength. Therefore, it may be concluded that there is significant difference among physical exercise group, yogic exercise group, combination of physical exercise and yogic exercise group and the control group on grip strength. To determine which of the paired means had a significant difference, the Scheffe's test was used as a post-hoc test and the results are presented in table- 3

TABLE - 3
SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN THE ADJUSTED POST-TEST PAIRED MEANS OF GRIP STRENGTH

Table with 6 columns: Physical Exercise Group, Yoga Group, Combination Group, Control Group, Mean Difference, Confidence interval. Row 1: 37.13, 36.97, -, -, 0.16, 1.69

37.13	-	37.83	-	0.70	<b>1.69</b>
37.13	-	-	35.20	1.93*	<b>1.69</b>
-	36.97	37.83	-	0.86	<b>1.69</b>
-	36.97	-	35.20	1.77*	<b>1.69</b>
-	-	37.83	35.20	2.63*	<b>1.69</b>

\*= Significant at 0.05 level

Table 3 shows that the adjusted post-test mean differences on grip strength between physical exercise group and yogic exercise group, physical exercise group and combination of physical exercise and yogic exercise group, and yogic exercise group and combination of physical exercise and yogic exercise group are 0.16, 0.70 and 0.86 respectively, which are lesser than the confidence interval value of 1.69 for insignificance at 0.05 level of confidence for 3 and 55 degrees of freedom. It also shows that the adjusted post-test mean differences on grip strength between physical exercise group and control group, yogic exercise group and control group, and combination of physical exercise and yogic exercise group and the control group are 1.93, 1.77 and 2.63 respectively, which are higher than the confidence interval value of 1.69 for significance at 0.05 level of confidence for 3 and 55 degrees of freedom.

The mean values of physical exercise group, yogic exercise group, combination of physical exercise and yogic exercise group and control group on grip strength are graphically represented in figure-4

**TABLE -4**  
**ANALYSIS OF COVARIANCE FOR THE DATA ON FLEXIBILITY OF PHYSICAL EXERCISE GROUP, YOGA GROUP, COMBINATION OF PHYSICAL EXERCISE AND YOGIC EXERCISE GROUP AND CONTROL GROUP**

Test	PEG	YG	COM . G	CG	SV	Df	SS	MS	F Ratio
Pre-test Mean	13.67	12.87	12.80	13.93	B.G	3	14.58	4.86	<b>0.80</b>
					W. G	56	342.90	6.11	
Post –test mean	15.63	15.33	15.93	14.27	B.G	3	21.40	7.13	<b>1.14</b>
					W. G	56	336.93	6.02	
Adjusted Mean	14.81	15.75	16.42	13.69	B.G	3	60.75	20.25	<b>28.57*</b>
					W. G	55	38.99	0.11	

\*= Significant at 0.05 level B.G=Between Groups W.G=With in Group

Table -4 shows that the pre-test means on flexibility of physical exercise group, yogic exercise group, combination of physical exercise and yogic exercise group and control group are 13.67, 12.87, 12.80 and 13.93 respectively and the obtained F ratio is 0.80. Since the obtained F ratio of 0.80 for pretest means on flexibility is lesser than the required table value of 2.77, it is found to be insignificant at 0.05 level of confidence for 3 and 56 degrees of freedom. The post-test means on flexibility of physical exercise group, yogic exercise group, combination of physical exercise and yogic exercise group and control group are 15.13, 15.33, 15.93 and 14.27 respectively and the obtained F ratio is 1.19. Since the obtained F ratio of 1.19 for posttest means on flexibility is lesser than the required table value of 2.77, it is found to be insignificant at 0.05 level of confidence for 3 and 56 degrees of freedom. The adjusted post-test means on flexibility of physical exercise group, yogic exercise group, combination of physical exercise and yogic exercise group and control group are 14.81, 15.75, 16.42 and 13.69 respectively and the obtained F ratio is 28.57. Since the obtained F ratio of 28.57 for adjusted posttest means on flexibility is higher than the required table value of 2.77, it is found to be significant at 0.05 level of confidence for 3 and 55 degrees of freedom.

The results of the study indicate that there is statistically significant difference among the adjusted post-test means of physical exercise group, yogic exercise group, combination of physical exercise and yogic exercise group and the control group on flexibility. Therefore, it may be concluded that there is significant difference among physical exercise group, yogic exercise group, combination of physical exercise and yogic exercise group and the control group on flexibility. To determine which of the paired means had a significant difference, the Scheffe's test was used as a post-hoc test and the results are presented in table-4.1

**TABLE -4.1**  
**SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN THE**  
**ADJUSTED POST-TEST PAIRED MEANS OF FLEXIBILITY**

Physical Exercise Group	Yoga Group	Combination Group	Control Group	Mean Difference	Confidence interval
14.81	15.75	-	-	0.95*	<b>0.87</b>
14.81	-	16.42	-	1.61*	<b>0.87</b>
14.81	-	-	13.69	1.12*	<b>0.87</b>
-	15.75	16.42	-	0.66	<b>0.87</b>
-	15.75	-	13.69	2.06*	<b>0.87</b>
-	-	16.42	13.69	2.72*	<b>0.87</b>

\*= Significant at 0.05 level

Table 4.1 shows that the adjusted post-test mean differences on flexibility between yogic exercise group and combination of physical exercise and yogic exercise group is 0.66 respectively, which is lesser than the confidence interval value of 0.87 for insignificance at 0.05 level of confidence for 3 and 55 degrees of freedom .It also shows that the adjusted post-test mean differences on flexibility between physical exercise group and yogic exercise group, physical exercise group and combination of physical exercise and yogic exercise group, physical exercise group and control group, yogic exercise group and control group, and combination of physical exercise and yogic exercise group and control group are 0.95, 1.61, 1.12, 2.06 and 2.72 respectively, which are higher than the confidence interval value of 0.87 for significance at 0.05 level of confidence for 3 and 55 degrees of freedom.

**TABLE -4.2**  
**ANALYSIS OF COVARIANCE FOR THE DATA ON**  
**SYSTOLIC BLOOD PRESSURE OF PHYSICAL EXERCISE GROUP,**  
**YOGA GROUP, COMBINATION OF PHYSICAL EXERCISE AND**  
**YOGIC EXERCISE GROUP AND CONTROL GROUP**

Test	PEG	YG	COM. G	CG	SV	df	SS	MS	F Ratio
Pre-test Mean	147.33	140.13	149.60	140.93	B.G	3	987.40	329.13	1.05
					W.G	56	17481.6	312.17	
Post – test mean	136.53	128.53	136.27	142.40	B.G	3	1455.73	485.24	1.95
					W.G	56	13960.0	249.29	
Adjusted Mean	134.54	131.60	132.69	144.90	B.G	3	1662.23	554.08	5.70*
					W.G	55	5344.74	97.18	

The table value for Significance at 0.05 Level with (3, 56) and (3, 55) is 2.77

Table -4.2 shows that the pre-test means on resting systolic blood pressure of physical exercise group, yogic exercise group, combination of physical exercise and yogic exercise group and control group are 147.33, 140.13 149.60 and 140.93 respectively and the obtained F ratio is 1.05. Since the obtained F ratio of 1.05 for pre-test means on resting systolic blood pressure is lesser than the required table value of 2.77, it is found to be insignificant at 0.05 level of confidence for 3 and 56 degrees of freedom. The post-test means on resting systolic blood pressure of physical exercise group, yogic exercise group, combination of physical exercise and yogic exercise group and control group are 136.53, 128.53, 136.27 and 142.40 respectively and the obtained F ratio is 1.95. Since the obtained F ratio of 1.95 for posttest means on resting systolic blood pressure is lesser than the required table value of 2.77, it is found to be insignificant at 0.05 level of confidence for 3 and 56

degrees of freedom. The adjusted post-test means on resting systolic blood pressure of physical exercise group, yogic exercise group, combination of physical exercise and yogic exercise group and control group are 134.54, 131.60, 132.69 and 144.90 respectively and the obtained F ratio is 5.70. Since the obtained F ratio of 5.70 for adjusted post-test means on resting systolic blood pressure is higher than the required table value of 2.77, it is found to be significant at 0.05 level of confidence for 3 and 55 degrees of freedom.

The results of the study indicate that there is statistically significant difference among the adjusted post-test means of physical exercise group, yogic exercise group, combination of physical exercise and yogic exercise group and the control group on resting systolic blood pressure. Therefore, it may be concluded that there is significant difference among physical exercise group, yogic exercise group, combination of physical exercise and yogic exercise group and the control group on resting systolic blood pressure.

To determine which of the paired means had a significant difference, the Scheffe's test was used as a post-hoc test and the results are presented in table-4.3

**TABLE- 4. 3**  
**SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN THE ADJUSTED POST TEST MEANS OF SYSTOLIC BLOOD PRESSURE**

Physical Exercise Group	Yoga Group	Combination Group	Control Group	Mean Difference	Confidence interval
134.54	131.60	-	-	2.95	10.24
134.54	-	132.69	-	1.86	10.24
134.54	-	-	144.90	10.36*	10.24
-	131.60	132.69	-	1.09	10.24
-	131.60	-	144.90	13.31*	10.24
-	-	132.69	144.90	12.22*	10.24

\*= Significant at 0.05 level

Table 4.3 shows that the adjusted post-test mean differences on resting systolic blood pressure between physical exercise group and yogic exercise group, physical exercise group and combination of physical exercise and yogic exercise group and combination of physical exercise and yogic exercise group are 2.95, 1.86 and 1.09 respectively, which are lesser than the confidence interval value of 10.24 for insignificance at 0.05 level of confidence for 3 and 55 degrees of freedom .It also shows that the adjusted post-test mean differences on resting systolic blood pressure between physical exercise group and control group, yogic exercise group and control group and combination of physical exercise and yogic exercise group and control group are 10.36, 1331 and 12.22 respectively, which are higher than the confidence interval value of 10.24 for significance at 0.05 level of confidence for 3 and 55 degrees of freedom.

**TABLE-4.4**  
**ANALYSIS OF COVARIANCE FOR THE DATA ON DIASTOLIC BLOOD PRESSURE OF PHYSICAL EXERCISE GROUP, YOGA GROUP, COMBINATION OF PHYSICAL EXERCISE AND YOGIC EXERCISE GROUP AND CONTROL GROUP**

Test	PEG	YG	COM. G	CG	SV	Df	SS	MS	F Ratio
Pre-test Mean	96.93	94.40	97.60	90.53	B.G	3	461.07	153.69	1.58
					W.G	56	5453.87	97.39	
Post –test mean	88.93	88.67	85.33	92.53	B.G	3	389.60	129.87	2.04
					W.G	56	3565.33	63.67	
Adjusted Mean	87.60	88.97	83.57	95.33	B.G	3	994.88	331.63	14.14*
					W.G	55	1290.03	23.46	

The table value for Significance at 0.05 Level with (3, 56) and (3, 55) is 2.77

Table -4.4 shows that the pre-test means on resting diastolic blood pressure of physical exercise group, yogic exercise group, combination of physical exercise and yogic exercise group and control group are 96.93, 94.40, 97.60 and 90.53 respectively and the obtained F ratio is 1.58. Since the obtained F ratio of 1.58 for pretest means on resting diastolic blood pressure is lesser than the required table value of 2.77, it is found to be insignificant at 0.05 level of confidence for 3 and 56 degrees of freedom. The post-test means on resting diastolic blood pressure of physical exercise group, yogic exercise group, combination of physical exercise and yogic exercise group and control group are 88.93, 88.67, 85.33 and 92.53 respectively and the obtained F ratio is 2.04. Since the obtained F ratio of 2.04 for post-test means on resting diastolic blood pressure is lesser than the required table value of 2.77, it is found to be insignificant at 0.05 level of confidence for 3 and 56 degrees of freedom. The adjusted post-test means on resting diastolic blood pressure of physical exercise group, yogic exercise group, combination of physical exercise and yogic exercise group and control group are 87.60, 88.97, 83.57 and 95.33 respectively and the obtained F ratio is 14.14. Since the obtained F ratio of 14.14 for adjusted post-test means on resting diastolic blood pressure is higher than the required table value of 2.77, it is found to be significant at 0.05 level of confidence for 3 and 55 degrees of freedom.

The results of the study indicate that there is statistically significant difference among the adjusted post-test means of physical exercise group, yogic exercise group, combination of physical exercise and yogic exercise group and the control group on resting diastolic blood pressure. Therefore, it

may be concluded that there is significant difference among physical exercise group, yogic exercise group, combination of physical exercise and yogic exercise group and the control group on resting diastolic blood pressure.

To determine which of the paired means had a significant difference, the Scheffe's test was used as a post-hoc test and the results are presented in table-4.5

**TABLE 4.5**  
**SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN THE**  
**ADJUSTED POST TEST MEANS OF RESTING DIASTOLIC**  
**BLOOD PRESSURE**

Physical Exercise Group	Yoga Group	Combination Group	Control Group	Mean Difference	Confidence interval
87.60	88.97	-	-	1.37	5.03
87.60	-	83.57	-	4.03	5.03
87.60	-	-	95.33	7.73*	5.03
-	88.97	83.57	-	5.40*	5.03
-	88.97	-	95.33	6.36*	5.03
-	-	83.57	95.33	11.76*	5.03

\*= Significant at 0.05 level

Table 4.5 shows that the adjusted post-test mean differences on resting diastolic blood pressure between physical exercise group and yogic exercise group, physical exercise group and combination of physical exercise and yogic exercise group are 1.37 and 4.03 respectively, which are lesser than the confidence interval value of 5.03 for insignificance at 0.05 level of confidence for 3 and 55 degrees of freedom. It also shows that the adjusted post-test mean differences on resting diastolic blood pressure between physical exercise group and control group, yogic exercise group and combination of physical exercise and yogic exercise group, yogic exercise group and control group and combination of physical exercise and yogic exercise group and control group are 7.73, 5.40, 6.36 and 11.76 respectively, which are higher than the confidence interval value of 5.03 for significance at 0.05 level of confidence for 3 and 55 degrees of freedom.

## **DISCUSSION ON FINDINGS**

The current study examined the effects on selected physical and physiological variables due to physical exercise, yogic exercise and combination of physical exercise and yogic exercise on diabetic persons. In combination training the combined effect of physical exercise and yogic exercise only produces the larger benefit than physical exercise alone and yogic exercise alone. Because the combination of adequate intensity of physical exercise and selected yogic asanas, increase progressively double positive work load i.e. additional treatment for specific improvement in



individual diabetic person. This is in agreement with the study of Sahay BK and Sahay RK (2002) who conducted a study on Exercise includes yoga practices which have a role to play in the prevention of type 2 diabetes(NIDDM). So combination of physical exercise and yogic exercise programme is more effective than the physical exercise alone and yogic exercise alone in improving the selected physical, physiological and bio chemical variables of diabetic persons. It is inferred from the above literature and from the results of the present study that the physical exercise, yogic exercise and combination of physical exercise and yogic exercise have greater influence on the selected physical, physiological and bio chemical variables of the NIDDM patients.

### Conclusions

Based on the results of the study the following conclusions were drawn.

1. Combination of physical exercise and yogic exercise produced a significant development on grip strength, flexibility, resting heart rate, resting diastolic blood pressure, better than the physical exercise and yogic exercise did, except resting systolic blood pressure.
2. Physical exercise produced a significant development on grip strength, resting heart rate, resting diastolic blood pressure, better than the yogic exercise did, except flexibility and resting systolic blood pressure.
3. Yogic exercise programme improved flexibility better than the physical exercise programme could.
4. The yogic exercise programme improved resting systolic blood pressure better than the physical exercise and combination of physical exercise and yogic exercise could.
5. Combination of physical exercise and yogic exercise programme improved resting systolic blood pressure better than physical exercise programme could.

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## ROLE OF SELF-HELP GROUP IN EMPOWERING WOMEN IN ASSAM: AN OVERVIEW

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### Abstract

Women empowerment is possible when women and girls have the power to act freely, to exercise their rights, to be equal members of society. Women empowerment matters because it is not add on to development but it is the core of development for nations, for families. Women empowerment is empowering the women to take their own decisions for their personal development. Women play a vital role in making our world a better place. Empowering women is to make them independent in all aspects from minds, thought, rights, decisions etc. Women create life...but still without right. In order to make the country fully developed country, women empowerment is an essential tool to get the goal of development. Once woman is on the move, the family moves, the village moves, the nation moves. Women empowerment help women to stand on their own legs, become independent and also to earn for their family which grows country's economy. The idea and practice of self help group has developed worldwide as a major social phenomenon for poverty alleviation and empowerment. Mainly self help groups helps in empowering women by providing easy access to credits .This paper tries to look at how self help group contribute to the process of socio-economic empowerment of women. Undoubtedly self help groups have played a significant role to provide women their rightful place in the society.

**Keywords:** Empowerment, Women, Self Help Groups, Assam.

### Introduction

The precise etymology of the modern word Assam is ambiguous. In the classical period up to 12<sup>th</sup> century the region east of the "Karatoya River", largely congruent to present day Assam, was called kamrupa andalternatively "pragjyotisha".<sup>1</sup> Assam is a state in northern India, situated south of the eastern Himalayas along the Brahmaputra and Barak river valleys.

Assam covers an area of 78,438km<sup>2</sup> (30,285sq mi). The state is bordered by Bhutan and Arunachal Pradesh to the north, Nagaland and Manipur to the east , Meghalaya , Tripura, Mizoram and Bangladesh to the south, and

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<sup>1</sup>"Prior to the thirteenth century the present region was called Kampura or alternatively, pragjyotisapura, "Lahiri , Nayanjot., pre-Ahom Assam (Delhi 1991)p14



west Bengal to the west via to Siliguri corridor , a 22 kilometres (14 mi) strip of land that connects the state to the rest of India. Assam has population of 3.12 coror, Total population of Assam as per 2011 census is 31,205,576 of which male and female are 15,939,443 and 15,266,133 respectively. The economy of Assam is agrarian in nature. Almost half of the population of Assam earns its living from agricultural sector. Assam is famous for tea production. Assam is also a state which is rich in natural resources like oil and natural gas, coal, rubber, tea, and some minerals like granite, limestone and kaolin.

### **Status of Women in Assam**

Although the constitution of India tries to give all the facilities to women as like man through various articles or through provisions. But in practically we hardly see such equality among men and women. Women are still considers as vulnerable sections of society who not capable of taking their own decisions properly. Another very important aspect of this point is that women themselves are still ignorant about their own rights. Therefore empowering women all over the world becomes a very important motto. The Indian constitution gives equal representation facility to men and women in politics but still women representation in parliament is less.

The position of women in North-eastern region is different from the women that are living in the rest of the world. The state of Indian women report 2001-02 released by union ministry of human resource development revealed that the crime rate against women is even higher then all India average. Crime against women in Assam includes rape, molestation, and sexual harassment, dowry deaths, trafficking, and domestic violent. There are various indicators that reflect the status of women. In case of education of women are still in less number then men in Assam. The current literacy rate of Assam is 73.18. According to 2011 census data male literacy rate in Assam is 78.81 while the female literacy rate is 67.27. Another indicator that reflects the status of women is the sex ratio. Total population of Assam as per 2011 census is 31,205,576 of which male and female are 15,939,443 and 15,266,133 respectively. Sex ratio reflects whether women of Assam are able to enjoy the right to survival or not. It is because of the blind faith among the people that are still continuing in case of girl child.<sup>2</sup>There are various data which shows how through the sexdestruction of baby girl is going on. Work participation of women is another indicator which helps in realizing the fact how much women of Assam are economically independent. The work participation of women in Assam is considerably lower than that of men. In case of decision making women of

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<sup>2</sup>Census report India 2011



Assam still depends upon their husbands fully. There are few women who are able to make their own choice or decision without depending on others.

### **Formation of Self Help Group in Assam**

Self help group is vehicle of micro finance to unreached and under reached section of rural poor. Self help group are small economically homogenous and affinity group of rural people voluntarily coming together for mutual benefits. It is a method of organising the poor people and the marginalized to come together to solve their individual problem. The concept of self help group comes from Bangladesh and India adopted the model in a modified form. Self help groups are seen as instruments for goals including empowering women, developing leadership abilities among poor and needy people. Many self-help groups especially in India, under NABARD's "SHG Bank linkage" programme, borrow from banks once they have accumulated a base of their own capital. Through self-help groups, the bank can serve small rural depositors while playing them a market rate of interest.<sup>3</sup>

Nayak and Mahanta (2008) made an attempt to analyse on the formation of women SHGs across different geographical regions in Assam. By using secondary data it was revealed that 61% of total self help groups formed from 1999 to 2006 were women self help groups which was reduced to 5.19% during 2006-07 in the state. Percentage of women self help group to total self help groups from 1999 to 2006 was observed to be highest in upper Assam. The study showed that average number of women self-help groups taking up economic activity during 2006-07 was much lower in upper Assam as compared to lower Assam and central Assam. With the increase in literacy rate the percentage of women self groups to total self help groups formed from 1999 up to 2006 was increasing. Their study had found an exceptional case that highest number of self help groups was formed in the low literacy district, Dhuburi.<sup>4</sup> The focus of SHG-bank linkage programme achieved success quickly. Mainly NABARD is taking initiatives to cover self help groups to link with banks.

<sup>4</sup>Nayak, Purusottam and Mahanta, Bidisha(2008). "women Empowerment in Assam : A human development approach." Retrieved August 2013. pp 9-10

### **Objectives**

- To evaluate the impact of SHG's on women.
- To assess socio-economic upletment of women after joining SHG.
- To assess whether the women got empowered by self help group.

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<sup>3</sup>Christen, Robert peck & Srinivasar, N. and Rodger Voorhies (2005) "Managing to go down market: regulated financial institutions and the move into micro saving". Kumarian press. Bloomfield. CT. p.106.

<sup>4</sup>Nayak, Purusottam and Mahanta, Bidisha(2008). "Women Empowerment in Assam: A human development approach." Retrieved August 2013. pp 9-10

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## Methodology Followed

The study is mainly based on secondary data. The paper has been formulated with the help of analytical method. Data are collected from existing literature and data in website, various publications of central and state, books, magazines, newspapers, reports etc.

## Discussion

The self-help group that are found in Dibrugarh have a large number of strengths. Almost 90% of the SHG in Dibrugarh are women centred SHG. The meetings among the members of SHG are held regularly .The primary administrative agency associated with the SHG is the DRDA, Dibrugarh. Studies show that how by joining in a particular SHG women become confident and independent in terms of decision making. After being a member of SHG they have learned to save money from their earnings and they even contribute to their family in times of need. They can become also confident enough to take part in the affairs of rural development. Apart from the strength there are also some weaknesses we see of SHG of Dibrugarh. First of all SHG of Dibrugarh district have been constantly facing problem from their institution. For ex – they often face problem of lack of coordination among the block officials. Illiteracy and ignorance is another weakness of members of SHG of Dibrugarh district.

The kakopathar development block, of Tinsukia district had a total 93,034 female population out of which 25,874(37.5percent) are still illiterate.<sup>5</sup>The low illiteracy rate of women affected in the process of women empowerment through the self-help group.<sup>6</sup>

Dhuburi district has the highest number of 6,020 self-help groups in the state. A large number of women coming out from self help groups to earn their livelihoods.<sup>7</sup>

A study of Goalpara district about the role SHG in women empowerment shows that most of the respondents have approved of the fact that they have joined SHG in order to maintain their household expenditure and support their family economically. In fact about 32 % of the respondents joined in SHG in order to get loans so that they can repay their old debts, generally borrowed by their husbands. Women are rarely associated with SHG for self-development.<sup>8</sup>

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<sup>5</sup>Dutta, Mr. Biraj Dutta and Senapoti, Ms. Bristi,“Economic Empowerment of women Through SHG’s In Dibrugarh District Assam : A Swot Analysis”. Indian journal of commerce and Management studies

<sup>6</sup>Chetia, Ranjit Bikash (2016). “Economic Empowerment of Women Through SHG’s A case study of kakopathar development block of Tinsukia district of Assam” International journal of Recent Scientific Research. 7(4): 10539-10541.

<sup>7</sup>Published in The Telegraph 17.01.05 census report of India 2001

<sup>8</sup>Chetry, Rakesh (2014). “Women in Action: The Role of Shg in women Empowerment in Goalpara District, Assam.” IOSR journal of Economics and Finance. 6(1): 48-53.

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A study on Nagaon district shows that SHG plays a dynamic role in the economic development .It shows that women in Nagaon district are hard workers they are confident enough to take challenges and interested in setting up new business. They become independent and self-reliant through SHG. Women are become self employed.

In sonari development block of Sivsagar district female participation in self help groups is almost 80% and it is favourable atmosphere for development of women empowerment in this place.<sup>9</sup> Self help groups in this blocks are mainly linking with Grameen banks of Kakatibari, Moran, Patsaku and Sepon etc. Under Swarnajyanti gram swarozgar yojana programme, some infrastructural schemes were designed to enhance women self-help groups in different blocks of Sivsagar district.<sup>10</sup>

A study of Jorhat district shows that 78% of SHG contributed Rs.50 per month and the amount was deposited in the banks. SHG of Jorhat district plays a vital role in terms of women entrepreneurship.In this context various entrepreneurial activities undertaken by the members of different SHG which aid in economic security. Majority of the SHG have undertaken weaving as enterprise.<sup>11</sup>

Data that are collected on Role of SHG in Golaghat district shows that most of the women of the SHG are belonged to the age group of 21-40 years. Members of SHG are from employed and unemployed sector. There is increase of their income after joining SHG.<sup>12</sup>

### **Concluding remarks:**

Women experienced poverty to a greater extent than man. Therefore awareness about woman empowerment is become very important issue to discuss. SHG is a important tool to promote rural savings and gainful employment. Unless the women potential is properly developed, no transformation of economic development is possible. Government of India therefore launching various schemes in order to bring awareness among women or to empower women .Through SHG women can put their voice in any platform from family to community at large. Women are able to take their own decisions in rational way. Therefore SHG can consider as silent movement of women empowerment.

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<sup>9</sup>Barman, Prateeksha and Bhattacharjya,(2015) "Role of SHG's in Rural Development of Assam – A study of some SHG's of Kamrup district of Assam". International journal of Humanities and social sciences studies, 1 (6): 109-116

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## AN OVERVIEW OF EDUCATIONAL STARTUPS IN INDIA

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### Abstract

The objectives of a startup are to be one's own boss and to create employment to others which warrants lot of Endurance and sacrifice. The objectives of a startup are to be one's own boss and to create employment to others which warrants lot of endurance and sacrifice. The Government of India (GOI) has introduced a new campaign called '**Startup India, Standup India**' in 2015 to promote Bank Financing for startups and offer incentives to boost entrepreneurship and job creation. It is the precursor to India taking Centre stage in the new world order. Moreover, India declared 2010-20 as the Decade of Innovation. In every sector like retail, hotel industry, medicine, **education**, transportation etc, start-ups emerged like a boom. Few of the leading start-ups in the field of education are BYJUs; Meritnation; CultureAlley; SimpliLearn; Embibe; NayiDiksha; Edukart; Vedantu; Oriyo and Walnut Knowledge solutions etc. This paper delineates the growth and prospects of Startup systems in India with special reference to academic institutions.

**Key words:** Startups; Entrepreneurship; Innovations; Academic Institutions; Leading Startups.

### 1.0 Introduction

Startups have been the flavour of the season over the last few years for the Indian markets (Chandiok, 2016). A Startup is a refined and renewed form of an entrepreneur. It is a juvenile organization that has just started to emerge. It can be new entrepreneurial venture or a new business or a new partnership firm designed to reach for a climbable business model (Dutta, 2016). Startups are nothing but an idea that manifests into a commercial undertaking (Kumar, 2018).

Grant Thornton (2016) define startup business as an organization which is:

- a) Incorporated for three years or less
- a) At a funding stage of Series B or less (B Series means second round of funding)



- b) An entrepreneurial venture/a partnership or a temporary business organization
- c) Engages in development, production or distribution of new products/services or processes
- d) Revenue of up to INR 25 cr.
- e) Not formed through splitting or restructuring
- f) Employing 50 people or less

The Department of Industrial Policy and Promotion (DIPP) define a startup as an entity incorporated or registered in India with following parameters:

- Established not prior to seven years, (for Biotechnology Startups not prior to ten years)
- With annual turnover not exceeding INR 25Cr in any preceding financial year,
- Working towards innovation, development or improvement of products or processes or services, and
- It is a scalable business model with a high potential of employment generation or wealth creation.

Startups, in India as in many other parts of the world, have received increased attention in recent years. Their numbers are on the rise and they are now being widely recognised as important engines for growth and jobs generation. Through innovation and scalable technology, startups can generate impactful solutions, and thereby act as vehicles for socio-economic development and transformation (Korreck, 2019).

### 1.1 Genesis

The Hon.Prime Minister of India, **Shri.NarendraModi** in his Independence day speech introduced a new campaign called '**Startup India, Standup India**' in 2015 to promote Bank Financing for startups and offer incentives to boost entrepreneurship and job creation. It is the precursor to India taking Centre stage in the new world order. Moreover, India declared 2010-20 as the Decade of Innovation.

Basically, Startup India is a flagship initiative of the Government of India, intended a strong eco-system for nurturing innovation and Startups in the country that will drive sustainable economic growth and generate large scale employment opportunities. The Government through this initiative aims to empower Startups to grow through innovation and design. In order to meet the objectives of the initiative, Government of India has announced this Action Plan that addresses all aspects of the Startup ecosystem. With this Action Plan the Government hopes to accelerate spreading of the Startup movement: From digital/ technology sector to a wide array of sectors including agriculture, manufacturing, social sector, healthcare, education, etc.;



and from existing tier 1 cities to tier 2 and tier 3 cities including semi-urban and rural areas. The Action Plan is divided across the areas namely Simplification and Handholding, Funding Support and Incentives, Industry-Academia Partnership and Incubation (Pandey, 2017).

### **1.2 Reasons for setting up Startups**

The salient reasons setting the start-up are as follows:

1) Monetary gains ; 2) Job security; 3) Job creation; 4) Own Band; 5) Be a boss; 6) quality of life; 7) Converting vision to reality; 8) Recognition; 9) Economic independence; 10) Learning different forte; 11) Sharing talent; 12) Establishing dreams; 13) Decision making ;14) Socially involved and 15) socially responsible.

### **1.3 Pillars of Support**

- 1). Self-certification includes labor laws and environment related laws.
- 2). Start-up India hub to exchange knowledge and access to funds.
- 3). Registration through app
- 4). Patent protection
- 5). Rs 10,000 crore fund for four years.
- 6). National Credit Guarantee Trust Company (NCGTC) will be created with a budget of Rs 500 crore per year for the next four years to help the drift of funds to entrepreneurs
- 7). No Capital Gains Tax
- 8). No Income Tax for three years
- 9). Tax exemption for investments of higher value
- 10). Building high class entrepreneurs
- 11). Atal Innovation Mission to revitalize ideas and motivate creative youngsters.
- 12). Setting up incubators
- 13). Research parks in the Indian Institute of Technology campuses and in the Indian Institute of Science campus.
- 14). Entrepreneurship in biotechnology
- 15). Dedicated programs in schools
- 16). Legal reinforce
- 17). Rebate: An exemption value of 80 percent of the total value will be given to the startups on filing the patent applications.
- 18). Easy rules for the entrepreneurs.
- 19). Faster exit



1.4 Various Startup policies and initiatives

Name of the initiative	Impact
Make in India	+ Development of labour intensive manufacturing sector -Violates the theory of competitive advantage.
Standup India	+ Provides refinance window through SIDBI -Loss for banks as it provides lower rate of interest than market rate.
Digital India	+Nation Optic Fiber Network -Small retailers deal only in cash and cannot invest in digital infrastructure
Financial Assistance	+Empower and support the needy people and small businesses -It met only 62% target in 2016-17
Single window online Clearance system	+Reduce time taken by reducing human interference and by increasing transferency. -Less reliable data

1.5 Startups in the field of Education

Educational Startup	Description
<b>BYJU’s: The learning App</b>	<p>Founded in the year 2008 by <b>Mr. ByjuRaveendran</b>, the BYJU app aims to offer training for preparation of different entrance and competitive examinations like CAT, JEE, IAS, GRE, and GMAT. Since then, it had left a mark on the list of suppliers of school curriculum supplemental classes between grades 6 to 12.</p> <p>The Company got in the limelight in September 2016 for making an announcement of raising \$50 million from The Chan Zuckerberg initiative (CZI) and Sequoia Capital along with other investors. In June 2016, the firm was reported to be in profits with revenue which stood at INR 30 crore.</p> <p>The BYJU app aims to discover a unique methodology for increasing the pace of learning among the students by bringing into account the concept of learning through engaging into videos and interactive activities</p>



	<p>for personalized tutoring. As on September 2016, the app crossed the 5 million download watermark, reaching a high of 5.5 million downloads with over 2.5 lakhs paid subscribers.</p>
<p><b>Meritnation: School made easy</b></p>	<p>Launched in the year 2009 by <b>Mr. PavanChauhan</b>, Meritnation is known for making school studies easy for students up to class XII. Meritnation is an online portal for school children and it continues its journey by catering to the learning needs of students in school. It has content aligned and updated to the curriculum of various state boards, ICSE and CBSE. At Meritnation, users have the option to learn through live video lectures and interactive recorded videos. Not only the learning and self-study courses, Meritnation also has a strong focus on conducting regular tests and giving time-bound assignments to check the preparedness of students.</p> <p>With the fresh <b>funding</b> of INR 25 crore from Info Edge (India) Limited, the company has now raised roughly <b>around INR 96.5 crore</b> from different sources. Meritnation is creating a doubt free environment for school students with the help of online videos of tutorials.</p> <p>With over 95 lakhs happy users, as claimed by the company, Meritnation application has been successful in gaining <b>5 million downloads</b> on play store since its inception.</p>
<p><b>CultureAlley – Language Learning</b></p>	<p>Founded by the husband-wife duo of <b>NishantPatni and PranshuBhandari</b>, the website CultureAlley came into existence for those struggling to learn languages. CultureAlley, having its roots in Jaipur is an online educational platform to learn languages.</p> <p>CultureAlley has <b>raised \$6.15 million</b> from Tiger Global Management after being successfully able to raise seed funding from</p>



	<p>several individual investors including Google's RajanAnandan and Sunil Kalra. The HelloEnglish app of CultureAlley, which works offline, is based on a free English course designed exclusively to learn the English language. It not only focuses on reading/writing English but it also focuses on developing a vocabulary of its users. The said app also claims to impart users with 200 lectures in grammar and building conversations.</p> <p>The founders say that learning a new language is no cakewalk. CultureAlleyaims to make the process of adding more languages in your cart more easy and interesting through its different methodology designed with robust research. In a short span of time, it has <b>earned</b> the trust of more than <b>5, 00,000 learners</b> from all over the world. At CultureAlley, the learning process is so informal that you can <b>learn the chosen language</b> while scrolling through Facebook which hits you right on the back of your mind and remains in your memory for long. Not only that, they have lollipops (rewards) after each challenge you fulfil which range from learning based on audio-visual lessons or based on games, which is pure fun.</p>
<b>Embibe</b>	<p>Founded in the year <b>2012</b>by <b>AditiAvasthi</b>, Embibe is a team of entrepreneurs who are curious about making a huge mark on the history of education. They work on the motto of <b>“Every student deserves personal attention”</b>. Embibe is an online portal for test preparation specially designed for engineering entrance examinations. The startup is based in Mumbai and is currently looking for expansion. To gain access, one needs to create a free account and then and there they can start practicing any chapter.</p>



	<p>The test preparation portal, Embibe, recently received <b>\$4 million funding</b> from Kalaari Capital and Lightbox Ventures. As per the founder, this fresh capital base will be used to strengthen the students and teachers base, developing by research more friendly and deep tests to improve the performance of students enrolled. Embibe also plans to offer the same set of services for medical preparations too.</p> <p>Embibe claims to have <b>over 15000 website users</b>, as reported. Not only mentoring, they also have the section for <b>doubt resolution</b> which itself can prove to be a big tool for building confidence in students preparing for entrance examinations.</p>
<p><b>Simplilearn: Get Certified, Get Ahead</b></p>	<p>Launched in the year 2009 by <b>Krishna Kumar</b>, Simplilearn, as its name suggests, is an online education portal with the aim of simplifying the learning for working professionals. The website offers more than 400 courses in vivid areas including IT, digital marketing, programming, big data, and analytics etc. What does one look for while taking any course? Certificates and recognition, isn't it? At Simplilearn you get the certificate which is well recognized for the course taken by you at different platforms.</p> <p>Simplilearn raised \$15 million in Series C funding in 2015 rising to a total funding of \$28 million for various sources. The last round of capital funding was led by Mayfield Fund, with the participation of past investors Kalaari Capital and Helion Venture Partners.</p> <p>As the reports suggest, since its inception <b>more than 5, 00,000 people</b> have been certified through various courses at Simplilearn.</p>
	<p>Founded in the year 2012 by <b>KushalBhagia and KartikAneja</b>, alumni of BITS Pilani, the</p>



<p><b>NayiDisha</b></p>	<p>company NayiDisha engages the pre-schoolers in various learning models. They make different involving educational applications for students all over the world. They build educational games which can be played on the computer for pre-schoolers to promote learning while playing using motion sense technology.</p> <p>Education focusing start-up NayiDisha Studios has been successful in <b>raising Rs. 2 crores</b> in seed level funding. The amount of investment is proposed to be used by the company to expand operations across the globe, particularly in the Middle East and Singapore.</p> <p>Currently, according to team NayiDisha, they are <b>servicing 50 schools</b> across the nation including several schools in metros like Delhi, Bengaluru and non-metros and non-tier I cities like Jaipur and Baroda. As far as number of applications is concerned, they claim to have <b>created 30 children friendly apps</b> by now. The concept of motion sense technology alleviates the teachers from the burden of bringing kids to study as they are themselves more involved in the friendly process of education.</p>
<p><b>EduKart: courses for everyone</b></p>	<p>Founders' being <b>Mr. Ishaan Gupta, Mr. Vijay Shekhar Sharma, and Mr. Mayank Gupta</b>, the app was founded in the <b>year 2011</b> for the purpose of providing Indian and International courses such as MBA, Executive MBA, MSc, MCA, BA, BCom, BBA, and others. The website is known for online distance learning. It offers various undergraduate and post graduate courses for high school students including several <b>degrees, diploma</b>, courses for entrance examinations and certification courses from sundry recognised universities and other educational bodies.</p>



	<p>The Delhi-based startup EduKart recently came into limelight for <b>raising \$1 million</b> from various ventures including Holostik Group's United Finsec, Yuvraj Singh's YouWeCan Ventures, and others. EduKart is running <b>partnership</b> with more than <b>90 course providers</b> to promote registrations in 2000 plus courses offered by it.</p> <p>In its future plans, EduKart is working towards <b>increasing the courses</b> to 10000 from the current level of 2000 and also increase the course providers in partnership from 100 to 500.</p>
<p><b>Vedantu: Your Personal online teacher</b></p>	<p>Are you looking for online personalised teaching website while sitting at home? If yes, vedantu may be the right one to cater your needs. Founded in the year 2011 by <b>AnandPrakash, Vamsi Krishna, Pulkit Jain, and SaurabhSaxena</b>, vedantu aims to provide online tech-based education to students of grade 6 to 12 coming from various backgrounds. The unique feature about Vedantu is the option available with students to choose from a number of teachers accessible.</p> <p>The startup Vedantu is based at Bengaluru and has <b>raised \$5 million</b> from Accel Partners and Tiger Global Management. They bagged the funds just 6 months after they launched their new profile, a pivot from their earlier one.</p> <p>Users have the option to choose from a <b>variety of tools</b> like whiteboard, use of audio and video technology for smooth intake of lectures. One can book any free demo session with any tutor before starting to avail the services. Even after depositing the fees, there is a provision of <b>100% cashback</b> if the user isn't satisfied with the quality of sessions.</p>
	<p>Qriyo provide avenues for personal growth and development, by delivering wide range of courses at home. Founded in 2015, by two</p>



<p><b>Qriyo: An hour for a better you</b></p>	<p>IIT Bombay Alumnus Mudit Jain &amp;Rishabh Jain, Qriyo offers 300+ courses in academics, co-curricular, hobby classes and Yoga &amp; general fitness categories.</p> <p>The underlying idea behind QRIYO is to provide semi-customized courses at the residence of the learners by employing the trained instructors or Qriyo Gurus. If we view from the society's interest, the start-up solves <b>twin objective</b> of generating employment and giving an opportunity to people at a large to develop the skill of their interest. Qriyo aims to make learning at home convenient and affordable. It employs freelance teachers and provides the learning at the doorstep of the recipient.</p> <p>“A year ago, I was searching for suitable yoga classes at my doorstep. Even after going through numerous aggregators, cancelled appointments, endless phone numbers, I couldn't find a perfect match as per my requirements. Not only it killed my time and motivation, it also didn't solve the purpose. Only someone with high patience and motivation could spend their time searching for home based classes from the various website of aggregators”, says the founder MuditJain.This is how the idea of QRIYO arose.</p> <p>Qriyo currently operates 6 cities including Jaipur, Jodhpur &amp;Ahemdabad. Qriyo has dedicated apps for its 6000+ registered gurus and 2000+ customers. Through the app Home Tutors &amp; Customers can Apply, Book and manage their courses and bookings. Qriyoalso become first startup from Rajasthan to raise a foreign investment at seed stage, when it raised investment from UAE based firm Idein Ventures.</p>
	<p>The Bangalore based start-up was found in the year 2011 by <b>Sachin Ravi and</b></p>



### Walnut Knowledge Solutions

**RaghavChakravarthy N.C** with the motive of popularizing quizzes across schools, universities, and corporates. In words of the founders, success can be summed up in the following mantra: **“Be resilient. Do not let failures and people’s comments bother you, channelize all that to action.”** At walnut knowledge solutions, the team is working towards developing the curiosity in a child to learn and forming a habit through learning based on quizzes.

### 1.6 Issues and Challenges

According to World Bank’s Report: Doing Business 2016:

- India is ranked 130th out of 189 economies on the ease of doing business, 133rd on the ease of trading across borders and 157th on the ease of paying taxes.
- India is ranked 155th in case of starting a business
- On an average, Indian businesses need to make 33 tax payments annually with around 243 hours spent to prepare and pay taxes in a year
- In contrast, China requires just nine tax payments annually, while the US doesn’t trouble its taxpayers more than 11 times annually for tax payments
- Among South Asian economies, India made the biggest improvement in business regulation, increasing its distance to frontier score

According to RashmiGuptey, Principal (Legal) of Lightbox India Advisors Private Limited, lack of awareness, multiple clearances, unorganized market, poor infrastructure in Tier 2/3 cities, lack of mentoring, stringent exit policies, corruption/red tape, technological risk, regulatory obstacles and lack of reforms keeping pace with the fast evolving market changes are some of the challenges. In the words of Agarwal (2017) a successful start-up cannot start a business just with passion and an idea. A high level of leadership skills with clear understanding of market, excellent communication skills, maturity to see things in right perspective along with the ability to take calculated risks are required on the part of the entrepreneur.

### 1.7 Conclusion

In recent times, startups are growing like a grapevine. Indian start-ups attempt to build the startup environment with important education, talent, innovation and incubators with correspondence to funding agencies. The Indian market offers many opportunities for startups and in turn, startups carry great hopes to promote growth and create employment. Consequently, support has



increased in many dimensions: office space and infrastructure, business support in regards to mentoring and networking, as well as the availability of financial capital.

It is beyond doubt that the success of Startup India campaign hinges on initiatives like faster and easier registration of Companies, self-certification for many legal requirements, zero inspection for three years, funding for patents, and speed of patent protection. It is important to add provisions which aid the closure of dead companies within 90 days. Indian lawmakers could do this under the new bankruptcy bill. Most importantly, foreign exchange regulations are to be in tune with investor needs, so that the best do not register outside India. In this way, the cherished goal of ‘Startup India and Standup India’ can be reached within no time.

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## CURRENT SCENARIO OF MUTUAL FUNDS IN INDIA

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### Abstract

The country's mutual fund industry has a huge growth potential as Indian households savings amount to Rs 20-30 lakh crore, top official of an asset management company said today. We are already witnessing a gradual shift in household savings as dominance of physical savings is going down, while share of financial savings is growing, HDFC AMC Managing Director Milind Barve told reporters here while launching the company's initial public offer. Barve highlighted the fact that India lags most major nations of the world in terms of assets under management of mutual funds as a percentage of gross domestic products. In India, asset base of mutual funds as a percentage of GDP is just 11 per cent, while the world average is 62 per cent. When it comes to the share of MFs in the market capitalization, it is less than 5 per cent in India, which only proves the huge market potential, he said. India has a very saving culture as Indians save Rs 20-30 lakh crore every year, which indicates immense scope for channelizing this saving into MF industry, he added. The country has 42 mutual fund houses managing assets to the tune of over Rs 23 lakh crore. Barve said HDFC Asset Management Company will launch its Rs 2,800 crore initial share-sale on July 25. The price band has been fixed at Rs 1,095-1,100 per share.

**Keywords:** Factors, current scenario, Advantages, Disadvantages, Best debt mutual funds

### Introduction

A mutual fund is to be registered with SEBI before it starts collecting money from investors/ public. A mutual fund has to be established through the medium of a sponsor. The sponsor then forms a Trust under the Indian Trust Act and the instrument of trust shall be a deed. The trust thereafter will form an Asset Management Company to manage the affairs of the mutual fund and to operate the various schemes of mutual funds. An Asset Management Company or AMC is set up as a Limited Liability Company, having a minimum net worth of ₹10 Crores. The sponsors have to necessarily contribute at least 40% of the net worth of the AMC. The Trustee is the holder of the properties of the Mutual Fund in the trust for the benefit of the unit holders or investors. An Asset Management Company pools investments from investors for investment in different instruments such as equity, debt and money market instruments. When profit arises in any scheme, after deducting the expenses of that scheme, it is returned back to the investors in form of capital appreciation or dividend.



Mutual Funds	Assets under management (Rs.Cr)			
	September 2018	December 2018 ▼	Change	% Change
HDFC Mutual Fund	306,360	334,964	28,604	9.34
ICICI Prudential Mutual Fund	310,257	307,735	-2,522	-0.81
SBI Mutual Fund	253,829	264,353	10,524	4.15
Aditya Birla Sun Life Mutual Fund	254,223	242,344	-11,879	-4.67
Reliance Mutual Fund	244,843	236,256	-8,588	-3.51
UTI Mutual Fund	165,946	157,586	-8,361	-5.04
Kotak Mahindra Mutual Fund	134,412	139,427	5,015	3.73
Franklin Templeton Mutual Fund	110,400	109,525	-875	-0.79
Axis Mutual Fund	87,631	81,622	-6,008	-6.86
DSP BlackRock Mutual Fund	95,457	79,245	-16,212	-16.98
L&T Mutual Fund	73,753	69,080	-4,673	-6.34
IDFC Mutual Fund	69,483	64,583	-4,900	-7.05
Tata Mutual Fund	54,824	49,293	-5,531	-10.09
Sundaram Mutual Fund	33,103	30,800	-2,303	-6.96
Invesco Mutual Fund	27,556	23,871	-3,685	-13.37
Mirae Asset Mutual Fund	20,569	21,035	466	2.26
Motilal Oswal Mutual Fund	20,305	18,599	-1,706	-8.40
Canara Robeco Mutual Fund	14,045	13,656	-389	-2.77
LIC Mutual Fund	20,426	13,378	-7,047	-34.50
Baroda Pioneer Mutual Fund	13,564	12,257	-1,307	-9.63
Edelweiss Mutual Fund	14,161	11,862	-2,299	-16.24
JM Financial Mutual Fund	12,672	10,965	-1,707	-13.47
DHFL Pramerica Mutual Fund	22,700	10,756	-11,944	-52.62
HSBC Mutual Fund	11,928	10,707	-1,221	-10.24
IDBI Mutual Fund	9,961	8,599	-1,361	-13.67
BNP Paribas Mutual Fund	8,523	7,398	-1,125	-13.20
PRINCIPAL Mutual Fund	7,793	6,940	-853	-10.95
Union Mutual Fund	4,910	4,208	-702	-14.30
BOI AXA Mutual Fund	5,872	4,173	-1,699	-28.93
Mahindra Mutual Fund	4,336	3,756	-580	-13.38
Indiabulls Mutual Fund	8,008	3,728	-4,280	-53.45
Essel Mutual Fund	2,256	1,759	-497	-22.02
PPFAS Mutual Fund	1,376	1,576	199	14.47
IIFL Mutual Fund	1,506	1,400	-106	-7.03
Quantum Mutual Fund	1,241	1,287	46	3.71
Taurus Mutual Fund	454	421	-33	-7.16
Quant Mutual Fund	184	195	11	5.76
Shriram Mutual Fund	54	101	47	86.72
Sahara Mutual Fund	58	54	-4	-6.30
Total	2,428,979	2,359,493	-69,486	-2.94

It's hard to believe that it has only been 25 years since the Indian mutual fund industry was opened up to private players. The role that the investment instrument has played in fuelling the country's economic growth cannot be overstated. This is especially true of the last few years, which have seen rapidly multiplying inflows, leading to total assets under management crossing Rs. 25 trillion in August 2018. These achievements were marked at the recently concluded GIC Re presents CNBC-TV18 Mutual Fund Awards. Bringing together executives from India's top fund houses, wealth management firms and fund distributors, the event recognized 21 of the best performers across various categories.

## Following factors would help to understand Current scenario of mutual funds in India

### ✦ Price to Earnings Ratio or PE Ratio

PE Ratio is considered to be the most widely used tool for stock selection. This ratio indicates the current market price of a company's share to its earnings per share. It also implies what the market is willing to pay for its earnings. A high PE ratio implies that the stock is over-priced. An over overpriced stock indicates that the stock's price is much higher than that of its actual growth potential. In that case, this stock is exposed to drastic crash. This was quite visible in the big market crash for Reliance Companies shares for an example. So, I can say that a high PE ratio is the ideal indicator of warning for an investor to stay away from those stocks of mutual fund portfolio. A high PE ratio denotes that the stock is expensive as compared to its earnings or growth potential. On the other hand, a low PE ratio implies that the investors are too bullish on the company's earnings growth potential and they are not ready to pay more for that stock price.

### ✦ Formula of PE ratio

**PE Ratio = Market Price per Share (MPS) / Earnings per Share (EPS)**

For example, if the current market price of a stock is `150 and earnings per share is `10,

### ✦ PE ratio: 15(150/10)

Check the following link for more PE, PB and Dividend yield chart at one place.

### ✦ Price to Book Value Ratio or PB Ratio

Price to Book value ratio is used as a tool to measure financial ratio analysis. PB ratio indicates a stock's market value per share to its book value per share. That is what the investors are willing to pay for the stock price as compared to the book value of the share. The book value of share denotes Net Assets Value attributable to Shareholders or owners of the company.

### ✦ Book value of Share (Net Assets Value/No. of shares outstanding)

### ✦ Where Net Assets value = (Total Assets - Total Liabilities - Intangible Assets)

For example, if the current market price of a stock is `150 and book value per share is `100,

### ✦ PB Ratio: 1.5(150/100)

✦ A PB ratio of less than 1 indicates that the stock is underpriced. Whereas, a PB ratio of more than 1 indicates that the stock is expensive.

## Benefits of Mutual Fund Investing

There are many reasons why investors choose to invest in mutual funds with such frequency. Some of the advantages of this kind of investment include advanced portfolio management, dividend reinvestment, risk reduction or safety and convenience and fair pricing. Let's break down the details of these benefits.

**Advanced Portfolio Management** -When you buy a mutual fund, you pay a management fee as part of your expense ratio, which is used to hire a professional portfolio manager who buys and sells stocks, bonds, etc. This is a relatively small price to pay for getting professional help in the management of an investment portfolio.



**Dividend Reinvestment**-As dividends and other interest income is declared for the fund, it can be used to purchase additional shares in the mutual fund, therefore helping your investment grow.

**Risk Reduction (Safety)**-Reduced portfolio risk is achieved through the use of diversification, as most mutual funds will invest in anywhere from 50 to 200 different securities - depending on the focus. Several stock index mutual funds own 1,000 or more individual stock positions.

**Convenience and Fair Pricing**-Mutual funds are easy to buy and easy to understand. They typically have low minimum investments and they are traded only once per day at the closing net asset value. This eliminates price fluctuation throughout the day and various arbitrage opportunities that traders practice.

### **Challenges of Mutual Fund Investing**

However, there are also disadvantages to being an investor in mutual funds, including high expense ratios and sales charges, management abuses, tax inefficiency, and poor trade execution. Here's a more detailed look at some of those concerns.

**High Expense Ratios and Sales Charges**-If you're not paying attention to mutual fund expense ratios and sales charges, they can get out of hand. Be very cautious when investing in funds with expense ratios higher than 1.20%, as they are considered to be on the higher cost end. Be wary of 12b-1 advertising fees and sales charges in general. There are several good fund companies out there that have no sales charges. Fees reduce overall investment returns.

**Management Abuses**-Churning, turnover and window dressing may happen if your manager is abusing his or her authority. This includes unnecessary trading, excessive replacement and selling the losers prior to quarter-end to fix the books.

**Tax Inefficiency**-Like it or not, investors do not have a choice when it comes to gain payouts in mutual funds. Due to the turnover, redemptions, gains, and losses in security holdings throughout the year, investors typically receive distributions from the fund that are an uncontrollable tax event.

**Poor Trade Execution**-If you place your mutual fund trade anytime before the cut-off time for same-day NAV, you'll receive the same closing price NAV for your buy or sell on the mutual fund. For investors looking for faster execution times, maybe because of short investment horizons, day trading, or timing the market, mutual funds provide a weak execution strategy.

### **Points to understand before investing in Debt Mutual Funds**

#### **Credit Risk**

Debt Mutual Funds invest in treasury bills, government securities, Certificate of Deposits, Commercial Papers, bonds, money market instruments and many more. The credit qualities of these underlying instruments are measured in terms of ratings. Usually higher the rating leads to lower the return or risk. It is a misconception among many that credit risk refers to risk of default by the bond issuing entity. However, the truth is something different.

There is a possibility that the credit rating of a bond or instrument the fund is holding may change at any point of time. Let us say ABC Debt Fund holding the bond of XYZ



which is rated as AAA by credit rating agencies. It does not mean that this rating is permanent. It may change at any point of time if the company XYZ’s finance changes.

**Modified Duration**

It is a measurement of a bond’s sensitivity to movements in interest rates. It is usually measured in years. For example, if debt mutual fund with the modified duration of 3.1% means if there is a 1% interest rate movement then the fund will undergo the movement of 3.1%. Hence, higher the modified duration means higher the interest rate risk.

**Average Maturity**

A debt fund portfolio usually consists of a number of bonds where each could have a different maturity date. Maturity is the time period remaining before which a bond comes up for repayment by the issuer. Average maturity is simply the weighted average time left up to the maturity of the various bonds in a portfolio. Higher the average maturity greater the interest rate risk of a debt fund.

**Exit Load**

Some category of funds will charge you exit load. Hence, you have to be careful while selecting the funds and the conditions apply regarding the load structure.

**Taxation**

Remember that Equity Funds and Debt funds are taxed differently. Hence, you must understand the taxation part as well before jumping into investment. I tried to explain the same in below image.

**Top and Best Debt Mutual Funds to invest in 2018**

Excluding Liquid Funds for which I usually write a separate post, I will cover all other types of debt funds categories in this post.

**Top and Best Debt Mutual Funds to invest in 2018 -Ultra Short Term Debt Funds**

Ultra Short Term Debt Funds are safest after liquid funds. Usually, these funds invest in instruments which mature from 3 months to the maximum of 3 years. But I found that many Ultra Short Term Debt Funds invest in less than a year average maturity instruments.

Below are my top and best Ultra Short Term Debt Mutual Funds.

Sl No .	Fund Name	Average Credit Rating	Modified Duration in Yrs	Exit Load	Expense Ratio	Average Maturity in Yrs	1 Yr Return	3 Yrs Return	5 Yrs Return
1	Franklin India Savings Plus Fund	AAA	0.63	Nil	0.41%	0.72	7.27%	7.90%	8.34%
2	IDFC Ultra Short Term Debt Fund	AAA	0.74	Nil	0.36%	0.84	7.10%	8.21%	8.70%

You notice that this year I discontinued Birla Sun life Floating Rate Fund-Long Term Plan but moved to Franklin India Savings Plus Fund. The reason is I found Frankin India Savings plus Fund little bit attractive in terms of low modified duration and low average maturity but best return generated since a year.

However, those who invested already in Birla Sun life Floating Rate Fund-Long Term Plan can continue the fund without any worry.

### **Top and Best Debt Mutual Funds to invest in 2018 -Short-Term Debt Funds**

These are the next level of debt funds. Usually, short-term debt funds invest in the instruments which mature from 6 months to 6 years. Hence, they are riskier than liquid and ultra short-term debt funds.

SI No	Fund Name	Average Credit Rating	Modified Duration in Yrs	Exit Load	Expense Ratio	Average Maturity in Yrs	1 Yr Return	3 Yrs Return	5 Yrs Return
1	IDFC Money Manager Fund	AAA	2.9	Nil	0.50%	3.7	6.13%	7.97%	8.30%
2	UTI Banking and PSU Debt Fund	AAA	1.83	Nil	0.30%	2.32	6.63%	8.98%	-

You notice that I removed both the earlier funds which are Birla Sunlife Short Term Fund and Escorts Short Term Debt Funds. The reason to move from Birla fund is that I found IDFC best in terms of bit risk-taking higher modified duration and higher average maturity to Birla Fund. But the portfolio is equally safe like Birla Fund. Regarding choosing UTI Banking and PSU Debt Fund rather than Escorts Short Term Debt Fund is that the UTI Fund constitutes safe bet (high-quality underlying portfolio and less risk with a high return than the Escorts Funds.

### **Top and Best Debt Mutual Funds to invest in 2018 -Gilt Short-Term Debt Funds**

These are the funds which invest in Government of India Bonds which mature from 2 years to 5 years. There are very fewer funds in this category. But I prefer these are best funds over the Short Term Debt Mutual Funds. Because the credit risk and credit ranking risk is not there in such funds.

SI No.	Fund Name	Average Credit Rating	Modified Duration in Yrs	Exit Load	Expense Ratio	Average Maturity in Yrs	1 Yr Return	3 Yrs Return	5 Yrs Return
1	SBI Manum Gilt Fund-Short Term Plan	AAA	1.94	Nil	0.71%	2.55	6.61%	9.55%	9.99%
2	IDFC Government Securities Fund-Short Term Plane	AAA	2.36	Nil	0.39%	3	6.99%	8.82%	9.90%

You noticed that I retained the same old funds in this category. Hence, you can continue who are already investing in these funds.

### **Top and Best Debt Mutual Funds to invest in 2018 -Income Funds**

Income funds invest in corporate bonds, government bonds, and money market instruments. However, they carry the highest risk to the changes in interest rates and are suitable for investors who have the higher risk-taking ability. Usually, those who track interest rate movements will try to invest in such funds. Personally, I avoid such funds

as I want peace of mind not interested in tracking news items. The correct time to invest in these funds is when the market view is that interest rates have touched their peak and are poised to reduce. I am neither aware of those who time the interest rate movements correctly nor bother to such time-based investment.

The average maturity of such funds ranges from few months to around 17 years. Hence, be cautious while selecting such funds.

SI No .	Fund Name	Average Credit Rating	Modified Duration in Yrs	Exit Load	Expense Ratio	Average Maturity in Yrs	1 Yr Return	3 Yrs Return	5 Yrs Return
1	HDFC Medium Opportunities Fund	AAA	2.37	Nil	0.36%	2.85	6.81%	8.77%	8.96%
2	ICICI Prudential Banking and PSU Debt Fund	AAA	2.49	Nil	0.63%	3.2	6.18%	9.16%	9.38%

In this category also, I retained the same old funds. If you compare the average maturity of the funds from last years to today, you notice that it reduced. This shows that Fund Manager is of view that holding short-term debt papers in slightly higher inflation and PAUSE stance by RBI is best.

### Top and Best Debt Mutual Funds to invest in 2018 – Gilt Medium Term to Long Term

These funds primarily invest in medium to long-term Government Bonds. Hence, default risk and credit rating risk is minimal. However, considering their longest average maturity values, these funds prone to highest interest rate volatility.

SI No .	Fund Name	Average Credit Rating	Modified Duration in Yrs	Exit Load	Expense Ratio	Average Maturity in Yrs	1 Yr Return	3 Yrs Return	5 Yrs Return
1	SBI Magnum Gilt-Long Term Plane	AAA	7.04	Nil	1.00%	11.72	4.62%	9.57%	10.94%
2	UTI Gilt Advantage Fund Long Term Plan	AAA	6.61	Nil	0.85%	9.66	5.33%	9.09%	10.15%

In this category, I have added UTI Gilt Fund and removed the last year recommendation of L&T Gilt Fund. Because I found UTI Fund performing well than L&T Fund consistently.

### Top and Best Debt Mutual Funds to invest in 2018 -Dynamic Bond Funds

Dynamic Bond Funds invest in debt securities of different maturity profiles. These funds are actively managed and the portfolio varies dynamically according to the interest rate view of the fund managers. These funds invest across all classes of debt and money market instruments with no cap or floor on maturity, duration or instrument type

concentration. Considering the nature of the fund, it is hard for an individual to track which debt securities the fund is holding. However, as the fund is actively managed, you may assume the next interest rate trend.

As currently, the trend is that interest rate is as of now PAUSED, hence these funds may move to short-term debt papers.

SI No.	Fund Name	Average Credit Rating	Modified Duration in Yrs	Exit Load	Expense Ratio	Average Maturity in Yrs	1 Yr Return	3 Yrs Return	5 Yrs Return
1	ICICI Prudential Long Term Fund	AAA	3.83	0.25% if redemption within a month	1.26%	5.95	5.25%	9.47%	11.30%
2	UTI Dynamic Bond Fund	AAA	5.64	Nil	1.59%	8.01	4.79%	9.02%	9.86%

Have you noticed one thing The expense ratio of dynamic bond funds to other types of bonds? It is high because they have to churn the portfolio frequently based on the interest rate movement.

### Top and Best Debt Mutual Funds to invest in 2018 -Credit Opportunities Fund

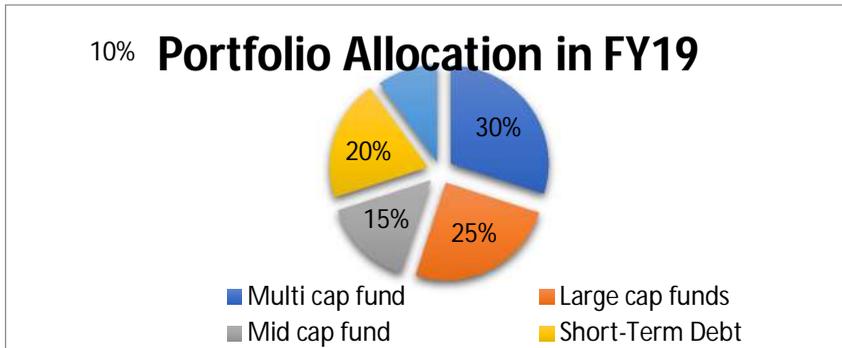
They are Debt Mutual Funds. Credit opportunities funds adopt the accrual strategy to provide the better return. They take the credit risk for the sake of generating high yield. Usually, they invest in low credit rated funds like less than or equal to “AA” rated. Lower the credit rate leads to higher the return.

SI No .	Fund Name	Average Credit Rating	Modified Duration in Yrs	Exit Load	Expense Ratio	Average Maturity in Yrs	1 Yr Return	3 Yrs Return	5 Yrs Return
1	DSPBR Income Opportunities Fund	AAA	2.12	For unit in excess of 10% of the investment, 1% will be charged for redemption within 365 days	1.80%	3.13	6.64%	9.00%	9.17%
2	Kotak Income Opportunities Fund	AAA	2.12	1% for redemption within 365 days	1.60%	2.71	6.60%	8.76%	8.97%

In this category also, I retained the same funds. If you look at other types of funds, you noticed that they have given handsome returns, but at the cost of quality of papers. Hence, I restricted myself to the same funds.

### Findings

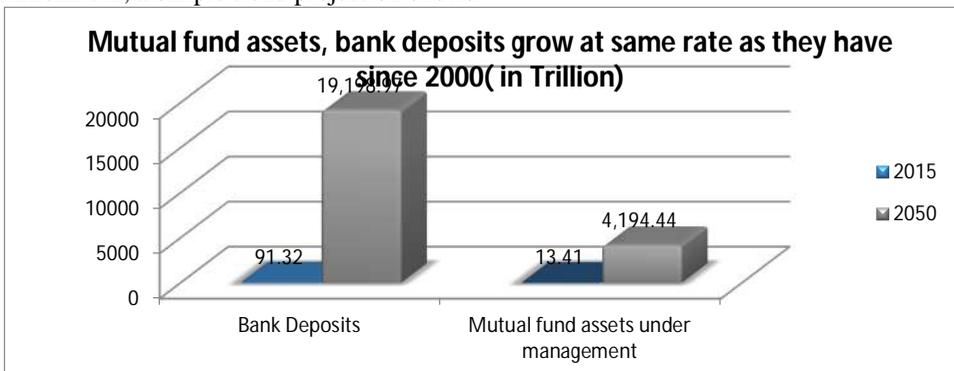
Looking at the current scenario, wherein investor is in the age bracket of 35-40 years, here’s how you can plan your portfolio.



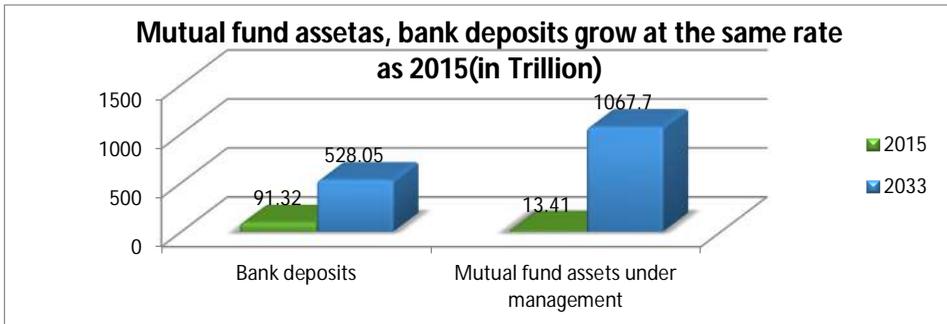
Asset allocation is very crucial for making a stable portfolio. The allocation changes with time as and when the need of investors changes.

The mutual fund industry’s average assets under management hit an all-time high of ` 13.41 trillion in the three-month period ending December 2015. Equity assets under management had already crossed a record ` 4 trillion in November. With a growth of 27.5%, mutual fund assets grew some two-and-a-half times the pace of bank deposit growth in 2015. But they are still some time away from being the savings instrument of choice. Central bank data as of December 11 show that commercial banks had aggregate deposits of ` 91.32 trillion, about seven times the assets under management of mutual funds. In contrast, 68% of the US citizens who invest in mutual funds hold the majority of their financial assets through the vehicle.

It may be a while before mutual funds catch up with bank deposits in India if both these instruments continue to grow at the same rate as they have since the turn of the millennium, a simple trend projection shows.



Even assuming that the growth seen in 2015 continues for both asset classes, mutual funds will overtake bank deposits only by 2029.



Growth in bank deposits and mutual fund assets under management depends on a number of factors such as interest rates, stock market returns, economic growth rates, pension allocations and financial literacy. Market experts say that after growing at 27% in the past couple of years, mutual fund assets are unlikely to see a similar growth in 2016. At mutual fund industry-tracker Morningstar India, said that retail money which came into equity funds after high returns in 2014 helped the recent rise in assets under management. Stock market indices rose through 2014 and hit all-time highs early in 2015. Limited returns since then because of factors including poor earnings may cause investors to review their allocations.

Trading Date	Derivative Products	Buy		Sell		Open Interest at the end of the date	
		No.of Contracts	Amount in Crore	No.of Contracts	Amount in Crore	No.of Contracts	Amount in Crore
04 Feb, 2019	INDEX FUTURES	118	9.36	5626	458.70	85733	6807.45
	INDEX OPTIONS	10	0.84	0	0.00	114786	9394.30
	INTEREST RATE FUTURES	0	0.00	1250	24.23	2546	49.29
	STOCK FUTURES	13707	734.51	9569	525.13	979252	59277.70
	STOCK OPTIONS	0	0.00	0	0.00	644	30.09

- ✦ That wouldn't be different from the annual average growth rate seen since the turn of the century. Mutual funds grew at a compounded annual growth rate of 17.84% since the turn of the millennium. Bank deposits have grown at 16.51%. But bank deposits were larger than mutual fund assets then, at ` 7.91 trillion compared with ` 970.28 billion. The resulting difference in base suggests that mutual funds will not catch up even as late as 2050.
- ✦ In fact, the only time mutual fund assets accounted for double-digit percentage share in incremental financial savings was 10.22% in 1992-93. It hit 9.62% in FY08 when sentiment peaked just before the financial crisis.
- ✦ The Employees' Provident Fund Organization began investing in equities through mutual funds this year. It announced that it would invest 5% of incremental flows in FY16. The whole corpus of EPFO and private companies which manage their own



pension funds is said to be around `8 trillion, but with the organization expressing disappointment with returns from its initial flirtation with mutual funds, a boost to fund flows is some time away.

### Conclusion

Mutual funds play a vital role in resource mobilization and its efficient allocation to the productive sources of the economic system. In this process of development, mutual funds have emerged as strong financial intermediaries and are playing an important role in bringing stability to the financial system and efficiency to the resource allocation process. Mutual fund industry today is one of the most preferred investment avenues in India. Mutual funds increase the mobilization of investable funds of the society by pooling the interest of a great number of small savers towards the financial system of the country. Mutual funds are currently the most popular investment vehicle for the majority of investors. There are a variety of funds covering different industries and different asset classes available. Here's a look at both the advantages and disadvantages of this investment strategy. As with any type of investment, the specifics of your budget, timeline and profit goals will dictate what the best options for you are.

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## SUCCESS STORY OF SCANDINAVIAN CRIME FICTION

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### **Abstract**

Swedish crime fiction, Scandinavian crime fiction, Nordic Noir are the different names for describing what has been a remarkable success story in the world book market in recent years. Crime fiction from Sweden and the other Nordic countries has become a major export industry. Its authors and novels have become a phenomenon usually associated with good quality, exotic locations, and dark moods. The success of crime fiction from the Nordic countries has become the fastest growing and probably the most popular genre worldwide in the last couple of decades. Translation of crime novels is also not a new phenomenon either. Today mostly Swedish crime writers get translated due to the general popularity of Nordic crime fiction. International publishers seem to regard the Swedish author as a relatively safe investment.

**Keywords:** Scandinavian Crime Fiction, Success and popularity worldwide, Popular Culture,

In the 1990s, the international circulation of crime fiction from Sweden began to grow and expanding out of the traditional recipient market of the Nordic region to the German market and other European countries. Germany is still one of the principal markets for Swedish crime fiction, and most new Swedish crime fiction today is immediately translated into German. While the German market has been receptive to the Swedish authors for a relatively long time, the English-speaking markets have proved much more resistant. For example, Henning Mankell's novels about Inspector Kurt Wallander have been translated into English since the 1990s, and already then efforts were made to launch them in the USA. Although the response from the crime fiction fans was enthusiastic, the wider audience did not catch the Wallander fever immediately. It was first in the wake of Stieg Larsson's success that Mankell had his major breakthrough in the English-speaking world, and now Wallander is just as well-known as many of the established British and American crime fiction protagonists.

In the case of Liza Marklund (1962), the story is similar. She was first translated into English in the early 2000s, but her novels were not successful. Since 2010, however, new translations have been made of her first novel. She is being re-launched in the USA, and the rest of her novels are being translated at a fast pace. Marklund's major breakthrough in the English-speaking market came in



2010, after bestselling American author James Patterson asked her to co-write a novel with him. Patterson's choice to work with the Swedish writer illustrates the status and prestige of Swedish crime fiction at the time. In addition to Mankell and Marklund, some of the Swedish authors most successful internationally today are Camilla Lackberg (1974), Helene Tursten (1954), Hakan nesser (1950), Kristina Ohlsson (1979), Kjell Eriksson (1953) and Asa Larsson. There are many other authors as well who are successful in other countries, for example in Germany, but not as known to the extensive English-language market.

This research particularly aimed at studying about the Scandinavian Crime Fiction as a reflection of the Popular Culture. It focused upon the revolutionary crime fiction by the great authors Sjowall & Wahloo, Henning Mankell and Steig Larsson who made a literary revolution in Sweden through their remarkable pieces that stood against the conventional Scandinavian literary genre. The Swedish novels written by these writers focused primarily on the developing society and the culture which made the "Nordic Noir" genre a huge success in the international and global market by attracting more readers. The 'Nordic Noir' is popularly known among the literary world as 'Scandinavian Crime fiction'. The first duo-partners Maj Sjowall and Per Wahloo a journalist couple revolutionize the conventional norms of the genre and creates the memorable detective series of ten novels *The Story of a Crime*. The proposed research is an attempt to analyses the various themes, style and relevance that exist in the research pool by offering better knowledge upon the novels and its genre and how it impacts the current society and culture.

Scandinavian crime fiction added an emphasis on social realism and critique, gloomy Nordic locations and the trademark morose detective to the various subgenres of crime fiction. In 1960s, Sjowall and Wahloo had translated several of Ed McBains's novels, and found in his pioneering police procedurals a formula where in police officers' private lives and personal struggles can be mirrored in the larger socio-political landscape of Sweden. From their Marxist-Leninist perspective the authors explicitly aimed to use their crime novels as a means to analyses the Swedish welfare state. The couple relates crime to its political and ideological doctrines to reveal its fascist nature and also referred crime as an act of social frustration in a repressive society.

From the work *Roseanna* (1965) to *The Terrorists* (1975) Sjowall and Wahloo's crime novels follow Martin Beck and his homicide squad who solved the sex murder of an American tourist to the murder of the prime minister in a Swedish welfare state. In their investigations, Beck and his team are constantly faced with an impenetrable police bureaucracy, a metonymy for a brutal society that gradually overshadows the idyllic Swedish welfare system.



In 1960s Sweden, Sjowall and Wahloo were far from alone in using literature as a vehicle for social critique. This was a decade of growing political awareness, where authors used their novels, poems, journalism and documentary fiction for political activism. They dealt with international topics such as the Vietnam War, the apartheid system in South Africa, as well as local Swedish issues such as social justice for miners, juvenile delinquency and rehabilitation, sensationalist journalism, the state-owned alcohol monopoly, Western welfare and progress based on third-world exploitation and worker's rights and conditions.

The crime series was an attempt at dealing with serious social and political issues in a popular, mass-culture genre. The authors' ambition was to reach as wide an audience as possible with their increasingly more explicit social criticism and political agitation. Rather than providing readers with the comforting conclusion that Beck and his colleagues will restore faith in the just and harmonious society by catching the criminals, they paint an acidic picture of a fallen welfare state in the grips of class warfare, police brutality and festering criminality.

The activist agenda disguised as genre fiction was a conscious choice, according to an interview with the authors published in the Danish newspaper Information in 1974:

In 1963, we consciously decided to write books directed at crime fiction readers, and our intention was to, in the first three titles, describe the crimes and solutions in a pretty much apolitical way. From the start we planned to make the mask fall in the fourth or fifth novel. (Quoted in Tapper, 4)

Throughout the series their documentary mode is enhanced by basing several of the fictional crimes on crimes known from the press, the use of real locations and references to contemporary events. The authors' background in journalism is also detectable in their language, which is characterized by 'short sentences packed with causative verb'.

The works written by Henning Mankell who followed the footprints of Sjowall and Wahloo and modernize the Swedish crime fiction by exposing the incredible social problems in the novels, *The Faceless Killers*, *Sidetracked* and *The Fifth Woman*. Mankell portrayed the character of protagonist Kurt Wallander with more depth than Martin Beck of Sjowall and Wahloo. The reader knows all about his family problems, his hobbies and interests and his habits as well. Through his novels Mankell exposes the problems like drug trade, racist violence, child abuse, xenophobia, anti-immigration etc in a liberal country like Sweden.

Sweden is located in the far north of Europe and it is a country with vast open spaces, large natural resources, and few inhabitants. While the northern part of the nation is home to the indigenous Sami people, nine and a half million Swedes live in the southern regions of the country. Sweden has not been



actively involved in a war since 1809, when the last war with Russia ended. Throughout history, there has always been immigration to Sweden; for centuries people have moved there to take advantage of work opportunities, in order to escape political oppression or ethnic cleansing in other parts of the world, and for numerous other reasons. Throughout the twentieth century, the Swedish population in many respects remained relatively homogenous and, it was only towards the turn of the Millennium, that large numbers of foreign migrants began to enter the country and that xenophobia became an increasing problem in Sweden - as in many other parts of Europe and the world.

Crime fiction is a genre prone to address and discuss contemporary issues. Despite crime novels often being read primarily for entertainment purpose, Jeanne E Glesener argues that "in the age of multiculturalism they have become a platform where multicultural issues and realities are being explored,' and where 'the vexed and complicated relationship between different cultures does not only get illustrated but investigated" (qtd in Bergman, 52). Since 1990s Swedish crime fiction has devoted much attention to the clash between traditional national identities and the processes of Europeanization and globalization, and an author who more than anyone else has dedicated his life's work to exploring the Swede's relationship to the other is Henning Mankell. Mankell started writing in the early 1970s as an author in the genre of proletarian realism. In his debut novel *The Rock Blaster*, (1973) the working conditions among Swedish miners are discussed. From the start, Mankell was a staunch socialist, and throughout his oeuvre he has repeatedly investigated the role of the individual in the system of the Swedish welfare state. In many ways he can be regarded as one of the primary heirs of Maj Sjöwall and Per Wahloo. After writing several novels in the proletarian genre, Mankell decided in the early 1990s that crime fiction was a genre if one's aim is to discuss important issues in society. This explicit political ambition is shared by Mankell with several other Swedish crime writers like Maj Sjöwall and Per Wahloo and Liza Marklund.

Mankell's major concern at the outset of the Wallander project was to highlight the alarming rise in racism, xenophobia and anti-immigration feeling in Sweden. Throughout his works, he has shown a growing concern for xenophobia and an increasing interest in exploring the relation to the Other. Many of his writings have been directly related to Africa, and he has tried to raise global awareness of the problematic situation in Africa, particularly of the AIDS crisis. Andrew Nestingen stresses that 'Mankell's novels are a discourse on solidarity and they attempt to force readers to think through solidarity's ethical and political dimension'. Throughout all Mankell's crime novels the problematic relationship to the 'Other' is a recurring theme, mirroring the increasing problems with xenophobia in Sweden in the last decades.

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When the European Union expanded and its influence grew in the 1990s, this brought with it an increase in intra-European migration. This, in combination with the economic crises in the early years of the decade, caused people in many parts of Europe to feel that their independence was threatened by the growing power of the Europe, and the increase number of immigrants might put their sense of national identity in jeopardy. It also gave rise to more explicit expressions of racism and nationalism in many countries. Discussion on racism, nationalism and identity formation are central to Mankell's crime novels. He has been one of the most influential writers in Swedish crime fiction in the last decades who shed light on recent tendencies in Swedish crime fiction.

The Millennium Trilogy by Steig Larsson which is another famous name in the field of Scandinavian crime literature. International breakthrough for Swedish crime fiction in the English speaking markets, came with his novels -The Girl with the Dragon Tattoo (2008) The Girl Who Played with Fire (2009) The Girl Who Kicked the Hornets' Nest (2010) These novels had been translated into at least thirty-seven languages in 2011, and their 60 million copies sold worldwide. The first American remake, The Girl with the Dragon Tatto (2011, directed by David Fincher) premiered in 2011, and although it did not do as well at the box office as expected. With the consequence of that the making of the two following films was postponed. The film made Stieg Larsson and his novels so popular among the people who had not read the novels. Today there is also a comic book version based on the first novel, The Girl with the Dragon Tattoo Stieg Larsson's trilogy is probably the most successful crime fiction phenomenon worldwide in the last decades, and perhaps ever.

In 2010, The Economist wrote that:

The quality and popularity of Nordic crime fiction has given Nordic novelists prestige that authors from other countries do not enjoy. From a Swedish perspective, it is obvious that the growing popularity of national crime fiction has resulted in a rise in the publication of some poorly written Swedish crime fiction. The translators of the Swedish Crime novels make important contributions to the quality that reach to an international audience. It also work the other way around, as the English translation of the Millennium novels is generally acknowledged to be sloppy.( qtd. in Bergman,125)

The factors behind the success of the Scandinavian crime writers are language, heroes and setting. It is concluded that the plain, direct writing, devoid of metaphor used by the Scandinavian authors, suits the genre very well. For example, Henning Mankell's Wallander novels exhibit a straightforward language. The detective protagonists of Swedish crime fiction are portrayed as far from perfect, as they are generally shaped by different personal hardships. For example- Wallander's divorce and near- death experience and Lisbeth Salander's traumatic childhood in Stieg Larsson's novels.

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Scandinavian crime novels showing the 'dark underside' hidden beyond the welfare system is something that has been characterized Swedish crime fiction tradition. Today however, many of the Swedish authors like Camilla Lackberg, Mari Jungstedt, and Johan Theorin who are acclaimed abroad, do not write in this crime fiction tradition, and their novels do not examine any 'dark underside' of the welfare state. Although the idealized images of a well-functioning Sweden circulates abroad but the Swedish welfare system is something which belongs to the past and today only fragments remain.

An uncomplicated and easily accessible language contributing to a suspenseful and fast-pace read and the setting of a dying welfare system really makes Swedish and Nordic crime fiction successful. Although the Wallander- type characters have much in common with well-known detectives of other countries' crime fiction series - for example Inspector Morse and his many equally melancholic and lonely colleagues of the British crime fiction tradition - Inspector Wallander, with his ulcers, his diabetes, and his bad judgment when drinking has enjoyed particular popularity worldwide. The fallibility of Mankell's hero makes him more human and realistic in nature. Stieg Larsson's Lisbeth Slander also becomes the most successful Swedish crime fiction hero in the international market in the last decade. There is some evidence to suggest that those novels where the 'underside' of the welfare society is still an issue are popular abroad. Many international readers gain a sense of malicious pleasure from reading about a Sweden that is not flawless and not living up to the standards of being the perfect socialist utopia as it is reputed.

Swedish crime writers are prone to extensive description of the physical environment of their novel, whether it be the changing skies over Stockholm, or the landscape and nature of the Swedish countryside. Sweden and the other Nordic countries is part of Europe that few have actually visited, and to many people the vast spaces of this large but sparsely populated country in the far north holds an almost exotic allure. The image of beautiful Swedish nature with the midnight sun in the summer and long dark and snow-filled winters fascinates the readers and make them curious about that place. Crime fiction mostly provides relatively realistic images of contemporary society which gives readers an opportunity to satisfy at least some of this curiosity.

Although most Swedish crime fiction can hardly be described as feminist, to international readers from many countries, these novels still provide a representation of a place with relative gender equality. Even though many novels portray rather outdated gender relations and a hierarchical subjugation of women, the majority of women heroes in Swedish crime fiction has a career, and respected by their male peers. In Larsson's case, this has most likely been a contributing fact in the success of his trilogy. Thirdly, Stieg Larsson's popularity is also to a great extent based in his playful mixture of different crime fiction



sub-genres and elements, something that has made genre-hybridity and increased genre variety a strong trend in Swedish crime fiction in the last few years.

The Millennium trilogy is characterized by a diverse mix of crime fiction sub-genres and other genres of popular fiction. This is particularly noticeable in the first novel; *The Girl with the Dragon Tattoo* (2008) which initiated the trilogy's success. In terms of genre, Millennium Trilogy can first and foremost be categorized as fusion of an intellectual whodunit mystery and a suspenseful serial killer thriller. Initially, the clue-puzzle genre associated with Harriet's disappearance from the isolated island dominates, but eventually it is the psychological thriller associated with the serial killer case that takes over. The shift from one genre to the other is gradual, but with the turning-point clearly marked by several genre-related features. As the thriller genre becomes gradually more dominant, the suspense also escalates, making it increasingly difficult for the reader to put the novel down. In addition to these two dominating genres affiliations, the novel also aligns itself with a number of other fiction genres and sub-genres, which include: the American hard-boiled detective novel and the action thriller (Salander turns more and more into an action hero, and throughout the trilogy her main inspiration comes from women action heroes of popular culture). The novel follows at times the conventions of the police novel and of the financial thriller (the Wennerstrom affair and the sections relating to journalism and the media). It also pays tribute to the horror genre and the journalistic detective novel.

One crucial aspect in turning Larsson's trilogy into such a success is that the novels managed to reach an audience beyond that of traditional crime fiction readers. Larsson not only played with the crime genre, but also with other popular fiction genres as well. His experiments with different crime genres have been paramount in expanding his readership. Readers who normally dismiss crime fiction as being too formulaic might find the utter complexity in these novels. Additionally, crime fiction fans who generally prefer only certain sub-genres, might find reasons to expand their horizons as their favoured sub-genre is combined with others.

The Swedish title of Larsson's first novel, 'Man who hate women', and that is a strong indication of what the novel and the following two novels are all about. With this title Larsson aims to criticize and raise awareness of structural and physical violence towards women. This continues to be a prevailing theme throughout the trilogy. Abby L. Ferber stresses how "the appeal of Larsson's novels is his direct and repeated refutation of post-feminist assertions he regards violence against women as an urgent social problem threatening women's lives and well-being even today".(5) Where the media in general tend to promote post-feminist ideas and assuming that gender equality has now been achieved

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in Sweden and oppression of women is largely a thing of the past. But Ferber finds the rejection of any such claims to be one of the most attractive things about the Millennium trilogy. As Sweden is a country with a reputation of being a beacon of gender equality, the realization for international readers that Sweden is still not equal, might be a surprising and shocking revelation. While most products of popular fiction not only crime fiction - tend to point a finger at one man or select a number of specific villains, Larsson shows gender inequality and violence against women to be a fundamental, structural problem in modern society. Furthermore, he sets examples by portraying characters of strong and successful women, but also of good men who regard women as equals and who strive for gender equality.

In some ways, it can be argued that Larsson inverts traditional gender stereotypes, by providing Mikael Blomkvist with more traditionally female traits, and letting Lisbeth Salander be the action hero as she finally rescues the captured Blomkvist from the serial killer. After the two of them start working together half-way into the novel, they do appear to take an equal share in solving the mystery. Lisbeth Salander has been the main focus of both the marketing and the reception of Larsson's trilogy in the English-speaking markets, and that the feminist message of Larsson's novels is closely connected with her popular character. Salander is based primarily on the women action heroes of popular films. In addition to woman action heroes, the Salander character builds on a tradition of strong women heroes in Swedish literature in general, and in Swedish crime fiction from the last decade and a half in particular. It can be argued that Larsson's novels, at least to some extent, challenge the male paradigm traditionally dominating the crime genre and advocate more progressive ideas about gender equality, while at the same time criticizing structural violence and suppression of women in society.

The reasons behind the international success of Swedish crime fiction lies in a combination of numerous factors: having some accomplished translators, the use of a straightforward language, the depiction of human, complex and fallible heroes, the critique of the disintegrating Swedish welfare system, the exotic elements of the Swedish setting, the relative feminism or gender equality portrayed and expressed in many of the novels, the genre hybridization, and successful marketing. One can only speculate on how long the success story will continue, but since many of the really better quality Swedish crime writers have only just begun to become available through translation in the, English-speaking markets, it is likely that the triumphs will continue well into the foreseeable future. Therefore, the national popularity of Swedish crime fiction has shown no signs of decreasing. As Jan Arnald (Arne Dahl) explains in an interview with Sanna Bjorling:



I will probably always dabble in the crime genre somehow. Crime fiction provides a therapeutic process, a kind of healing process you get answers and truths that you don't get in your everyday life. It brings with it a promise of creating order and coherence out of disorder and chaos. Herein lies the enticement and the pleasure of crime fiction, and this is why the genre will not die.

It is clearly indicated that the blending of genres, fact and fiction has become a hallmark of Scandinavian crime fiction which made it distinctive and a major part of popular fiction at international level.

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**A STUDY TO IDENTIFY THE HIGH RISK INDIVIDUALS FOR HYPERTENSION AND TO TEST THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME (STP) ON KNOWLEDGE ABOUT PREVENTION OF HYPERTENSION AMONG ADMINISTRATIVE STAFF OF VINAYAKA MISSION'S MEDICAL COLLEGE AND HOSPITAL, KARAIKAL**

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**Abstract**

Cultivation is changing of certain life style changes to produce the more benefits. This will help to preserve the vital organs in our body. Life style modification of the hypertension reduces the coronary heart disease and cerebral stroke. The high-risk age group persons by following the certain life styles modification prevent the incidence of life style related diseases and its mortality and morbidity.**Objectives**1.To identify the high risk individuals for hypertension among administrative staff of VMMC&H2.To find out the effectiveness of STP on knowledge about prevention of hypertension among administrative staff of VMMC&H3.To associate the pretest knowledge of high risk individuals about prevention of HTN with certain demographic variable such as age and clinical variables such as type of diet, weight, smoking and alcohol.**Methods:** The research design employed for this study was one group pretest – posttest design. The tool used for collection of data was a self-administered structured questionnaire. **Results:** After structured teaching programme, the mean score was 9.960 with a standard deviation of 0.198. The improvement was statistically tested by paired “t” test. The results found to be statistically significant (P < 0.001). It indicates that structured teaching programme was effective to improve the knowledge level of the individuals on prevention of hypertension. **Conclusion:** The study revealed that STP was effective to improve the knowledge among high-risk individuals for hypertension.

**KEY WORDS:** Hypertension, Structured teaching Programme, Administrative staff, high risk Individuals.

**INTRODUCTION**

The sophistication life due to the technology and change in the life style of the human being such as smoking, alcohol intake increase the risk of the

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mortality, morbidity due to the non communicable diseases. The non communicable diseases which are associated with the life style is known as life style related diseases. Hypertension is one of the lifestyles related diseases.

In India, the prevalence of HTN is reported to be increasing rapidly in the urban areas and the same trend is spreading gradually to rural areas. It is estimated that there were about 66 million hypertensive in India (32 million rural and 34 million urban). Lack of knowledge about the morbidity, complications and the method of control of hypertension contributes to a large percentage of undetected and untreated hypertensive subjects in the community Therefore, health care professionals must not only identify and treat patients with hypertension but also promote a healthy life style and preventive strategies to decrease prevalence of hypertension in the general population

Hypertensives are three times more likely to get the heart attacks, five times more likely develop heart failure and ten times more likely develop the stroke than normotensive.

The health care providers are in constant touch with the public in the community making the public aware of the predisposing factors, preventive and rehabilitative measure of hypertension. People must be empowered with adequate knowledge so that they themselves are motivated modify their own lifestyle as preventive measures to this health hazard.

### **Statement of The Problem**

A study to identify the high risk individuals for hypertension and to test the effectiveness of structured teaching programme(STP) on knowledge about prevention of hypertension among administrative staff of Vinayaka Mission's Medical College And Hospital,Karaikal.

### **Objectives**

1. To identify the high risk individuals for hypertension among administrative staff of VMMC&H
2. To find out the effectiveness of STP on knowledge about prevention of hypertension among administrative staff of VMMC&H
3. To associate the pretest knowledge of high risk individuals about prevention of HTN with certain demographic variable such as age and clinical variables such as type of diet, weight, smoking and alcohol.

### **Research design:**

The research design employed for this study was one group pretest – posttest design.

O<sub>1</sub>----- X -----O<sub>2</sub>

O<sub>1</sub> - Pretest

X - Structured teaching programme

O<sub>2</sub> - Posttest



## **VARIABLES**

### **INDEPENDENT VARIABLE:**

Structured teaching programme

### **DEPENDENT VARIABLE:**

The knowledge about prevention of Hypertension.

## **SETTING OF THE STUDY**

This study was conducted in Administrative Sections of Vinayaka Mission's Medical College and Hospital, Karaikal.

### **POPULATION:**

A population is a well-defined set that has certain specified properties. Male individuals who are at high risk for hypertension and not having any complication during study period.

### **SAMPLING TECHNIQUE:**

Convenient sampling technique was adopted to select the individuals for the study. Five individuals were selected per day.

### **SAMPLE SIZE:**

A total sample of 50 male individuals with high risk for hypertension who met inclusion criteria were selected using convenient sampling technique.

## **CRITERIA FOR SAMPLE SELECTION**

### **INCLUSION CRITERIA:**

1. Males who are working in administrative sections at VMMCH.
2. Individuals with high risk for hypertension.
3. Age 25-55 years.
4. Individuals who are willing to participate.
5. Individuals who are able to read and write Tamil / English.

### **EXCLUSION CRITERIA:**

1. Individuals diagnosed as hypertension by a qualified doctor.
2. Individuals with concurrent diseases such as diabetes mellitus, cancer and neurological disorders.

### **Data collection instrument:**

The tool used for collection of data was a self-administered structured questionnaire and it was divided into two parts.

#### **Part – I**

1. High risk data sheet
2. Demographic variables and clinical variables

#### **Part – II**

It consisted of two sections

- A. Knowledge on concept of Hypertension.
- B. Knowledge on prevention of Hypertension



**Score interpretation:**

Formula used for scoring =  $\frac{\text{Obtained Score}}{\text{Total Score}} \times 100$

Section A and section B have 20 questions. Correct answer was given a score of 1 wrong answer was given a score of 0. The total 20 scores on knowledge were converted to 100%.

- < 50 % - inadequate knowledge
- 51-75% - moderately adequate knowledge
- 76-100% - adequate knowledge

**DESCRIPTION OF THE INTERVENTION**

The structured teaching programme included a brief knowledge about definition of hypertension, risk factors, signs and symptoms, basic investigations, practices to prevent hypertension and complications.

**DATA COLLECTION PROCEDURE:**

The individuals were selected by using convenient sampling technique After obtaining consent from the participants, high risk individuals were identified. Demographic data and clinical data were collected. Pretest questionnaire was administered to the individuals and knowledge was assessed.

Individuals were gathered and seated comfortably at the lecturer room. Five individuals per day were selected and individuals were given STP on knowledge about prevention of hypertension. An information booklet about prevention of hypertension was given to each individual to enrich and reinforce the knowledge. After STP the investigator informed the date and time of the posttest. Posttest was conducted using the same questionnaire.

**ANALYSIS AND FINDINGS**

The first step of the study was to identify the high risk individuals for hypertension using high risk data sheet and to assess the demographic variables and clinical variables of the individuals. Among 76 individuals, assessed using high-risk data sheet, 53 individuals were found to be at high risk for hypertension and we have selected the first 50 individuals for our study.

The second objective of the study was to find out the effectiveness of STP on knowledge about prevention of hypertension among high risk individuals.

It shows that 19(38%) of the individuals had inadequate knowledge, 30(60%) had moderately adequate knowledge and 1(2%) had adequate knowledge about prevention of hypertension. It shows that majority of them had inadequate knowledge and moderately adequate knowledge.

In posttest (after structured teaching programme) 50(100%) of the individuals had adequate knowledge. It indicated that structured teaching

programme is important for the individuals to get knowledge about prevention of hypertension.

The third objective of the study was to associate the pretest knowledge of high risk individuals about prevention of HTN with certain demographic variable such as age and clinical variables such as type of diet, weight, smoking and alcohol.

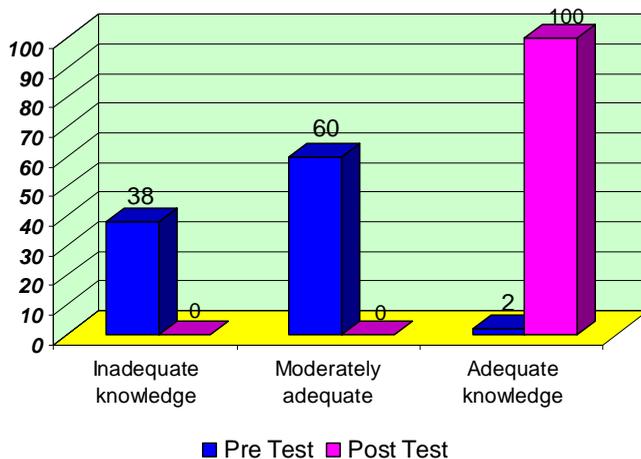
The investigator assessed the relationship between demographic and clinical variables and knowledge (concept of hypertension and prevention of hypertension) level of the individuals. The result showed that there was no statistically significant association between knowledge and demographic and clinical variables of the individuals.

The study findings showed that the structured teaching programme was effective in high risk individuals. This type of educational programmes can bring about a change in high risk individuals knowledge and create awareness to prevent hypertension.

**DISTRIBUTION OF KNOWLEDGE LEVEL ABOUT PREVENTION OF HYPERTENSION IN PRETEST AND POSTTEST**

**N = 50**

S. No.	Level of Knowledge	Pre Test		Post Test	
		N	%	N	%
1.	Inadequate knowledge < 50%	9	38	-	-
2.	Moderately adequate knowledge 51 – 75%	30	60	-	-
3.	Adequate knowledge 76 – 100%	1	2	50	100



## COMPARISON OF MEAN AND STANDARD DEVIATION OF KNOWLEDGE ON PREVENTION OF HYPERTENSION IN PRETEST AND POSTTEST

N = 50

Group	No	Mean	Mean Difference	S.D	Paired 't' Value	'P' Value
Pre Test	50	5.500	4.46	1.298	7	<0.001 (S)
Post Test	50	9.960		0.198		

S -Significant

### Conclusion

The knowledge about prevention of hypertension was assessed among high risk individuals for hypertension working as administrative staff of VMMCH ,Karaikal using a self-administered structured questionnaire. The study revealed that STP was effective to improve the knowledge among high risk individuals for hypertension.

### Recommendations for Further Study

- A similar study can be undertaken with large sample.
- A similar study can be done as comparative study between urban and rural population.
- Knowledge, attitude and practice study on hypertension can be done for both gender.
- A similar study can be conducted for an extended period of time.

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## SMART PHONE THUMB

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### Abstract

The Repetitive strain in fingers due to continuous usage of touch screen causes swelling and severe pain in fingers. To prevent this issue we develop a mobile application to notify the user with the swipe counts made. The user thus, has to control the usage of smartphones. The Counts are compared with a threshold limit to check if it has reached the limit. If the number of swipes is found to reach a limit an alert notification is sent to the user stating that they have made this number of swipes. This provides an hourly notification of the number of swipes made. This mobile application also checks the data of the number of swipes made each day and provides an average of all. This helps the user to get an idea of the number of swipes they make each day and this should try to control their continuous usage of fingers for tapping, texting and swiping. This also helps the user to prevent tendon weakness and severe issues like inability to bend the thumb.

**Keywords:** Tendon, Thumb, Touch Screen,Smart Phone, Text Claw, Cell phone elbow, Specific Absorption Rate.

### 1.Introduction

Touch Screen is an invention which helps people more easily interact with mobile phones. Touch based applications such as video games, chatting are more frequently used which in turn gives an alarming increase in “Smartphone thumb”.Users give input or control the information processing system through simple or multi-touch gestures by touching the screen of the smartphone with one or more fingers or with a special stylus. The pain that comes from the repetitive movements of texting have been dubbed as “Smartphone thumb”. The formal name for smartphone thumb is Tendonitis – an inflammation or



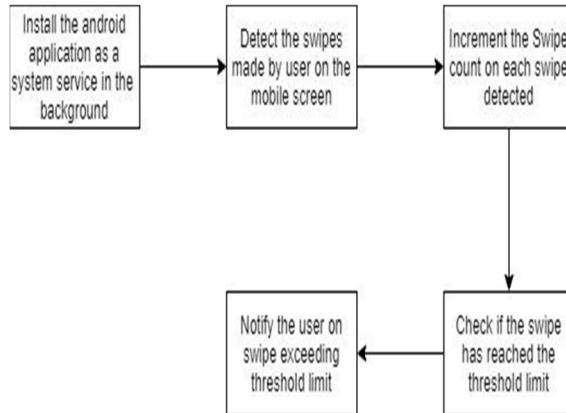
irritation of a tendon, a thick cord that attaches bone to muscle. Researchers think that it is caused by the thumb force required when texting. This abnormal bone movement of the thumb could be causing pain and eventual arthritis. Too much texting leads to more cases of arthritis in the thumb. The emitted radiation in mobile phone is electromagnetic ray in the microwave range (850–1800) which indicates that the frequency produced by mobile phones or base stations may affect the health of the people So, In order to overcome this problem, we decided to develop an mobile application which will help out as much as possible.

## 2.Literature Survey

Many research papers which are identified with the discovery of swipes and their effect on thumb and other sick consequences for wellbeing have been alluded. In the paper [1] the total medical problems identified with constant utilization of cell phones are depicted. Cell phones influence for the most part all pieces of our body including the cerebrum. Texter's thumb or Blackberry thumb is raised because of ceaseless utilization of thumbs for messaging, messing around and so forth.Paper [2] clarified the touch elements. Contact elements is the most widely recognized technique utilized for nonstop confirmation of cell phones. In Touch elements, the touchscreen input is utilized as the info information source to do the further procedures.The data accumulated during contact elements were x and y directions of each swipe, speed of the swipe and the tally of the swipes made.[3]Explains the idea of Swipe elements. It incorporates highlights, for example, recording the arrangement of information identified with the swipe activity. These tasks incorporate time, positions, and speed. This arranges the swipe dependent on the direction of the swipe, speed of swipe, separation between the two end focuses in each swipe.

The introduction of everyone to radiofrequency fields from cell phones has gotten normal and ceaseless in the ongoing years. The likelihood that a few people experience is excessive touchiness or different indications because of versatile introduction was a high need. The skin gets a lot of radiation when it is in contact with cell phone albeit numerous investigations have been done on the impact of electromagnetic radiation on biologic framework and intracranial tumors, Diseases of the skin,especially skin malignancies and contact dermatitis, are significant in light of their high commonness, ceaseless nature of the malady, and high effect on the personal satisfaction (skin infections cause torment and distress in 21% to 87% of the influenced individuals). Skin sicknesses assigned high weight of infection in all age bunches [6].

### 3.Proposed System



Despite the fact that Smartphones have made our lives simpler, numerous individuals have griped of finger, hand and elbow torment because of utilizing their gadget. In non-clinical terms, these conditions have been alluded to as "Content paw" and "Wireless elbow".It depicts the entirety of the finger squeezing and throbbing muscles that originate from steady gaming, looking over and messaging on cell phones.

#### Swipe Detection

To distinguish the impact of touch,swipes and taps, client contact occasions on the screen are checked persistently. This is finished by actualizing a foundation administration android application that runs constantly checking the Swipe occasion in the touch screen. This necessitates application administration to be begun On portable Boot and uses the permission "RECEIVE \_BOOT\_ COMPLETED" and the "SYSTEM\_ALERT". The auto start class utilizes the on Receive technique to distinguish the beginning of the administration. Another on Touch Event() is activated with an ACTION\_MOVE event. Whenever the present touch contact position, weight, or size changes. All of these occasions are recorded in the Motion Event parameter of the on Touch Event(). There are a wide range of approaches to follow developments, contingent upon the requirements of your application. . For example:

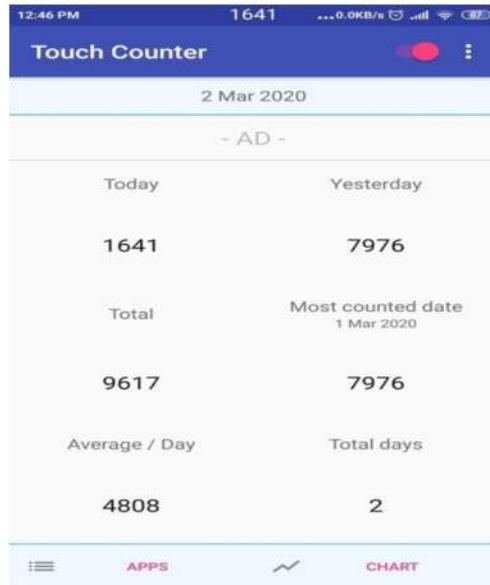
- The beginning and the closure position of a pointer (for instance, move an on-screen object from direct A toward point B).
- The heading the pointer in which it is going in, is controlled by the x and y facilitates.

#### Swipe Counter

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At the point when a swipe input is distinguished this application expands the tally of the swipes made. The swipe is recognized by detecting the



MotionEvent. The edge estimation of the quantity of swipes is set. On the off chance that the quantity of tallies arrived at the most extreme edge limit client will get a warning to keep away from abuse of the touch highlight on the telephone. For this client must have the application introduced and give get to rights required to it. The application is structured so that each time when client swipes or messages or taps the tally gets increased.

Each day the count is set to zero initially and increases based on the swipes and taps made by the user. This class uses the calendar permissions to restart the application each day. If the count reaches the threshold, then the user will get notified. This will happen every hour. This way the application is designed.

### Display Statistics

The swipes, touches, and taps detected for each app running and this data is used to find the time the user is spending in each app. This statistics and the average swipes made each week is displayed to the user. This application provides the user's average touch screen usage of a period of 7 days. This may help the user with the statistics about the mobile usage as well as the radiation rate they are exposed to.





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**STUDY HABITS OF B.ED STUDENTS OF INSTITUTE OF ADVANCED STUDIES IN EDUCATION (IASE) AND DISTRICT INSTITUTE OF EDUCATION AND TRAINING (DIET), AIZAWL**

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**Abstract**

The study deals with the Study Habits of B.Ed students studying in IASE and DIET, Aizawl where sample of the study consisted of 141 students; 50 students from DIET, Aizawl and 91 students from IASE, Aizawl. Standardized test 'Study Habit Inventory developed by Prof. M.N. Palsane (Pune) & Anuradha Sharma (Agra) published by National Psychological Corporation, 4/230, Kacheri Ghat, Agra was used as a tool for the present study. Statistical tools like percentage, median, standard deviation and t- test were used for calculating and finding out the difference level of the study habits of the students. The result showed that most of the B. Ed students fall under the category of very unsatisfactory habits and there was no significant difference between IASE and DIET B. Ed students on their study habits.

**Keywords:** Study habits, B. Ed students

**1. Introduction**

Study denotes a detailed analysis. It can be aspired to a wide variety of fields including study of education, human nature, objects etc. Many examples can be given in today scenario where we see different traits of human are noted and classified or study of a nation's development through parameters like economy. All these detailed analysis are the stepping stones for improvement. So, in a way it can be summed up that Study implies a positive attitude towards certain things which brings about improvement and development.

Habit denotes regular practices of a person as a whole which could either be a positive one or a negative one. Certain habits like waking up early every morning which a person adheres to his life everyday could be said as a positive habit as the action of waking up early morning has many positive



impacts on the life of a person. Whereas habits like biting of one's nails could be said as a negative one as the actions of biting could lead to a negative outcome. So, habits could be of certain things which a person practices in his/her everyday life but could however be a good or a bad one.

Good (1973) defines the term study habits as "The student's way of study whether systematic, efficient or inefficient".

Thus study habit is the umbrella under which the above mentioned examples come. It includes the detailed investigation into things or objects and conditions. A classroom comprises of multiple students gathered together in one platform but out of which the level of development they gain from the classroom are different. All these parameters needed to be studied and assessed.

## **2. Rationale of the Study**

The behavior or practices of a person, families or society as a whole towards certain things could vary. These need to be assessed properly as to whether they are good or bad habits, whether they could lead to a negative or positive outcome. Detailed study of each of these could greatly decide the need for change where needed.

A good study habit is the main source for improving the students' academic achievement.

The education system in Mizoram has downgraded slowly over the past years, leading to unemployment of many degree holders. The number of aspirants cracking central service exams has become very few among the Mizos. What could be the reason for all these decline? could it be the effect of our wrong study habits which leads to the decline in the quality of our education? All these matters need a serious in depth study for future strengthening of our education system.

The B,Ed trainees has a lot of responsibilities in this field, as they are the future teachers, who are responsible for guiding the children into developing a better study habits which could further better the quality of education in our state. So, the trainees need to have a good study habits themselves so they could in turn shape the future of the children by promoting and developing a better study habits. For the students to grow and improve, the teacher needs to be in a position to guide them. There are only a few institutions in Mizoram offering training in B.Ed. Recent study in the Study habits among the B.Ed trainees conducted by Dr.Lallianzuali and Esther Lalrinngheti (2016), showed majority of the trainees were fall under the category of 'unsatisfactory'. Therefore, the investigator finds it important to further evaluate the present condition of the Study habits among the trainees to assess the improvement over the past years.

## **3. Objectives of the Study**

1. To find out the overall Study Habits of Bed students in IASE and DIET.
2. To compare the study habits of IASE and DIET Bed students.



3. To compare the Study Habits of IASE Bed students in terms of gender.
4. To compare the Study Habits of DIET Bed students in terms of gender.
5. To compare the study Habits of IASE and DIET's B.Ed Male students.
6. To compare the study Habits of IASE and DIET's B.Ed female students.

### **3. Hypotheses of the Study**

1. There is no significant difference between the study habits of IASE and DIET B.Ed students.
2. There is no significant difference between the study habits of male and female B.Ed students in IASE.
3. There is no significant difference between the study habits of male and female B.Ed students in DIET.
4. There is no significant difference between the study habits of B.Ed male students of IASE and DIET.
5. There is no significant difference between the study habits of B.Ed female students of IASE and DIET.

### **6. Methodology and Procedure**

#### **Research design:**

Descriptive research was adopted by the investigator to find out the study habits of Bed Students in IASE and DIET, Aizawl.

#### **Population and sample:**

The population of the present study consisted of all Bed students (334) in IASE and DIET, Aizawl, i.e., 100 students from DIET and 234 students from IASE. The sample consisted of 141 students; 50 students from DIET, Aizawl and 91 students from IASE.

#### **Tool used:**

The investigators used standardized test 'Study Habit Inventory developed by Prof. M.N. Palsane (Pune) & Anuradha Sharma (Agra) published by National Psychological Corporation, 4/230, Kacheri Ghat, Agra as a tool for the present study.

#### **Procedure for data collection:**

The data had been collected from all the Bed students from IASE and DIET and questionnaires were distributed after explaining the need and purpose of the work and also clarified the doubt of the students. The investigator gave the instructions orally and also asked to read the instructions given along with the instruments and motivated to respond genuinely to all the items.

#### **Procedure for data analysis:**

The investigator collected all the distributed questionnaires and carefully interpreted the data by using statistical tools like percentage, median, standard deviation and t- test to make the conclusion.

## 7. Analysis and Interpretation of the Data

**Objective No. 1-** To find out the overall Study Habits of B.Ed students in IASE and DIET.

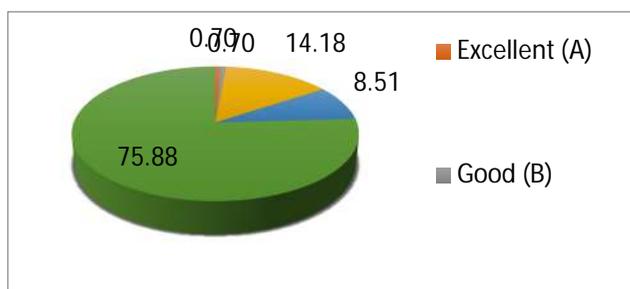
**Table 1**

**Overall study habits of Bed students in IASE and DIET**

Category	No. of Students	Percentage
Excellent (A)	1	0.70
Good (B)	1	0.70
Average (C)	20	14.18
Unsatisfactory (D)	12	8.51
Very Unsatisfactory (E)	107	75.88

The above table i.e. Table 1 reveals that out of the entire samples of 141 students, only 1 student which is 0.70% had excellent study habits, 1 student which is again 0.70 % had Good study habits, 20 students which is 14.18% of students had Average study habits, 8.51% students which means 12 students had unsatisfactory study habits and 75.88% which is 107 students had very unsatisfactory study habits.

**Figure-1** Pie chart showing overall percentage of the study habits of B.Ed Students in IASE and DIET.



**OBJECTIVE NO-2:** To compare the study habits of IASE and DIET Bed students.

Hypothesis 1: There is no significant difference between the study habits of IASE and DIET B.Ed students.

The study habits of B.Ed students of IASE and DIET are computed and compared on the sample of 141 students, 91 students from IASE and 50 students from DIET. The mean, standard deviation (SD) of the scores were obtained and the mean difference was tested by employing t-test and details were presented in Table 2.

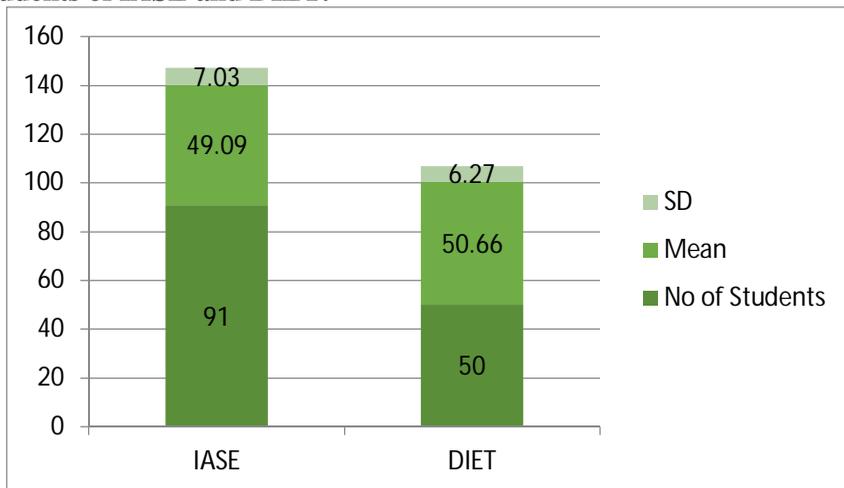
**Table 2**

**Comparison on the study habits of IASE and DIET B.Ed students.**

Category	No. of students	Mean	SD	t-value	Significance level
IASE	91	49.09	7.03	1.30 (1.98)	Not significant
DIET	50	50.66	6.27		

From table 2, it can be observed that the mean scores and S.D. scores of study habits of B.Ed students of IASE and DIET are **49.09, 50.66** and **7.03, 6.27** respectively. The 't' value is **1.30** which is less than critical value at the required level of significance which indicates that the null hypothesis i.e. 'there is no significant difference between the study habits of B.Ed students of IASE and DIET' is accepted.

**Figure-2 showing mean and standard deviation of study habits of B.Ed students of IASE and DIET.**



Objective No-3: To compare the Study Habits of IASE B.Ed students in terms of gender.

Hypothesis No 2: There is no significant difference between the study habits of male and female B.Ed students in IASE.

The study habits of male and female B.Ed students of IASE are computed and compared on the sample of 91 students, 31 male students and 60 female students. The mean, standard deviation (SD) of the scores were obtained and the mean difference was tested by employing t-test and details were presented in Table 3.

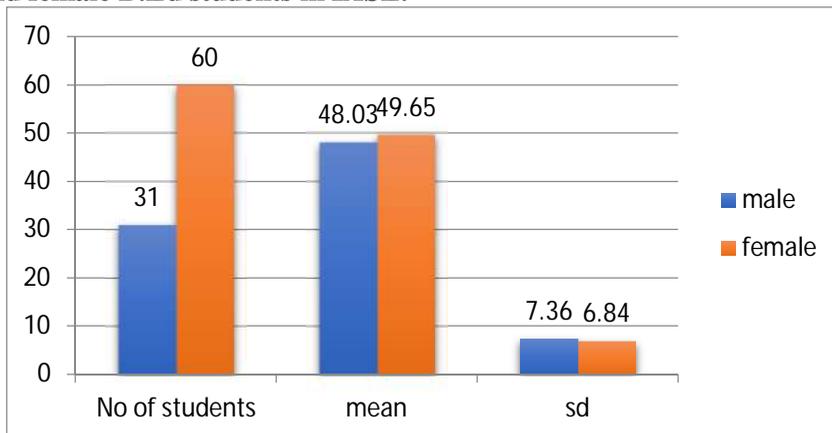
Table 3

Comparison on the study habits of IASE B.Ed students in terms of gender

Gender	No. of students	Mean	SD	t-value	Significance level
Male	31	48.03	7.36	1.04 (1.99)	Not significant
Female	60	49.65	6.84		

From table 3, it can be observed that the mean scores and S.d. scores of study habits of IASE male and female students are **48.03, 49.65** and **7.36, 6.84** respectively. The 't' value is **1.04** which is less than critical value at the required level of significance which indicates that the null hypothesis i.e. 'there is no significant difference between the study habits of male and female B.Ed students of IASE' is accepted.

**Figure-3 showing mean and standard deviation of study habits of male and female B.Ed students in IASE.**



**OBJECTIVE No 4:** To compare the Study Habits of DIET B.Ed students in terms of gender.

Hypothesis 3: There is no significant difference between the study habits of male and female B.Ed students in DIET.

The study habits of male and female B.Ed students of DIET are computed and compared on the sample of 50 students, 20 male students and 30 female students. The mean, standard deviation (SD) of the scores were obtained and the mean difference was tested by employing t-test and details were presented in Table 4.

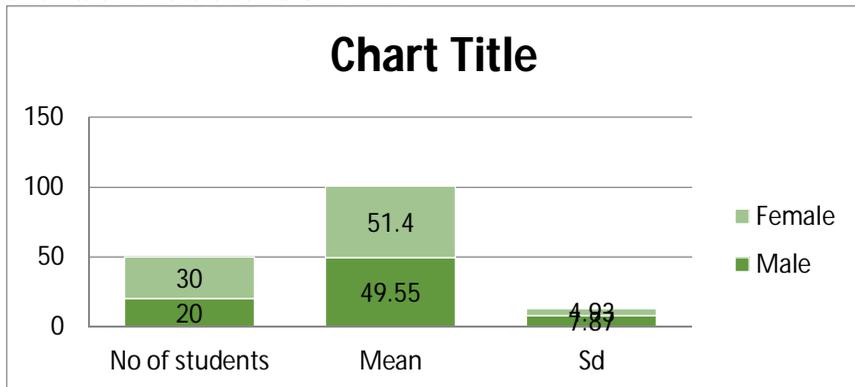
Table 4

Comparison on the study habits of DIET B.Ed students in terms of gender

Gender	No. of students	Mean	SD	t-value	Significance level
Male	20	49.55	7.87	1.02 (2.02)	Not significant
Female	30	51.4	4.93		

From table 4, it can be observed that the mean scores and S.D. scores of study habits of DIET male and female students are **49.55, 51.4** and **7.87, 4.93** respectively. The 't' value is **1.02** which is less than critical value at the required level of significance which indicates that the null hypothesis i.e. 'there is no significant difference between the study habits of male and female B.Ed students of DIET' is accepted.

Figure-4 showing mean and standard deviation of study habits of male and female B.Ed students of DIET.



**OBJECTIVE No-5.** To compare the study Habits of IASE and DIET B.Ed Male students.

Hypothesis 4: There is no significant difference between the study habits of B.Ed male students of IASE and DIET.

The study habits of male B.Ed students of IASE and DIET are computed and compared on the sample of 51 students, 31 students from IASE and 20 students from DIET. The mean, standard deviation (SD) of the scores were obtained and the mean difference was tested by employing t-test and details were presented in Table 5.

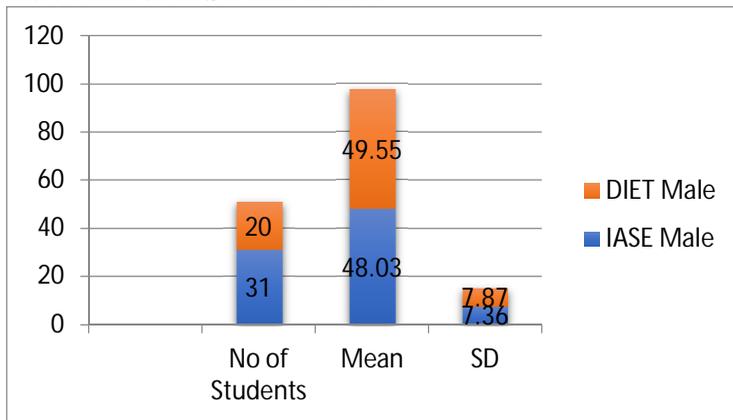
**Table 5**

**Comparison on the study habits of Bed male students of IASE and DIET**

Category	No. of students	Mean	SD	t-value	Significance level
IASE Male	31	48.03	7.36	0.69 (2.02)	Not significant
DIET Male	20	49.55	7.87		

From table 5, it can be observed that the mean scores and S.D. scores of study habits of male students of IASE and DIET are **48.03, 49.55** and **7.36, 7.87** respectively. The 't' value is **0.69** which is less than critical value at the required level of significance which indicates that the null hypothesis i.e. 'there is no significant difference between the study habits of Bed male students of IASE and DIET' is accepted.

**Figure-5 showing mean and standard deviation of study habits of Bed male students of IASE and DIET.**



**OBJECTIVE No-6.** To compare the study habits of IASE and DIET B.Ed female students.

Hypothesis 5: There is no significant difference between the study habits of B.Ed female students of IASE and DIET.

The study habits of female Bed students of IASE and DIET are computed and compared on the sample of 90 students, 60 students from IASE and 30 students from DIET. The mean, standard deviation (SD) of the scores were obtained and the mean difference was tested by employing t-test and details were presented in Table 6.

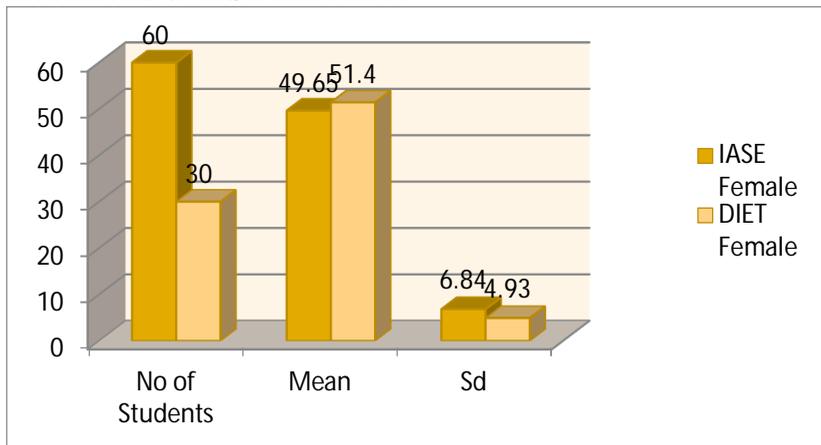
Table 6

Comparison on the study habits of female Bed students of IASE and DIET

Category	No. of students	Mean	SD	t-value	Significance level
IASE Female	60	49.65	6.84	1.24 (1.99)	Not significant
DIET Female	30	51.4	4.93		

From table 6, it can be observed that the mean scores and S.D. scores of study habits of female students of IASE and DIET are **49.65, 51.4** and **6.84, 4.93** respectively. The 't' value is **1.24** which is less than critical value at the required level of significance which indicates that the null hypothesis i.e. 'there is no significant difference between the study habits of Bed female students of IASE and DIET' is accepted.

Figure-6 showing mean and standard deviation of study habits of Bed female students of IASE and DIET.



## 8. CONCLUSION AND DISCUSSION

It was found that out of the entire samples of 141 students, only few students have excellent and good study habits, less than 20% were found to have average study habits and majority of the students fall under the category of very unsatisfactory study habits. It was also found that there exists no significant difference of IASE and DIET B.Ed students in relation to gender.



This clearly shows that a room for improvement has to be made among B. Ed students on their study habits to do better on their academic performance.

In any educational system, the most important role is played by the teachers. Their attitudes towards the student-teachers and their approach to the subject matter have a great influence on the attitude of their students. Therefore, the study habits can be improved by changing and developing approaches to the content taught in the classroom.

Moreover, motivation plays a key role in learning as it is the most emphasized point in the teacher education programme for developing healthy habits of studying and gaining the attention of the students to their lessons. The students should also be encouraged to make time for regular study sessions by cutting their leisure time and reserving a particular hour of the night. This may seem difficult at the beginning but as long as they stick with it, it will become a habit.

It is very important to inculcate value among the student-teachers that the ability to prioritize value over another, as well as how to balance their study timings and the time they spend in the church and society.

Many factors could contribute to the unsatisfactory study habits among the B.Ed trainees in both institutes. Few points may be highlighted. Majority of the trainees are from rural areas of Mizoram who are residing with their relatives or in a private run hostel, these trainees do not have adequate time to study or more so, a private study room. Few of the trainees need to support themselves by working a part time job; therefore, there is lack of proper study hours. Personal problems or family problems could contribute to the lack of developing a better study habits among few. Most of the trainees are considered as matured individuals who are facing different life problems and the capability of solving their problem may differ. Therefore, to improve the study habits among the trainees, it is of paramount importance for the teacher educators to diagnose the difference in reasons or difficulties that the trainees faced individually, so as to help them find a solution for each to improve their study habits.

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## SELF-ASSERTIVENESS PORTRAYED IN BHARATI MUKHERJEE'S NOVEL 'JASMINE'

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### Abstract

This article discusses the novel Jasmine by South Asian-American woman writer Bharati Mukherjee with emphasis on the protagonist's odyssey towards the west in search of identity. The analysis dwells on the physical dislocation and psychic trauma the eponymous character experiences as she forays for self-discovery and self-actualization in the face of volatility in the pluralistic system of America with self-assertion. Tinged with autobiographical overtones, this migratory narrative takes us into the recesses of the heart of the female protagonist who tries to wriggle out of both human and cultural predicaments in the postcolonial era. The novel leverages different ways to disentangle identity crisis and cross-cultural predicament through journey motif and embarks on an exploratory voyage across geographies in the US. Mukherjee chisels the character of the woman protagonist with such a breadth of buoyancy that she becomes a catalyst for change, undeterred in the face of adversities and atrocities.

**Key Terms:** Self-Assertiveness, Journey Motif, Diasporic Sensibilities, Dislocation, Cultural Predicament, Selfhood.

### Introduction:

Jasmine, the eponymous character of the novel Jasmine treads different roles and identities right from being a Hindu teenaged widow in India to being a baby sitter in New York to being a wife out of a live-in relationship in Iowa, America. Jasmine's character symbolizes constant transformation in



her journey of self-discovery and identity. Her journey motif is largely dictated by circumstantial imperatives and is therefore quite determinant to find a road map in the alien land for fulfilling her deceased husband's dream. By all means, she tries to get assimilated into American fold and Americanization becomes an indispensable feature for her to acquire a distinct and complete identity for her. The strategy Jasmine applies is survivalist mentality to be able to go ahead unimpeded by either physical or psychological obstacles. Whether it is survivalist mentality or seeking to be in a comfort zone, what Jasmine does is trying to put an effort to realize the dream that they have believed should take place. In the words of Bharati Mukherjee, "Jasmine and so many of my other characters are really trying to find a comfort zone between belief and effort, and reward of award, and destiny – which things are planned" (Desai et al 139-140). Quest for identity becomes the focal point of this novel as the protagonist Jasmine experiences both physical and psychological ordeals. Mukherjee has manifested a tapestry of female experiences life self-actualization and self-assertion in this dynamically orchestrated novel.

#### **Discussion:**

As the story unfurls, influenced by Mukherjee's signature flashback technique, the protagonist of the novel Jasmine starts reminiscing about her past: the prophecy of a fakir that she becomes a widow and leads a life in exile. As Jyoti belonging to a wealthy family in Lahore, she rebels against the socio-cultural oddities like the patriarchal dictates of her father and the deep rooted traditional ethos of their feudal society. Traces of rebellion and resilience in Jyoti towards orthodox customs and traditions can even be found right from her childhood. A true spirit for identity takes birth in Jyoti at the initial stages of her life's journey itself. She is not even spared by gender discrimination, besides her being a victim of feudalism in Hasnapur, Punjab. It can therefore be surmised that Jyoti's childhood is itself responsible for her later craving for self-discovery and identity leaving behind the traditions and native cultural ethos.

Her choicest marriage with Prakash Vijh later reduces her into a widow replicating itself with the prophecy of the fakir. Prakash's dream of pursuing further education in Florida, US gets snubbed as he succumbs to an improvised explosive device planted by Khalsa Lions, a religious fundamentalist outfit. The couple's dream of setting up their own electronics store gets shattered too. However, the sudden spurt of events fails to snub her spirits. She instead draws a great deal of courage and conviction to make Prakash's dream come true. The death of Prakash gives birth to a new woman in her: apart from being christened as Jasmine by Prakash down to her growing



equally ambitious like him, to her getting growingly determined to fulfill the shattered dream. Jasmine, treading a transformative path, sets off on her journey to the far of land – America with grit and determination: “In the construction of the female identity in Jasmine, Mukherjee has attributed some positive qualities like indomitable will, a vision to survive and courage which are used in flashbacks, thereby advancing the story of the heroin from Hasnapur to bold adventure in United States” (Ashri 96).

Defying the familial compulsions about getting married again and other frailties, what she obviously does is she follows the prophecy of the fakir: to be on a journey motif as an exile. Whether the strive could be towards making the unfulfilled dream come true, or attaining selfhood, Jasmine’s move is certainly towards achieving a greater freedom as an individual: “Bharati Mukherjee represents in her novels the contemporary woman’s struggle to define herself and attain an autonomous selfhood, especially in cross-cultural crisis, a subject which has assumed a great significance in the present world of globalization” (Kumari and Lakshman 110).

Further, landing in America as an illegal immigrant Jasmine confronts yet another cultural shock when she confronts one Half-face, who ruins her chastity by raping her in a motel. The rape incident that has dishonoured her body, outraged her modesty and grabbed her human dignity fails to influence her to have a digression from her mission for which she has landed in America. Her gory killing of the devil-incarnate Half-face by assuming the role of goddess Kali, with blood oozing sliced tongue and blood-stained knife in hand, Jasmine literally stands there as a destructive force. Jasmine, who burns her husband’s suit case and unburdens herself from all kinds of memories, is rather portrayed as some defying force denying any access to any man. Nandini aptly concurs, “Perhaps Mukherjee tries to mean that no man can even reach Jasmine with such intention. However Kali being an incarnation of Durga, the goddess of strength the mythic reference also points to the gaining of mental strength and will power to become a Female Hero” (113). This gruesome incident rather boosts the morale of Jasmine multifold instead, propelling her to pick up the strands of Americanization that invariably gives her a distinct self-hood.

Lillian Gordon, a kind Quaker lady, rescues Jasmine and renames her as Jazzy and teaches her the talk and walk of an American. From Jyoti to Jasmine and then to Jazzy, with the constant change in her identity, Jasmine comes close to be deceived by another man, Professor Devinder Vadhera in New York. Incidentally, he is the very person whom her husband has



considered a mentor. Jasmine quickly identifies the true business-mind of Devinder, who has passed himself as a professor, and demands the arrangement of a green card for her on a quid-pro-quo term of not revealing his identity. So, backed by self-assertion, Jasmine tries to explore opportunity out of struggle and lays pioneering steps towards fulfilling her vision. Sushma Tandon substantiates that “despite many difficulties, Jasmine survives with grace, holding on to her capacity to make a new life for herself” (149).

Pushing back the frontier, she moves to the next phase in America. She joins the Taylors as a care-giver to their adopted daughter Duff. Again in a new identity as Jase, she establishes firm moorings there winning their hearts with her admirable disposition. Her physical trajectory, however, hardly contains her psychological shuttling of memories recollecting Prakash and his unfulfilled mission. That she is on constant move, with consistent transformation, towards exploring a true identity for herself bespeaks the kind of poise she has maintained in balancing conflicting cultures and personalities. It is no less a diasporic predicament that should otherwise have pushed her into the abyss of dislocation but for her audacious stand and untiring zeal Jasmine remains an epitome of new-age woman’s strength and conviction. The very presence of Jasmine with the Taylors is like a cog in their family wheel disrupting their conjugal relationship as Wyle Taylor prefers to divorce Taylor probably out of suspicion about the growing intimacy between Jasmine and Taylor. With Taylor inching towards her stirring her female heart, Jasmine rather reminisces how her life has so far seen several husbands in exile yet belonging to none. She too develops a kind of love towards Taylor, love bereft of sexual intent: The love I felt for Taylor that first day had nothing to do with sex. I fell in love with his world, its ease, its careless confidence and graceful self-absorption” (171). However, fearing threat to the lives of Taylor and Duff from the Sikh outfit that has perpetrated and claimed the life of Prakash, she wants to leave New York and move to Iowa in search of fresh moorings.

Dislocation leaves Jasmine a wretched one from New York to Iowa, and her odyssey, replete with pain, agony, loneliness and distress, opens up another phase in her life succumbing to immigrant sensibilities. In Iowa, Jasmine gets tethered to Bud Ripplemeyer, a middle-aged banker. Ripplemeyer has long been confined to a wheel chair out of a disastrous shooting incident that maimed him. The saga of naming continues as she gets yet another name Jane in Iowa. She becomes Jane Ripplemeyer as she gets into a live-in relationship with Bud. In her new identity, Jane grows apprehensive of the fate of their relationship in case of their getting into a nuptial knot. Jasmine arguably has many more shades, dimensions and angles in her, many selves



and many more husbands all frozen into a tornado. She adds that she becomes a confused lot wrecking havoc wherever she lands. The intention to serve, care and mingle with people could be right but she fails to connect different loose ends that sustain the very essence of life. Du, a Vietnamese American, is the adopted son of Bud. Both Jasmine and Du come across many transformations in the land of opportunities. Jane envying the hyphenated existence of Du even comments that: “We’ve been many selves. We’ve survived hideous times” (214). Wherever she lands, Jasmine develops close affinity with the people there. It is Du who endears himself to her with his caring hands and soothing words. His leaving for California rather saddens her as she feels desolate and lonely.

Every time Jasmine tries to push back the frontiers in the process of assimilation into the American fold, she confronts with a new problem. Time and again, it has been proved that women carrying the image of illegal refugees are highly vulnerable to lecherous looks and libidinous hands of men. Jasmine rather wants to disprove the fakir’s prophecy that she attains widowhood and lives in exile. She always wants to prove that she is adventurous and resilient and seeks transformation towards new frontiers and green pastures. In her search for feminine identity, she wants to reposition the stars and planetary movements that have cast a shadow on her fate. She thinks of uniting with Taylor who has faithfully breathed life into her female psyche. Moreover, Jane adds that she is not bothered about the presence of different men in her life but wants to remain tethered to both sides of the world: “I am not choosing between men. I am caught between the promise of America and old-world dutifulness” (240).

Bharati Mukherjee, in portraying the character of Jasmine, deals with feminine identity and immigrant sensibilities that plague the female psyche of the protagonist. Drawing a parallel with the nuances of the traditional institution of marriage and its impacts in the life of Jasmine, Mukherjee maintains poise to the fact that marriage may not guarantee the wife the promised contentment. The shuttling hues of multicultural setting forming the backdrop, there obviously take place many factors both physical and psychological that instigate women in the role of wives either to repudiate or replenish the wedding vows. Jasmine’s strive to replenish the widening gap between Taylor and herself is rather a scramble for fostering secured relationship and assured assimilation. Jasmine comes out with a word of rebuttal to the astrologer at the time of taking a final call about her joining Taylor: “Watch me re-position the stars, I whisper to the astrologer who floats cross-legged above my kitchen stove” (240). What Jasmine comprehends is



that extraordinary incidents in life breathe in a new dimension and a new beginning. Her odyssey to America is indeed an extraordinary incident unimagined of, but it promises her of a new beginning.

### **Conclusion:**

The traumatizing death of Prakash, the crippling nature of widowhood, the victimization at the hands of the feudal society at home and male chauvinistic society across the borders can hardly snub her self-assertion in achieving the mission unfulfilled. Dislocation across the cross-cultural spectrum right from Hasnapur to New York to Iowa can hardly impede her sense of direction or her strong passion to find roots in the alien land. On more than one count, Jasmine's character assumes importance as being dynamic one who has explored and experimented with identity all through. The search for feminine identity far and above caste equations, gender discrimination, familial inhibitions and immigrant sensibilities help Jasmine find her footing in America. Exhibiting terrifying potential of her female psyche she has taken advantage of her self-assertion in seizing every opportunity that came in the way of her establishing a true identity.

Life skills like adaptability and resilience go hand in hand with the character Jasmine as Mukherjee gives subtle shades of these credentials in letting the character bridge the void between Third World and the promising First World. Gamel pertinently mentions that "...Mukherjee writes of the complications that result from being thrown between two worlds and the strength and courage it takes to survive and, ultimately, live" (143). Apart from these qualities, what Jasmine manifests through her personality in the process of skimming through a multicultural milieu include strong inner strength and self-empowerment. Mukherjee has given fine strokes to the character of Jasmine showcasing her as vibrant, valiant and vivacious as much in America as in India. Probably, the height of boldness, driven by her mission, Jasmine has been equipped with has paved the way for her conquering the borders of geographies as well as hearts. "At all steps, she is a winner. Her internal sensibilities do not find much of a place in her life. She lives a floating life as it were, without so much as touching the realities the immigrants, especially the illegal ones, face at every step" (Taruvar 75).

The way the immigrant character of Jasmine has been portrayed fulfilling immigrant sensibilities in an aesthetic manner on a physical format may be a qualified attribute of Mukherjee, but on a psychological front the same may look bizarre and feeble. According to Sumita Ashri "...Mukherjee has presented a kaleidoscopic picture of the American society where the



floating experience of the immigrants who are in search of fulfillment is beautifully depicted but psychologically unconvincing” (104). Moreover, the concept of feminine identity Mukherjee has portrayed the character of Jasmine with largely appears to be autobiographical in tone and tenor. The novel concludes with Jasmine rebutting the fakir’s prophecy as she moves ahead with Taylor with a distinct feminine identity and true transformation in search of firmer rooting in America. Her tactical moves in getting assimilated into the American fold, undiscouraged by many a tormenting situation could be the handiwork of a breadth of adventurism coupled with unrelenting endeavor and unyielding personality.

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## ATTITUDE OF STUDENT TEACHERS TOWARDS STRUCTURED REFLECTIVE JOURNAL WRITING EXPERIENCE

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### Abstract

Reflection is an integral component of continuing professional development of teachers. The present study estimated the attitude of student teachers towards structured reflective journal writing experience and employed procedures associated with both qualitative and quantitative paradigm. The participants (500 student teachers) in this study were drawn from student teachers at secondary level. The investigators provided structured reflective journal to selected student teachers and asked to maintain it throughout their practice teaching period to document their daily teaching experiences. After practice teaching period the content analysis of the reflective journals were done to identify the focus, reflective categories and levels of reflectivity in the writing. In order to find out the student teachers' attitude of student teachers towards reflective journal writing experience in terms of open-mindedness, responsibility and whole-heartedness the investigators prepared and standardised an attitude scale and administered it to the same sample of student teachers and analysed quantitatively. It was found that student teachers have high level of positive reflective attitudes viz., open-mindedness, responsibility and whole-heartedness and there is no significant difference in the attitude of male and female student teachers towards reflective journal writing experience. However science student teachers were found to be more open-minded, responsible and whole-hearted than those of language, social science and mathematics student teachers.

**Keywords:** Reflective Journal Writing Experience, Reflective Attitude, Open-Mindedness, Responsibility, Whole-Heartedness

### Introduction

Education plays a pivotal role in the development of a nation in every aspect. The academic and professional standards of teachers constitute the most important determinant for achieving the educational goals. Teachers' professional development is one of the most indispensable ingredients to improve the quality of teaching- learning process.



Reflection is an integral component of continuing professional development. It is a process which goes through a cycle of experiencing, reflecting, learning and planning. In reflection, professionals recall, consider and evaluate their experience to improve their practice and to deepen their understanding of that experience (Richards, 1990). Reflective practice is simply any instance where individuals think critically about an action, thought, or experience. It is a conscious and systematic approach to thinking about experiences with the aim of learning and changing behaviours. Rationale behind using reflective practice for professional development is that experience alone doesn't necessarily lead to learning but deliberate reflection on the experience is an essential tool to assure deep understanding and learning.

Dewey (1933) argued that reflective thinking is needed when teachers face doubts, problems or dilemmas. He maintained that reflective thinking leads practitioner to act in a deliberative and intentional fashion rather than in a blind and impulsive manner. According to him the three attitudes viz., open mindedness, responsibility, wholeheartedness, are integral to reflective process and are necessary for the professional development of teachers.

Open-mindedness is defined by Dewey (1933) as a freedom from prejudice, partisanship, and such other habits which close the mind and makes it unwilling to consider new problems and ideas for a change. It is "hospitality" to new facts, ideas, and questions. It is an active desire to listen to multiple views; to give heed to facts from whatever source they come; to give full attention to alternative possibilities; to recognize the possibility of error even in the beliefs that are dearest to one. According to Dewey (1933) "mental closure" rather than open-mindedness tends to be the more common attitude of the teaching professionals. For Dewey a professional can overcome this "mental closure" by cultivating alert, curiosity and spontaneous outreaching for the new which is the essence of the open mindedness. Thus teachers who are open-minded may examine what they might have taken for granted and think about new possibilities.

The second prerequisite attitude necessary for reflection is responsibility which is an intellectual trait. According to Dewey (1933) to be responsible is to intellectually consider the consequences of a projected step and to be willing to adopt these consequences. Intellectually responsible teachers are not only open to ideas and willing to scrutinize those they hold dear, but have desire to analyze and evaluate ideas through considering consequences and implications in short-term and long term. Responsible teachers ask themselves what they are doing and why they are doing so in their classrooms.

The third attitude that is essential for reflective practice is whole-heartedness. It is a genuine enthusiasm that operates as an intellectual force and gives onward impetus to thinking. Many teachers fear the consequences of



changing traditions, making changes, and being different while teachers with an attitude of whole-heartedness have the courage to overcome these fears and insecurities.

Reflective teacher with an attitude of open mindedness, responsibility, wholeheartedness think over their teaching practices, analyze how something was taught and how the practice might be improved or changed for securing better learning outcomes. This may then lead to changes and improvements in their teaching.

### **Need and significance of the Study**

The National curriculum Frame Work for Teacher Education (2009) recommended the need for maintaining reflective journals by student teachers for recording “their observations, reflections, including conflicts as a means for developing greater self-awareness about the various aspects of the teaching and learning process. Yang (2009) indicated that critical reflection does not come naturally to most teachers, therefore appropriate opportunities for reflective writing should be provided to student teachers.

Reflective journal writing is more challenging than is generally recognized. The investigators made a pilot study regarding the implementation of the journal writing at B. Ed level. It is found that reflective journal writing does not become an occasion for student teachers to holistically evaluate their practice in the light of educational theories or explore their own beliefs and practices. Some students describe what happened in a superficial manner and seem to think that critical reflection means being critical, in a negative way. Besides, some students perceive it as a burden and waste of time. More over student teachers lack the characteristics like open mindedness, responsibility and wholeheartedness. In order to overcome these problems, the reflective writing of student teachers should become more focused and systematic as well as transformative.

The present study is an outcome of an attempt to improve the status of reflective journal writing with the help of a structured reflective journal incorporating the key components of reflection i.e. open-mindedness, wholeheartedness, and responsibility.

The major objectives of the study were to find out and compare the level of attitude of student teachers towards reflective journal writing experience in terms of open-mindedness, responsibility and whole-heartedness based on gender and pedagogical courses

### **Methodology**

This study employed procedures associated with both qualitative and quantitative paradigm. All regular student teachers at secondary level of Colleges of Teacher Education in Kerala State constituted the target population

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of the study. The investigators draw a sample of 500 student teachers from the population concerned through purposive sampling. Student teachers were provided structured reflective journal (developed by the investigators) and asked to maintain it throughout their practice teaching period to document their daily teaching experiences. After practice teaching period the content analysis of the reflective journals were done to identify the focus, reflective categories and levels of reflectivity in the writing. In order to find out the student teachers' attitude of student teachers towards reflective journal writing experience in terms of open-mindedness, responsibility and whole-heartedness the investigators prepared and standardised an attitude scale and administered it to the same sample of student teachers and analysed quantitatively by means of percentage analysis, measures of central tendency, Analysis of Variance and post hoc Scheffe Test.

**Results**

The data collected from student teachers and the results are given in Table 1.

Table 1

Analysis of the Scores of Attitude of Student Teachers towards Reflective Journal Writing

	N	Range		M	SD
		Minimum	Maximum		
Open mindedness	500	9	20	14.72	2.691
Responsibility	500	9	20	14.08	3.240
Wholeheartedness	500	9	20	14.23	2.898

The distribution of scores of attitude of student teachers towards reflective journal writing experience among different categories is given in Table 2

Table 2

The Distribution of the Scores of Attitude of Student Teachers towards Reflective Journal Writing

Category	No. of student teachers					
	open-mindedness		responsibility		whole-heartedness	
	No.	%	No.	%	No.	%
Low	3	0.6%	68	13.6%	14	2.8%
Average	337	67.4%	240	48%	319	63.8%

High	160	32%	192	38.4%	167	33.4%
	500	100	500	100	500	100

From the analysis of the scores it can be seen that 32%, 38.4% and 33.4% of student teachers have the characteristics of open-mindedness, responsibility and whole-heartedness respectively at high level.

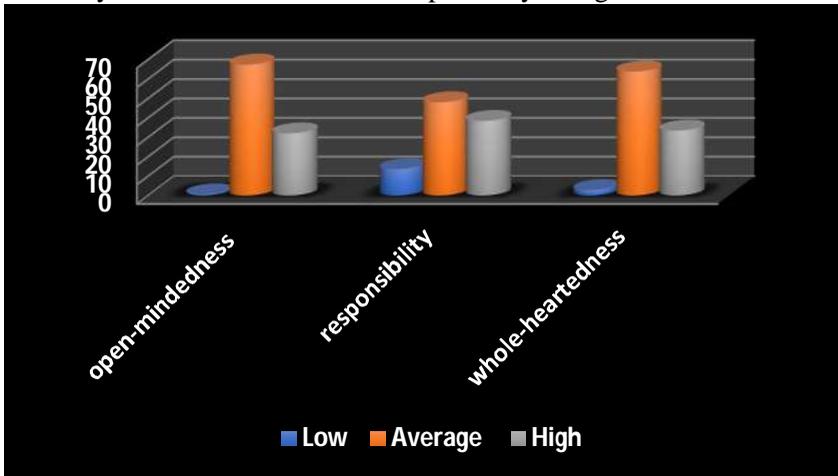


Figure 1. The Distribution of the Scores of Attitude of Student Teachers towards Reflective Journal Writing Experience

**b) Comparison of the Attitude of Student Teachers towards Reflective Journal Writing Experience based on Gender**

In order to determine whether there is any significant difference between the male and female student teachers’ attitude towards reflective journal writing ‘t’ test was employed.

Table 3

The Data and Result of the Test of Significance of the Difference between the Mean Scores of Student Teachers’ Attitude towards Reflective Journal Writing Experience based on Gender

Reflective attitude	Gender	N	Mean	S.D.	‘t’ Value	Level of Significance
Open-mindedness	Male	102	14.38	2.663	1.405	P>0.05
	Female	398	14.80	2.695		
Responsibility	Male	102	13.93	3.381	.526	P>0.05
	Female	398	14.12	3.207		

Whole-heartedness	Male	102	14.43	3.335	.802	P>0.05
	Female	398	14.17	2.777		

From the table 5, it is observed that the calculated t values are not significant at 0.05 levels. This indicates that there is no significant difference in the mean scores of male and female student teachers' attitude towards reflective journal writing experience in terms of open-mindedness, responsibility and whole-heartedness.

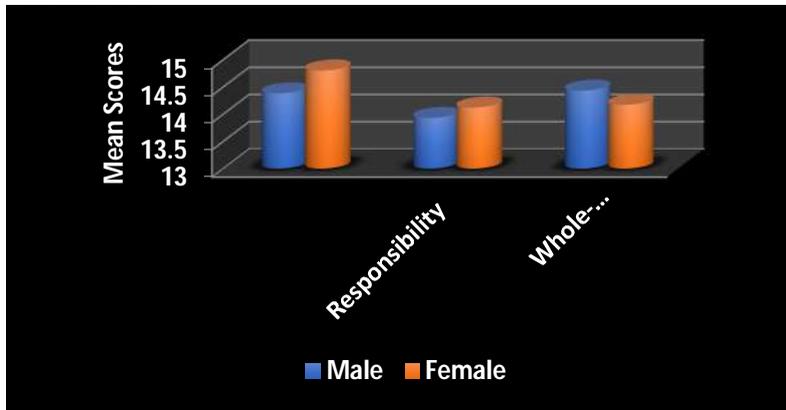


Figure 2. Comparison the Attitude of Student Teachers towards Reflective Journal Writing Experience based on Gender

**c) Comparison of the Student Teachers' Attitude towards Reflective Journal Writing based on their Pedagogical Courses**

The data collected were analysed and the mean scores were compared.

Table 4

Scores of Student Teachers' Attitude towards Reflective Journal Writing Experience based on Pedagogical Courses

Reflective attitude	Pedagogical Courses	n	Range		M	SD
			Minimum	Maximum		
Open-mindedness	Language	118	11	20	14.77	2.619
	Mathematics	106	11	20	14.39	3.221
	Science	165	9	19	15.53	2.659
	Social science	111	9	19	13.77	1.763
Responsibility	Language	118	9	20	13.93	3.566
	Mathematics	106	9	19	13.38	3.396

Whole-heartedness	Science	165	9	19	15.19	3.032
	Social science	111	9	20	13.26	2.522
	Language	118	9	20	14.15	3.507
	Mathematics	106	11	19	13.09	2.975
	Science	165	9	19	15.42	2.244
	Social science	111	9	20	13.61	2.301

From Table 4, it is observed that the mean scores of open-mindedness, responsibility and wholeheartedness of science student teachers is higher than language and mathematics and social science student teachers.

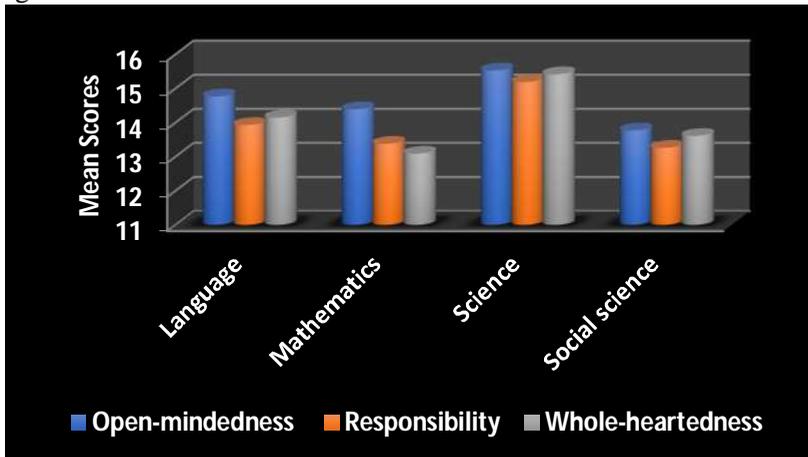


Figure 3. Comparison the Student Teachers’ Attitude towards Reflective Journal Writing Experience based on Pedagogical Courses

In order to determine whether there is any significant difference in the mean scores of student teachers’ attitude towards reflective journal writing experience based on their pedagogical courses analysis of variance (ANOVA) was employed.

Table 5

Summary of One-way Analysis of Variance (ANOVA) of Mean Scores of Student Teachers’ Attitude towards Reflective Journal Writing Experience based on Pedagogical Courses

	Experience	Sum of Squares	df	Mean Square	F value	Significance level
Open-mindedness	Between Groups	220.671	3	73.557	10.753	P<0.01



	Within Groups	3393.00 1	49 6	6.841		
	Total	3613.67 2	49 9			
	Between Groups	334.057	3	111.35 2		
Responsibility	Within Groups	4905.58 1	49 6	9.890	11.25 9	P<0.01
	Total	5239.63 8	49 9			
	Between Groups	412.663	3	137.55 4		
Whole-heartedness	Within Groups	3776.79 9	49 6	7.615	18.06 5	P<0.01
	Total	4189.46 2	49 9			
	Between Groups	3776.79	49	7.615	18.06	P<0.01

From Table 5 it is evident that the F values of open-mindedness, Responsibility Whole-heartedness are significant at 0.01 level with df 3/496. These indicate that the mean scores of open-mindedness, responsibility and whole-heartedness of student teachers based on their pedagogical courses differ significantly. In order to know which group's mean scores differ significantly from others, the data were further analysed by using the post hoc Scheffe Test.

Table 6  
Summary of the Post hoc Scheffe Test Analysis of the Mean Scores of Student Teachers' Attitude towards Reflective Journal Writing Experience based on Pedagogical Courses

	Subject (I)	Subject(J)	Mean Difference (I-J)	Sig.
Open-mindedness	Science	Social Science	1.005*	.000
		Mathematics	1.762*	.000
	Mathematics	Language	1.140*	.000
		Language	1.262*	.000
Responsibility	Science	Mathematics	1.817*	.000
		Social Science	1.933*	.000



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Whole-heartedness	Science	Language	1.266*	.000
		Mathematics	2.324*	.000
	Language	Social Science	1.806*	.000
		Mathematics	1.058*	.000

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\*\* The mean difference is significant at the .01 level.

From Table 6 and 4 it can be seen that the mean score of open-mindedness of science student teachers is significantly higher than that of social science and mathematics student teachers and the mean score of language student teachers is significantly higher than that of mathematics student teachers. Hence it can be interpreted that science student teachers were found to more open-minded than those of social science and mathematics student teachers and language student teachers were found to more open-minded than those of mathematics student teachers.

It can also be seen that the mean score of responsibility of science student teachers is significantly higher than that of language, mathematics and social science student teachers. Hence it can be interpreted that science student teachers were found to more responsible than those of language, mathematics and social science student teachers.

The mean score of whole-heartedness of science student teachers is significantly higher than that of language, social science and mathematics student teachers and the mean score of language student teachers is significantly higher than that of mathematics student teachers. Hence it can be interpreted that science student teachers were found to more whole-hearted than those of language, social science and mathematics student teachers and language student teachers were found to more whole-hearted than those of mathematics student teachers.

## Discussion

Student teachers in the present study expressed the qualities of being open-minded, wholehearted, and responsible in their new teaching context. This may indicate their willingness to be reflective teachers. In other words, they were able to cultivate, the reflective attitudes, and grow into more contemplative and quality teachers. The results of the present study are also in agreement with various researches. According to Dewey (1933) reflective attitudes portray the teacher's state of being an open-minded, wholehearted, and responsible human being. He believed that through the process of reflection teachers are freed from the burden of impulsive or routine behaviour. According to him critical reflection contributes to social equity and to the establishment of a just and humane society because reflective teachers with qualities like open-mindedness,



responsibility, and wholeheartedness can rectify practices that are harmful to students.

The findings of this study revealed that the student teachers' reflective responses indicated their high levels of reflective attitudes of being open-minded, wholehearted, and responsible teachers. Research showed that reflective practice occurs when student teachers critically examine their own beliefs about teaching and learning, take full responsibility for their actions in the classroom, and continue to improve their teaching practice (Farrell, 2007). Valli (1997) indicated that reflective practice enables student teachers to look back on events, make judgments about them, and alter their teaching behaviours in light of craft, research, and ethical knowledge.

### **Conclusion**

Reflective writing should be viewed as a personal effort for self-improvement in the profession. It should be under taken with full willingness and freedom. Student teachers indicated their positive attitudinal characteristics such as open-mindedness, responsibility and whole-heartedness to be reflective teachers during their practice teaching period. The initial training in reflective writing during the period of practice teaching may enable the student teachers to continue their practice throughout their teaching career. The results of the study could be used in the development of teacher education practices, pedagogies and curricula to promote professional reflection in more systematic ways. This study suggested that the student teachers are expected to develop solid foundation for quality teaching by cultivating the virtue of being an open-minded, wholehearted and responsible teacher early in their profession during the teacher education program.

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## MALEVOLENCE IN HUMAN NATURE: A STUDY OF BELLOW'S SEIZE THE DAY

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### **Abstract**

Bellow is one of the most significant Jewish writers in the American fiction. In Bellow's fine novella *Seize the Day*, Maurice Venice and Dr. Tamkin are mysterious characters who change entire course of Wilhelm's life. Bellow has presented these characters as unethical and destructive. They are expert in deceiving Wilhelm which led to his ruin. Their destructive traits are vivid in their alliance with Wilhelm. They easily manage to debilitate his inner strength and courage. Wilhelm haphazardly falls in their trap and eventually loses everything he cherishes. He becomes the victim of wrong choices and gets caught in the trap of wrong people. The novel unfolds the painful story of Tommy Wilhelm. The story deals with mental anguish of the protagonist who is caught in the web of unfavorable circumstances of life. He tries to grapple with these complex situations but becomes a victim of exploitative society. The episodes in the novel concern Wilhelm's misconception about people which add to his miseries.

**Key Words:** deceit, failure, downfall, alienation, disillusionment.

As the novel opens Wilhelm is staying in New York Hotel Gloriana on Manhattan Upper West Side where his father Dr. Adler has also taken residence. But they live separately on different floors which convey that they do not share warm relationship with each other: "Any talk with Dr. Adler, Wilhelm generally felt dissatisfied, and his dissatisfaction reached its greatest intensity when they discussed family matters" (*Seize the Day* 29). At the outset of the novel, Wilhelm, the protagonist, is unable to hide his troubles: "They were clearly written out upon his face" (*Seize the Day* 14). Wilhelm is separated from his wife and two children. It is apparent that Wilhelm is unhappy: "So much bad-luck, weariness, weakness, and failure" (*Seize the Day* 11). Wilhelm wants to marry his Catholic girlfriend, Olive but his wife Margaret refuses to divorce him. His father refuses to support him: "I can't give you any money. There would be no end to it if I started. You and your sister would take every last buck from me. I'm still alive, not dead. I am still here. Life isn't over yet. I am as



much alive as you or any one. And I want nobody on my back. Get off! And I give you the same advice. Wilky. Carry nobody on your back” (Seize the Day 55). Wilhelm has a dream to become an actor and earn fame and money. He wants to succeed in his life. He always thinks he is a star material: “His instinct for talent was infallible” (Seize the Day 23). Wilhelm wants to be a Hollywood artist but all his efforts fail: “Those seven years of persistence and defeat had unfitted him somehow for trades and businesses, and then it too late to go into one of the professions. He had been slow to mature, and he had lost ground, and so he hadn’t been able to get of his energy and he was convinced that this energy itself had done him the greatest harm” (Seize the Day 7).

Maurice Venice, the talent scout for Kaskaskia Films, is “huge and oxlike, so stout that his arms seemed caught from beneath in a grip of flesh and fat; it looked as though it must be positively painful” (Seize the Day 17). Maurice Venice, a movie agent dupes Wilhelm and shatters all his hopes: “As a young man he had got off to a bad start” (Seize the Day 7). Maurice promises him of a bright future: “This way, in one jump, the world knows who you are” (Seize the Day 22). He gets attracted to him for his good looks and approaches him to take a screen test. Maurice tries to impress him that he is good at his job: “I don’t ask a cent. I’m no agent. There ain’t no commission” (Seize the Day 18). Maurice Venice makes all possible efforts to gain his confidence:

Because I can see the way you size me up, and because this is a dinky office. Like you don’t believe me. Go ahead. Call. I won’t care if you’re cautious. I mean it. There’s quite a few people who doubt me at first. They can’t really believe that fame and fortune are going to hit’em’ (Seize the Day 18)

Maurice Venice shows him some pictures of Nita Christenberry on the beach: “Venice was dressed in a terry-cloth beach outfit, and he and the girl, cheek to cheek, were looking into the camera” (Seize the Day 20). Maurice praises the film industry and fabricates stories of its grandeur and magnificence to him:

It was about fifteen months ago right in this identical same office when I saw a beautiful thing in the paper. It wasn’t even a photo but a drawing, a brassiere ad, but I knew right away that this was a star material. I called up the paper to ask who the girl was, they gave me the name of advertising agency; I phoned the agency and they gave me the name of the artist; I got hold of the artist and he gave me the number of model agency. (Seize the Day 18-19)

Maurice Venice is not trustworthy but somehow Wilhelm is entrapped by his witty conversations: “You remind me of someone. Let’s see who it can be—one

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of the great old-timers. Is it Milton Sills? No, that's not the one. Conway Tearle, Jack Mulhall? George Bancroft? No, his face was rugged. One thing I can tell you, though a George Raft type you are not—those tough, smooth, black little characters” (Seize the Day 21). The result of the screen test is not favorable. Wilhelm has a speech difficulty. Maurice thereafter, decides not to encourage him and points out his shortcomings. He refuses to work with him. Wilhelm is disappointed “He had begged Venice not to give him up” (Seize the Day 24). Wilhelm fails in his quest for Hollywood stardom. In utter dejection he prays to God: “Let me out of my trouble. Let me out of my thoughts, and let me do something better with myself. For all the time I have wasted I am very sorry. Let me out of this clutch and into a different life. For I am all balled up. Have mercy” (Seize the Day 26). Maurice Venice turns out to be a dupe, a sucker and is sentenced to fifteen years of imprisonment.

Dr. Tamkin's role in the downfall of Venice is no less significant. Dr. Tamkin, another dubious character is a market gambler. He makes definite promises to Wilhelm but he turned out to be totally unreliable. Dr. Tamkin's physical appearance suggests some weirdness about his character. His twisted body reflects his twisted mind:

What a creature Tamkin was when he took off his hat! The indirect light showed the many complexities of his bald skull, his gull's nose, his rather handsome eyebrows, his vain mustache, his deceiver's brown eyes. His figure was stocky, rigid, short in the neck, so that the large ball of the occiput touched his collar. His bones were peculiarly formed, as though twisted twice where the ordinary human bone was turned only once, and his shoulders rose in two pagodalike points. At midbody he was thick. He stood pigeon-toed, a sign perhaps that he was devious or had much to hide. The skin of his hands was ageing, and his nails were moonless, concave, clawlike, and they appeared loose. His eyes were as brown as beaver fur and full of strange lines. (Seize the Day 62)

Tamkin introduces Wilhelm to commodities market: “You could speculate in commodities at one of the uptown branches of a good Wall Street house without making the full deposit of margin legally required. It was up to the branch manager. If he knew you—and all the branch managers knew Tamkin—he would allow you to make short term purchases. You needed only to open a small account” (Seize the Day 8).

Wilhelm is convinced that Dr. Tamkin knows the market well. But he does not know the lurking in Tamkin's mind. Wilhelm gets carried away with Tamkin's “hypnotic power” (Seize the Day 62). The trickster continues to lure him “I say the lard will go up, and it will. Take my word. I've made a study of the guilt-



aggression cycle which is behind it” (Seize the Day 64). Dr. Adler warns Wilhelm not to trust Dr. Tamkin: “Wilky, perhaps you listen too much of this Tamkin. He’s interesting to talk to. I don’t doubt it. I think he’s pretty common but he’s a persuasive man. I don’t know how reliable he may be” (Seize the Day 10). Keith Opdahl points out that “Bellow has said informally that one of his themes in *Seize the Day* is the city dweller’s fulfillment on personal needs on strangers. The feelings that usually involve private commitment are now casually exchanged in public” (qtd. in Fuchs 86). Dr. Tamkin persuades him to invest in commodities market. Wilhelm gives his last seven hundred dollars and allows Dr. Tamkin to speculate with his money: “I’d be so grateful if you’d show me how to work it” (Seize the Day 10). Wilhelm is worried: “Lard was still twenty points below last year’s level” (Seize the Day 26). Wilhelm is fascinated by Dr. Tamkin’s philosophical theories. Tamkin gives the description of two souls in each person the real soul and pretender soul. Wilhelm reflects that “In Tommy he saw the pretender. And even Wilky might not be himself. Might the name of his true soul be the one by which his old grandfather had called him—Velvel?” (Seize the Day 72). Abandoned by his father he fantasizes a better father: “And Wilhelm realized that he was on Tamkin’s back. It made him feel that he had virtually left the ground and was riding upon the other man. He was in air. It was for Tamkin to take the steps” (Seize the Day 96). Having seen abandoned by Dr. Tamkin, Wilhelm observes: “I was the man beneath; Tamkin was on my back, and I thought I was on his” (Seize the Day 105). Though Wilhelm suspects Tamkin’s motives but he is unable to break the charmer’s spell: “I am on his back—his back. I gambled seven hundred bucks, so I must take this ride. I have to go along with him. It’s too late. I can’t get off” (Seize the Day 96). Wilhelm loses all his money. After Tamkin absconds, Wilhelm tries to look for him. Wilhelm thinks he has seen Dr. Tamkin in a huge funeral on Broadway. Wilhelm is driven closer to the coffin and is engulfed with grief:

Soon he was past words, past reason, coherence. He could not stop. The source of all tears had suddenly sprung open within him, black, deep, and hot, and they were pouring out and convulsed his body, bending his stubborn head, bowing his shoulders, twisting his face, crippling the very hands with which he held the handkerchief. His efforts to collect himself were useless. The great knot of ill and grief in his throat swelled upward and he gave in utterly and held his face and wept. He cried with all his heart. He, alone of all the people in the chapel, was sobbing. (Seize the Day 117-118)

Wilhelm moves towards the dead body “foot by foot, the beating of his heart anxious, thick, frightening, but somehow also rich” (Seize the Day 116). He

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feels shattered and begins to sob loudly: “He caught his breath when he looked at the corpse, and his face swelled, his eyes shone hugely with instant tears” (Seize the Day 116-117). In the words of Tanner, “Tommy’s tears are both for humanity and for himself. Yet they also reveal an awareness of the supreme value of life, sheer life itself, existence beyond the assessment of financial success or failure... In one sense the relief may be temporary—there will still be bills to pay when he leaves the funeral parlor; but having been touched and awed by the great realities of life and death, Tommy will never again be quite such a victim of world’s business” (67). This made him feel “deeper than sorrow” (Seize the Day 118). In the words of Ihab Hassan, “Seize the Day is a brief masterpiece on the human encounter with error, with death itself. Moneyless and all too mortal Tommy Wilhelm finally gains an inner perspective in which failure ceases to be a personal thing and death no longer seems the final degradation, the apotheosis of all errors” (29).

Bellow’s novel *Seize the Day* analyses and probes the malevolence of human nature through the theatre agent Maurice Venice and the trickster Dr. Tamkin. They are malevolent and evil in their actions. There is a lot of artificiality in their characters. These two characters are responsible for Wilhelm’s downfall. Wilhelm is betrayed by both Venice Maurice and Dr. Tamkin. Things go completely out of his hands. Wilhelm has gone through a painful and agonizing situation. In the words of Tony Hilfer, “Wilhelm is either projecting his masochistic self-pity or instituting the human community of suffering and death, Bellow is leaving the reader to decide” (89). Wilhelm suffers because he fails to understand the evil nature of Maurice Venice and Dr. Tamkin. He is like Dr. Faustus whose downfall was caused by the crooked and cunning Mephistopheles.

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## EFFECT OF ENVIRONMENTAL POLLUTION ON HUMAN BEHAVIOUR

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### **Abstract**

Human behaviour can either make or break, protect or destroy his environment. Man grows in the environment and lives in the environment. It is just like a mother to him. But many a times he tries to destroy his own mother i.e., his environment either due to lack of knowledge and awareness or due to ignorance. Sometimes people destroy the environment for their own selfish interest, through deforestation, due to laziness like throwing garbages here and there, instead of putting it in the dustbin. Many people ply old vehicles on the road which emit poisonous gas. Many industrialists start industries without taking steps to protect the environment. They even show a “dam care” attitude in this regard. When aggrieved people complain about it they show callous attitude. Only when people file a P.I.L (Public interest litigation) in the court of law, they take some action. Though personal behaviour of a single individual like driving an old car, throwing garbage at unwanted place etc. contribute very little to environment pollution when such behaviour of many people are added up, the problem of environment pollution gets multiplied and severely affects human life.

**Keywords:** Human, Behaviour, Environment, Pollution and People

### **Introduction:**

An organism's environment vastly influences human behaviour. It has constructive as well as destructive effects on human behaviour. As we turn the pages of human history of thousand and thousand years back it becomes clear how human beings throughout the world are threatened, scared and affected by floods, earthquakes, wind storms, cyclones and super cyclones, droughts, tornadoes and many other natural calamities. Of late, technological and industrial advances have doubled the threats from the environment. Even in scientifically and economically advanced countries and super powers like India the governments have not been able to check the repeated occurrences. People throughout the world were psychologically hurt. They expressed their



condolences to the affected people and helped them financially. Thus it is clear that threats from the environment cause physical harm to mankind who are surrounded by it, produce severe anxiety and stress at the psychological level.

Human behaviour can either make or break, protect or destroy his environment. Man grows in the environment and lives in the environment. It is just like a mother to him. But many a times he tries to destroy his own mother i.e., his environment either due to lack of knowledge and awareness or due to ignorance. Sometimes people destroy the environment for their own selfish interest, through deforestation, due to laziness like throwing garbage here and there, instead of putting it in the dustbin. Many people ply old vehicles on the road which emit poisonous gas. Many industrialists start industries without taking steps to protect the environment. They even show a “dam care” attitude in this regard. When aggrieved people complain about it they show callous attitude. Only when people file a P.I.L (Public interest litigation) in the court of law, they take some action.

Though personal behaviour of a single individual like driving an old car, throwing garbage at unwanted place etc. contribute very little to environment pollution when such behaviour of many people are added up, the problem of environment pollution gets multiplied and severely affects human life.

Thus billions of people living on the mother earth affect the environment adversely through their anti-environmental behaviour. Though immediate threats due to environment pollution is not perceived, it has long-term adverse effect on human beings. It is thus a fact that human actions are producing dangerous and harmful effects on the environment where we are born, and brought up and where we live and die. Environment is like our mother which provides us with water, air, food, fuel and a place to live. Conservation and judicious use of the environment is necessary for the survival of plants and human beings on the earth.

If plants do not survive it becomes difficult for man to survive in a healthy manner. Without being aware of this truth, people go on destroying the forests day by day. This affects the weather, temperature, atmospheric conditions leading to more and more natural calamities. Environment pollution makes people diseased, psychosomatic and mentally ill. Many people even do not know the consequences and bad impact of their negative behaviour towards environmental protection. They perhaps do not know that such small mistakes on their part threaten and destroy their own existence on this planet. We must understand that conservation of water and energy is necessary for living.

If there is wastage of water and energy in future we will not be able to manage and sustain our life. Many countries in the world are having serious water and fuel problems. Water shortage affects agriculture. Today with the



urbanisation, industrialisation and technological development, nobody can imagine managing without electricity, gas and twenty-four hour water supply. Our life style has changed. It has become complex and luxurious.

After the super cyclone in Orissa in 1999 it was found that many people who were directly affected by it became mentally ill. They showed indications of stress, anxiety, depression, sleeplessness and some even showed psychotic symptoms. They lost their family members, near and dear ones, property, belongings and, in a nutshell, everything except their half dead bodies. Many of them became orphans and lost the hope in life. Though these disasters and calamities are natural and man does not have any control over them, steps are being taken in terms of research among friendly countries to prevent and avoid these calamities through scientific researches.

Even though prevention in case of many natural calamities is not possible because they occur all of a sudden and man mostly does not have control over them, steps are being taken by authorities in advance to meet the crisis through construction of rest and shades, and buildings at high places in Hood affected areas, dams to preserve water, cyclone centres for rescue operations ahead of the calamity. Many other preventive measures including research to avoid Hood, famine. Tornadoes etc. arc being taken to save man from the clutches of natural calamities coming from the physical environment.

#### **Review of Literature:**

Review of related literature provides an opportunity of gaining insight into the method, measures, subject and approaches employed by the other researchers. A careful review of research, journals, books, dissertations, thesis and other sources of information about the problem to be investigated is one of the important steps in the planning of any research studied.

**Mukhopadhyay, K. (2009)** A joint study by Chittaranjan National Cancer Institute (CNCI), West Bengal Department of Environment and the Central Pollution Control Board (CPCB) has found that around 70% of people in the city of Kolkata suffer from respiratory disorders caused by air pollution.

**Ghose, M.K. (2002)** In 1995, an estimated 10,647 premature deaths were attributed to air pollution in Kolkata. Studies have demonstrated that children inhaling polluted air in Lahiri, T.; Roy, S.; Ganguly, S.; Ray, M.R.; Lahiri, P. (2000) Kolkata suffer from adverse lung reactions and genetic abnormalities in exposed lung tissues.

**Anon (2002)** A study in comparison of air quality data among four metropolitan areas in India indicates a higher pollution level in Kolkata in comparison to Mumbai and Chennai, and is close to Delhi.

#### **Objectives:**

The paper is based on the following objectives:

- To Examine the effect of environmental pollution on human behaviour.



- To Evaluate the causes of environmental pollution and its suggestions.

### **Methodology:**

The method used in this paper is descriptive-evaluative method. The study is mainly review based. It is purely supported by secondary source of data, i.e. books, journals, papers and articles and internet.

### **Effect of Atmospheric Conditions on Human Behaviour:**

#### **(i) Temperature:**

As fish lives in water so we live in air. Atmospheric condition is one of the important aspects of physical environment. Air is very important for any life to exist and continue. The air which we breathe should not only be fresh and pollution free, the air which surrounds us should also be fresh and free of pollution. When several individuals stay or move together they exhale poisonous gas and the air becomes polluted and unhealthy for them. It also raises temperature and moisture content leading to rise in humidity.

When carbon dioxide exceeds a certain limit in the air, care should be taken to check it. Rise in temperature influences our body temperature which should be kept at a judicious level. We also know that very high or very low temperature adversely influences, our work and performance.

That is why during extreme summer and winter our work capacity goes down. Particularly, manual work is greatly affected by very high and very low temperature. Of course people gradually get adjusted to this. But the temperature should be kept at a judicious level and comfort zone so that the human body can be able tolerate it without any effort and do its normal day-to-day work. It is also seen that accidents suddenly rise alarmingly when the temperature becomes very high or very low.

A judicious atmospheric condition also improves the attitude and morale of people towards the environment. They consider it friendly. The problem of moisture content in air also affects human behaviour and performance. Though it does not affect mental work to a high degree, it, nevertheless, indirectly shows its effects by influencing the mood and attitude of the people. Though the behaviour of manual workers is more affected by atmospheric conditions mental workers are also affected, may be to a lesser degree.

#### **(ii) Movement of air:**

When there is no movement in air most of the troubles of ventilation arise. Movement of air prevents the formation of packets of warm and moist air and also prevents stagnant air from accumulating about the body or around the place surrounding him. Various studies show that movement of air improves performance and gives a pleasant, comfortable feeling to the person without which the person is irritated and his output is affected. Sometimes signs of psychotic behaviour is found. Lack of movement of air, high temperature and



humidity also bring physiological and psychological changes in behaviour in metal mine workers as a study conducted by Sayers and Horingten shows. The physiological and behavioural changes found in the workers included rapid pulse rate, marked loss of weight accompanied by physical weakness and exhaustion. They also felt difficulty in carrying mental work. But when movement in air was made by the help of fans, these troubles disappeared. This indicates that movement in air has always a cooling effect on human behaviour and performance. Heat emitted by the body is always removed by movement in air. But when the air is stagnant this is not possible. This is why, when the air is stagnant, the temperature becomes more uncomfortable.

### **Air Pollution:**

Due to speedy urbanisation, modernisation and industrialization for the last few decades throughout the globe, the quality and freshness of air has deteriorated to a great extent. Air which is vital and a basic necessity for human beings, animal and plant life is getting polluted day-by-day. Particularly due to the increase in the emissions of huge amount of toxic, dangerous and harmful gases like Carbon Monoxide, Nitrogen dioxide, Sulphur dioxide etc. to the air, the air is getting polluted. When we breathe this type of polluted air we suffer from various physical and psychosomatic disorders. Inhaling of carbon monoxide mixed with the air, prevents the various organs of the body including brain and heart to absorb sufficient oxygen from the air. As a result serious health problems are created. Experts believe that cancer, asthma, T.B. and various other respiratory diseases are caused by pollution. It is held that air pollution is responsible to an extent for low visibility, irritation of eye, insomnia or sleeplessness, fatigue, headache, allergy and various respiratory diseases. It is also observed that people are more depressed and irritated during cloudy, rainy, humid and very hot days. It has also been observed world-wide that various types of psychological problems increase due to air pollution.

Most industrial areas emit poisonous gas which is mixed with the natural air. The inhabitants of that area, inhale this polluted air and suffer from various diseases. This has produced great concern among the citizens world-wide. Data of various Environmental Pollution Boards and health centres of the world indicate that deaths due to air pollution are on the rise. If air pollution from other sources is taken into consideration the number will be sky high. In India with the rapid urbanisation and industrialisation the incidence of respiratory disease is very high. The main victims are children and older people with respiratory diseases. Today, in India Metropolitan Cities like Delhi, Mumbai, Chennai and Kolkata etc are subjected to heavy air pollution.

Recently the level of air pollution in Delhi has reduced by about 15 per cent after the buses having diesel engines have been replaced by Compressed Natural Gas (CNG) based engines. So air pollution can also be reduced by



reducing the harmful effects of Diesel engine exhausts. Bad smell of polluted air also produces psychologically negative and unpleasant feeling. Conversely, the air that has pleasant smell produces positive feeling and friendly attitude. Though initially people have a negative feeling towards air pollution, gradually they get used to it and rarely complain. This is a highly dangerous tendency. Since after sometime they rarely give importance to it, it becomes a silent killer and affects. Therefore now steps are being taken by different states and industries to avoid, prevent and check air pollution and make the people aware of the dangerous effects of air pollution through various campaigns.

#### **Effect of Noise on Human Behaviour:**

According to Dr. May Smith, a golden age is frequently described as one in which noise was unknown. The important effect of noise on human behaviour is understood from this remark of Dr. May Smith. It is an established fact that every individual in the modern age is daily exposed to some sort of noise coming from automobiles, loud speakers, traffic, radio, aircraft, railway, stations, children at play, market places, cinema halls and a host of common noises in various fields to which people are commonly exposed. To add to this, industrial progress and technological advancements have made the problem of noise coming from gigantic machines as the worst. Factories and industries all the time add to this problem. Noise after a certain limit adversely affects general health. A noisy atmosphere requires more energy to perform a task than a quiet atmosphere as the task demands more attention and more energy. Consequently, the person becomes fatigued quickly. This induces nervous disorder in the concerned people.

Noise has become a problem for everybody and it is disagreeable to most persons. Particularly, with technological advancement and increase of vehicles it has become widespread. However, when noise is within a particular limit i.e., within 85 decibels one may not be worried about it. When it crosses the above limit it becomes harmful and has adverse effect on health and behaviour. It may lead to various physiological and psychological disturbances, may produce neurotic disorders. Noise literally means any loud, disagreeable discontent and meaningless sound. A noise coming from the environment can either be periodic or continuous and non-periodic or discontinuous. Adjustment is easier in the case of continuous noise. Various observations and evidences show that unless the noise is sudden, loud and unusual, workers pay little attention to it. Results of various studies conducted to determine the effect of noise on human behaviour by and large justify the view that though periodic noise is less disturbing than non-periodic noise, quiet situation is most preferable for mental work. However noise is definitely disturbing as it distracts attention, leads to extra expenditure of energy and lowers performance. On the basis of several experimental findings, Viteles holds that except certain



meaningful noises, there is wide agreement that noise is a disagreeable and uncomfortable accompaniment of work. It not only affects physical and mental health, but also has an adverse effect on the morale of the people due to its unpleasant nature. In brief, it adversely affects human beings and it has a negative effect on human behaviour. Correction of unpleasant and loud noise is therefore essential as it reduces irritation, improves performance and concentration and brings stability in behaviour by inducing pleasant feeling.

As already discussed above due to mechanisation and urbanisation, due to advancement in the field of industry and technology, scientific researches, large use of arms and ammunitions, noise pollution has increased remarkably compared to the earlier period. Any sound even a music which is considered unpleasant by a person appears to him as a noise. This is why a music to one may be a noise to another. Some people who do not understand the ABC of classical music consider it as noise and even put off the Radio or TV. Sound pollution takes place particularly when it is of high intensity. It leads to shifting of attention, lack of concentration, nervousness, neurotic feeling, high level of arousal, decrement of reading, writing, mental work and performance in general. To adjust with loud and polluted noise one has to spend extra energy which makes him fatigued early. Even it is said that polluted noise make neurotics more neurotic and it is seen that borderline neurotics cannot tolerate noise at any cost. But it does not make normal people neurotics.

Non-periodic sounds are unpredictable and are not susceptible to adjustment. Hence they are more harmful physiologically and psychologically. For example vendors and railway employees are habituated and acquainted with the sound of railway engine as these are periodic noise. But a noise coming from the environment all of a sudden has relatively more negative effect on behaviour. People sometimes wonder how railway employees tolerate noise for 24 hours, probably not knowing that the key to continuous noise is adjustment. Even loud speakers used in public during puja and marriage seasons have extremely irritating effect on behaviour. The negative effects of loud noise and regular and daily exposure to sounds and noises of a busy airport leads to memory loss, hypertension, loss of hearing, and even strokes in case of adults.

#### **Effect of Manmade Pollutions and Disasters on Human behaviour:**

Manmade disasters are those which are created and produced by the human beings because of their lack of responsibility, carelessness, selfishness, greed for money and above all persons responsible for manmade disasters lack humanitarian attitude. For the last several decades in the name of urbanisation and industrialisation and economic development of the nation persons with vested interests have closed their eyes and ears regarding environmental pollution. It is commonly agreed that natural disasters are the curse of the nature and man has no control over it. But when industries and factories are established



without being concerned about environment pollution, man is responsible for it. Nothing in the world is more valuable than human life and all steps should be taken to check and prevent environment pollution as it is responsible for large number of diseases which ultimately take the life of large number of people and make many persons physically disabled and mentally unsound. Various technological disasters take place where the Factory Act is not properly followed. Toxins and waste products are thrown in to rivers and ponds thus polluting the water which people use for drinking or taking bath. It is seen mostly in villages that people use the ponds for the bath of domestic animals like cattle. This water is also used for human bathing and drinking, particularly in villages where there is scarcity of water. This leads to several diseases and infections. Similarly, it is found that even in towns and cities the pipes supplying drinking water to citizens by the municipality or corporation authorities leak at many places and the water gets polluted. Rarely this is checked or care is taken to change such old broken pipes. As a result people suffer from dysentery, typhoid and other water borne diseases on a mass scale. It is commonly found that drains are not cleaned for years together, open spaces are filled with polluted water which enables mosquitoes to breed and everyone knows what harm the mosquitoes do to people. Are these not manmade faults for which our environment gets polluted and we suffer from various diseases? Public awareness and strict rules plus vigilance and concern of the authorities can only check and prevent these manmade disasters. Those who fail to perform their duty and responsibility in this regard should also be stringently punished. Machines make gigantic sounds all the time without having any concern for noise pollution, loud speakers are played for 18-20 hours without any respect for the people's health both physical and mental. Garbage is thrown here and there, on the road, people urinate and pass stool on the public road, but nobody seems concerned about it even in many big cities of India.

#### **Problem of Nuclear Energy and Waste:**

These also lead to environment pollution and are manmade disasters. People world-wide have therefore objected vehemently to the construction of nuclear bombs and the nuclear facilities. Since the nuclear energy production disposes toxic wastes public opposes it strongly. These have undoubtedly severe consequences on public health. Because of the release of radioactive material from nuclear productions, accidents also take place. Besides, residents staying nearby also go through emotional and psychological instability. Their mental health is damaged. Because of perceived and imagined psychological and physical threat, they also feel scared and experience considerable stress and anxiety. Their whole life is damaged. Evidences are rampant regarding the adverse impact of nuclear tests as well as nuclear productions. Survivors with physical disability have anxiety of hazardous death. They show stress related



psychosomatic symptoms throughout their lives. There is also significant increase in the number of abortions, giving birth to physically deformed, handicapped babies and mentally crippled children. People living in the nuclear energy production area also have to take special steps for buying special foods, medicines to prevent the adverse effect of polluted environment due to nuclear wastes. Management of nuclear wastes from the nuclear facilities like nuclear power plants is also a vital problem in these areas. It poses serious challenge to the government throughout the world. Disposal of wastes poses major concern everywhere in the world where nuclear tests are made or nuclear energy plants are established. Of course government is very careful in this regard. But sometimes accidents occur and innocent people are affected. Hence along with government bodies, N.G.Os (Non-government organisations) should come forward to check, prevent and control man made environmental pollution. If something serious comes to their notice, they should within no time inform the authorities for immediate prevention and the person/persons if found guilty should be given exemplary punishment.

### **Conclusion:**

Hence unless protection of environment is done we cannot live in future as we are living today. The human civilisation and mankind will be smashed without protection of the environment. This truth howsoever unpleasant it may be, everybody has to accept and remember. Management of sewage waste products and garbage have posed serious problem for the governments, municipalities and corporations. When our sewage disposals are flushed as it is into the rivers, they lead to water pollution and such water becomes unfit for human use. Water of sacred rivers of the country like Ganga and Yamuna and many other river are now unfit for consumption because of pollution by human beings. This is really very sad. We know that there was public demand for **“Ganga Bachao”** and government is taking steps to depollute and disinfect such rivers to make the water fit for consumption. Waste products also pose serious problems now and that is why in many states, use of polythene bags is banned. Steps are being taken in many states for recycling of the wastes like paper, glass, plastic and metal products. They can be reused through recycling and environment can be saved. But citizen awareness is necessary in this regard. Due to pollution growth; over consumption and lack of resource conservation the environment is affected adversely. Because of our present way of living and behaving, harmful changes are taking place in the environment. Therefore considerable changes are required in our cultural practices and style of living. To overcome this serious threat, we have to live in a simple manner. For example, instead of using sprays while taking bath, we have to be satisfied simply with water. Instead of using Air-Conditioners, Fans, and Refrigerators



which consume lot of energy, we have to follow the old way of living. We have to make the best use of environment through conservation, recycling, and disciplined and simple living.

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