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**Chief Editor**

**Prof. Braj Gopal**

Honoured with Prestigious Bhartendu Harishchand Award

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akhileshtrscollge@gmail.com

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Professor and Head

Department of Political Science, Govt. T. R. S. College, Rewa (M.P.)

drsandhyatrs@gmail.com

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Joint Director, Centre for Research Studies

shuklagayatri@gmail.com

**Dr. R. N. Sharma**

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rnsharmanehru@gmail.com



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**Editorial Office**

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opposite Durga Mandir, Rewa- 486001 (M.P.)**

**Mob- 7898086013**

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## *Editorial*

This 26th issue (December 2018) of the Research Journal of Social and Life Sciences is being presented in the universe of knowledge. Standard research papers are issue invited for the upcoming 27th, March, 2019. Here, in relation to Indian Civil Services, we would like to say that administrative services are necessary for each administration because it brings maturity, stability, determination, development and certainty in the administration. The modern administrative service is developed in the context of developed and developing states in these technological form created by trained permanent officials who devote their full time and lifespan in the administration - due to which administrative services are politically neutral, fair, active, conscious of philanthropy and Responsibility is considered complete. Bureaucracy is not a hindrance in the life of a nation, as many people believe. Our nationality does not rest on political leaders and election methods, but its foundation is the bureaucracy of the country. Our country is running well, only because we have a strong and well-organized bureaucracy that is trained in a special way.

The modern version of the concept of 'bureaucracy' went into development and "Maxverber" liberated the word from various meanings while sociological studies of bureaucracy had stressed that bureaucracy was used to achieve the objectives or goals of an organization mandatory. In this connection, Piffner has written that bureaucracy is a systematic organization of tasks and individuals in a form that can achieve the goals of collective efforts in the most effective form. The task of running the administration of the country is a huge responsibility. It is bigger than the responsibilities that the politicians get for five years. It is therefore necessary to empower the life of a bureaucrat in such a way that his life will be free of stress and diseases, so that the nation should not be overwhelmed by its own burden. If today it has been a tragedy, the reason for this is that its infrastructure is being pulled beyond its boundaries. Our bureaucrats are being asked to do more and nonsensical work to the extent. Rather than implementing the laws, they are being asked to break them. For these reasons, the life of a bureaucrat is very challenging and filled with expectations. Changing governments in the democratic system is a natural process and it is also a fact that every government wants to keep the officers of their choice at those places which they consider important. But if the commitment of officials in this process becomes a condition to be with a government or a special person, then this situation is also of concern and also dangerous. If the commitment of bureaucracy should be against anybody then it can only be for the people of the country and its interests. It is true that the government officials have to work according to the instructions of the government, but they are also expected that if such instructions do not conform to national interest and constitutional limitations, then those who order it must be warned. The criterion

for their commitment should be public interest. It is not that governments or leaders do not understand this, and the importance of this thing. It is not that governments working against this sentiment have not been exposed to its adverse consequences. But in spite of all this, they are not ready to accept that government officials can have some role in addition to their instructions. The truth is that such conscientious officials should be encouraged. But the equation of politics is not so straightforward and simple. If the behavior and thinking of politicians could overcome the boundaries of their own interests, then there may be some changes in the situation, but today is the situation, they are not going to wake up any hope. Yes, those officers surely hope, who are honest towards their commitments for the public interest.

We have government of any party, but the officers remain there. Those who are transferred also are thrown from the same. It is not that this bureaucracy is different from the political faction, but the entire bureaucracy is indulging in factionalism. It is not so. Yes, the group of some officers is definitely involved in political factions. This proposition has also come here recently. But the basic character of bureaucracy is still largely free from political commitment.

It becomes very important that every bureaucrat is in the position of a natural and comfortable happiness within himself. As long as we are not in a state of happiness within ourselves, we have no right to touch another's life. Hope we will get academic support from you as in the past.

Republic Day  
Rewa, 26 January 2019



**Professor Akhilesh Shukla**  
Editor



**Professor Braj Gopal**  
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## **Conversion to Christianity and Social Transformation: A close outlook among the Bodos of Assam**

**\* Martin Borgoiary**

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**Abstract-** *Much before the Colonial period in Assam religious conversion started among the Bodos. The conversion to different religion from the traditional Bathou religion was a continuous process. Therefore in the course of time they got converted to other sects of religion such as Hinduism, Vaishnavism, Ek Saran Nam Dharma, Brahma Dharma and Satsang Dharma. The advent of Christian Missionaries further brought conversions to Christianity. Bodos practiced their ancestral religion Bathouism but the influences with the other religion made the Bathou, believers difficult to retain its philosophy and rituals. So there was a tough challenge within the different religions among the Bodos. The influence to Hinduization and consequent Sanskritization made the Bodos lost their cultural and indigenous identities. The 19th century is the most successful era for the Christian Missionaries where they made an intensive coverage in the greater part of Bodo domains of Assam. However till to this day majority of the Bodos do not get converted to Christianity. Through conversion to Christianity the Bodos are believed to receive larger identity, recognition and transformation. They revived the culture as a whole and changed the socio-cultural life. They brought changes and reformations in various aspects of life and society specifically through literature, evangelization, education, and medical work etc. This paper is an attempt to focus on the conversion of Bodos to Christianity and possible transformation the Bodos received through the works contributed by the Christian Missionaries in Assam.*

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**Key Words-** Christian Missionaries, Evangelization, consciousness, transformation, conversion.

**Introduction:** The advent of Christian Missionaries is believed to bring huge conversion to Christianity among the different regions of North East India. This conversion of the natives to Christianity ultimately brought social transformation in regards to faith, thought, belief, livelihood, in socio-culture, education and in several activities of their life.

Conversion was one of the basic objectives of the missionary movement. So

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\* Assistant Professor, Department of English, Bengtol College & Research Scholar, Bodoland University, Kokrajhar, BTAD, Assam

they got converts through evangelization, education, literary and medical work. The missionaries had come with the intention to propagate Christianity, uplift the society, to transform and reform as a whole. This is so clear that the missionaries worked sincerely with visions of their own when they received permission to propagate Christianity after the Charter Act of India, 1813. (Mathew Muttumana, 1984) Along with religious propagation they tried to established mission stations, schools, and hostels to educate the young converted children. The missionaries molded those converts by giving them every lesson on the Gospel and made them persons to carry out the evangelization work to their own native people in the interior villages. This process might have been the part of the policy the missionaries looked forward in the task of evangelization in the huge areas of North East India.

The converted Christians volunteered for evangelization they were committed and by seeing their active participation more converts volunteered for the expansion of Christianity. This motivational work of the new converts created inner force and contributed to the dynamics of mission expansion during and after the mission period. As Lal Deena (1988) states, “Almost all of the first converts of the first generation in the hills were recruited in the evangelist movement”. It is also such that many first converts among the Bodos became evangelist namely, Apinta Kachari, Teklo Boro, Sisuram Saikia, Jagatsing Basumata, Pulshing Basumatary, Paulus Borgoyary, Gendra Champramary and others. The missionaries acknowledge and admitted themselves the fact that the natives’ involvement as evangelist stood as the testimony themselves far more for conversion of the natives. This created more trust and easy outreach to the natives and the purpose for evangelization has been won. The different areas of the North Eastern States were therefore gradually covered by the Christian Missionaries and consequently they received many conversions to Christianity. In the course of time several missionaries landed among the Bodos of Assam and consequently many Bodos also got converted to Christianity.

The process of Conversion has been the subject of considerable theorizing to many natives of North East. It has been and still is defined in terms of ideological, philosophical or other predisposition. (Lal Dena 1988) For many natives conversion to Christianity is a consequence of persuasion without free will. For others, conversion is understood to be a miraculous where an individual or group or the village accepts as transformed to different personality in mind, spirit, emotions and self-perception. To them Christianity is a different understanding, a new belief, new doctrine, new behaviours and new norms and conduct which has been the search the reality and ultimate spiritual achievement.

R.E. Frykenberg gives working definition of conversion as, “Conversion is a change (either an event or a process) from one view or way of life to

another; from set of beliefs or opinions to others". From the point of Christian view conversion is of three kinds: religious, psychological and spiritual. (Lal Dena 1988) To the simple concept religious conversion is a process by which one migrates from one religion to another. Psychological conversion was deeper than religious conversion. It is the result outcome of the deep appreciation of the doctrines of the particular religion rejecting the other. In Spiritual conversion one underwent a mental anguish resulting from conviction of sin and then came to accept Jesus Christ as his master. The third conversion that is the spiritual is the most striking and what the missionaries emphatically stressed. To the converted, Christianity has given "pervasive courage and power to command all spheres of life – emotional, intellectual, social, economic, political, and ritual as well as religious..". (Lal Dena 1988)

In the tradition of Bodos, life and existence are inseparable with religion. They are always close to God and are God fearing people. They have believed in the supernatural and religion. Bathouism was the practiced religion and was the guiding force of the society from time immemorial. However with the changing trend of time the concept of philosophy has changed and transformation and reformation was felt necessary among the Bodos. The Bathou believers among the Bodo community were looking for a better spiritual satisfaction. Bathou religion could no longer fulfill the need and desire for change and transformation in the mind of many Bodos. Therefore many Bodos were searching for better religion. So through the different periods the Bodos not only got converted to Christianity but also to different religion.

Much before the Colonial period religious conversion started among the Bodos. The conversion to different religion from the traditional Bathou religion was a continuous process. The ancient faith to Bathouism was the guiding force of the Bodo society. The life of the family, the events in the village, the rituals were all the result of this belief. There are of course several reasons and factors which have led the Bodos to the conversion and acceptance of different religion.

It is found that the Bodos got converted to Hinduism with the arrival of Aryans in Assam. The arrival of the Aryans brought dominating cultural synthesis and a strong sanskritization. As Suniti Kumar Chatterji (1915) states, "The force of the Aryan's language was so great that the non-Aryan bases were, and still are largely forgotten". By about from 13<sup>th</sup> century many Bodo Kings also got converted or forced to accept Hinduism under the terms of war defeats especially under the Ahoms. It is so that the Bodos who got converted were completely transformed to different culture and lost their original cultural identity, religion and the language. The traditional Bathou religion had gradually been influence and came closer to Hindu religion. The mindset of the Bodos were so transformed and influenced that the Hindu belief was deeply rooted in them in every activity. They were sanskritized

and gradually many even merged with the other society. (Sir, Edward Gait, 1992).

### **Objective of the Study:**

1. To look into the religious conversion of the Bodos to Christianity and the consequent transformation it contributed towards the development of Bodos.
2. To analyse the possible social transformation the Bodos received from the Christian Missionaries to the growth of the Bodo society.

### **Methodology:**

The Methodology used in this article is historical. It is descriptive and analytical research. The data for preparing this paper is collected from primary sources such as interactions with senior Christians and missionaries, visiting Christians Mission, and secondary sources found in the locally available journals, travelogues, biographies and referred books etc.

### **History of People and Land:**

The Bodos have their own history, culture, tradition, language and religion. They were once the inhabitants of a country north of the Himalaya and West of China and belong to Mongolian race. This country was known as Bod. The term Bodo was first discovered by B.B. Hodson and later G. A. Grierson confirmed stating with his statement, "The generic term Bodo was first applied by Hodson to this group of languages." Rajmohan Nath (1948) writes, 'When Buddhism spread into Bodo countries, especially the Southern part, inhabited by the Buddhist Lamas, was known as Bsti (lamas), Bod and later on it transformed into Bsti-Bod-tibbod-Tibet'. The word Bodo means homeland. It is also said that there were many kingdoms known as "Hor Bod" or "Kur Bod" etc. So the inhabitants of the Bod kingdom are known as the "Bodo Fichá" or "Bodocha" or "Bodosa". The term Bodo means "land" and "Ficha" or "Cha" means Children of the Bod kingdom. According to Kameswar Brahma (2009) "The inhabitants of Bod country (A country north of the Himalayas and west of China) are known as the Bodo-Ficha or Bodocha or Bodosa (Bodo means land and Fichá or cha means children, hence children of the Bod country). In course of time they come to be known as simply Boddo- Bodo or Boro." They speak Tibeto-Burman family language.

The Bodos have believed in the supernatural and religion. Bathouism was the practiced religion and was the guiding force of the society from time immemorial. Their religion, culture, tradition and practices are transmitted through traditional life activities, folktales, stories, proverbs, customs, rites, celebrations and gesture. The Bodos have no written history and script (as the script Deodhai being lost completely). But they had distinct language, rich culture and folklores, own art and craft, handlooms, food and eating habits and well defined social practices. They practice patriarchal form of

society but women enjoyed equal rights with no cast system, polygamy and dowry.

The History and Oral transmission states that Bodos are one of the most ancient races and believed to be aborigines of the North East India dating back with kings and kingdoms. T.C. Sarma a historian states from the record in the Epics- the Ramayana and the Mahabharata (dated c. 1000- 800 B.C.) that the northeastern frontier kingdom of India, was ruled by the Bodo kings. Their history, origin, culture and language as Suniti Kumar Chatterji in his book 'Kirata Jana Krti ' (1915) states, that the Bodos are one of the earliest inhabitants who were originally powerful and dominant people who lived and controlled most areas in the whole North Eastern region including North Bengal and parts of Bangladesh. By about from 6<sup>th</sup> century onwards the Bodos came under the influence of Aryans and got patronized to Aryanism got converted to Hinduism, Vaishnavism, Brahmanism, Satsang Dharma etc. They were influence to Sanskritization and Hinduization. These conversion and amalgamation in the society almost swept completely their cultural and indigenous identities.

The advent of Ahoms in 1228 AD brought intermitted wars for over six hundred years, deteriorated the Bodo community and their territories completely. The continuous wars with Ahoms forced them to scatter to the whole of North East India, parts of East Bengal, Nepal, Bangladesh, and the North-Eastern Region of India. (Sir, Edward Gait, 1992). They had scattered to every direction, lost their culture and identities and got submerged to other races and were almost to extinction. Historically they are recognized as original inhabitants of whole of Brahmaputra Valley settled along the foot hills of Himalayas and Assam. Intrusion of Ahoms was the beginning of the dark history that brought Bodos centuries of deprivation, exploitation, maltreatment, neglect, alienation and further worsened with the British conquest and later with the dominant Assamese powers. Through the periods Bodos or Boros got different identities and names. But they are still the largest of the 18 ethnic sub-groups within the Kochari group.

The Bodo language is recognized as an official language of the Indian state of Assam and as one of the 22 official languages of India by the eighth schedule of the Indian constitution. According to some scholars, the Bodo language had a script of its own called *Deodhai* which is completely lost today. Presently majority of the Bodos are found to live within the Bodoland Territorial Council, an agreement signed in the Memorandum of Settlement (MoS) between the Government of India, the Government of Assam and the Bodo Liberation Tigers on February 10, 2003.

Being arrived at the most critical and transition period the Christian Missionaries had to face strong challenges with other religions especially Hinduism, Vaishnavism, Brahma Dharma and Satsang Dharma. However

the Christian missionaries played a bigger role and captivated the Bodos with more attention in convincing the purpose and mission intended for the good of the Bodos. They played and surplus the role of a mediator to the Bodos. They transformed the mind set of thinking and living and thus believed that the greater part of the community reunification, reconstruction, awakening and establishment of consciousness and preservation of culture and tradition is treasured and rejuvenated by the visionary Christian missionaries.

### **Conversion to Christianity:**

The arrival of Christian missionaries in 19<sup>th</sup> century paved a way for conversion to Christianity. There are basically five Christian denominations that have spread the Christianity among the Bodos namely, The American Baptist church, The Anglican Church, The Lutheran Church, The Presbyterian Church of Scotland and The Catholic Church. Each of these Christian denominations took intensive work in spreading Christianity and covered the Bodo domains in different regions and areas. They were much welcomed by many Bodo domains of Assam and got conversions.

The conversion of religion from the Bathou religion was not a new experience among the Bodos. It has already been a system within the tradition and the religious life of the Bodos by then. So seeking for a better religion was a conscious process and a movement in an individual, community and the village. As it has been said “In the minds of the converts, there was a close association between the specificity of their new faith and the ‘modern’ world from which it came, including education, technology, material well-being and eventually material consciousness”. (Lal Dena, 1988) This is why there are several religions where Bodos got converted and believed to have received transformation under religions even to this day in search of a new faith and modernism.

Looking back to the history of Kings and Kingdoms the Bodos are not only converted to different religion but the larger and worst situation was the merging and complete submission of the culture and identity to the other cast and community of Assam on the influence of religion. It is though Brahmanism brought some transformation and reformation in socio culture, education and politics the Bodos remained still at large under the alleged reason of the religion. The process of sanskritization which started among the Bodos long before, from the times of Kings and Kingdoms by conversion to Hindu religion is still a continuing process. As a result of the influence the Bodos were completely transformed to the Hindu culture. (Sir, Edward Gait, 1992).

As stated by Joseph Palamthattel, “More and more religious sects began entering the Bodo society. Many of them had Hindu elements guiding them and a gradual sanskritisation was seen even in the Bathou religion and belief. There was no opposition to any of these religious groups, though some of



them had distinctly Aryan origins. Christianity was singled out as the religion alien to the Bodo tribe". But he further states, "The Bodos are strong willed and once they are decided on anything, it is difficult to stop them. This strength of character is an asset, which has helped the church to spread and continue strongly."

The advent of Christian missionaries among the Bodos was thus again a great influence to an unknown religion called Christianity. Since many Bodos of Assam was already in the habit of experiencing to different religion. Christianity was also therefore welcomed by many of them. The Christian missionaries might have evolved some technique in the process of conversion to Christianity. The technique of social communication that the missionaries used has indeed brought social mobilization. The perfection of this technique correlated in 'effectiveness, rapidity, and radicality in generating the process of conversion'. (Lal Dena, 1988)

Lal Dena further states that the missionaries have used two levels of techniques effectively during the mission Period. He states, "Level one was the spoken word which was used in personal conversation and public preaching". He says that this was a two way process, involving the missionary to study the native language and urging the native people to study the language of the missionary. He feels that personal conversation and public preaching were done with a view to evangelize the people. The second he states, "Level two was the written word". This has indeed been clear that the missionary reduced the language he studied to writing form that has carried revolutions in communication. He further stated that this process immediately served the needs of the new education which the missionary introduced and also enriched the literature of the people and that these two levels were supplemented by the medical works. The method used had been so useful and successful that even the present missionaries among the Bodos follow the method. Therefore in the minds of the native people the material comfort and advancement which the Christian religion had brought with it were really crucial.

All the Christian denominations gave an equal effort in the work of evangelizing Christianity among the Bodos. They aim at spreading the Gospel to every man and women with no fears of any barriers on their mission. The proclamation of the good news of salvation was their first duty. They determined to preach Christianity to everyone and capture the opportunity in the entire Brahmaputra Valley of Assam. (Mathew Muttumana, 1984)

Some of the earliest Christians recorded arriving to the soil of Bodos are: (a) The American Baptist Mission. (b) The Anglican Church. (c) The Indian Home Mission. (Lutheran Church) (d) The Presbyterian Church of Scotland. (e) The Roman Catholic Church and several other denominations following them.



**a. The American Baptist Mission:**

The establishing of the American Baptist mission station at Guwahati in 1843 and the consequent opening of school and hostel was the first process of conversion. Here many kachari (Bodos) boys from Golpara began to come. It had become the initial step of contact with the Bodos around Guwahati and several surrounding villages. They also extended the mission work at Mangaldai in 1854 which helped them to get more Bodo converts towards the Northern part of Darrang District. (Mathew Muttumana, 1984) This gave the American missionaries the opportunity to have a connection with the larger Bodo villages. The missionaries in the course of time spread the mission station and spread the message of Christ in the districts of Udalguri, Goalpara, Kokrajhar, Bongaigaon, Baksa and Chirang districts of Assam. There are many Bodo converts and villages under the Baptist Church.

**b. The Anglican Church:**

The Anglican Missionaries had established its first mission station at Tezpur in 1862 where school and hostel was also established for the converted children. Rev. Sidney Endle was not only a missionary he was also a great prolific skillful writer. He has greatly archive the socio-culture life and tradition of the Bodos in his writings. He had passion to writing together with Christian faith to propagate. His book contains so much on the rich culture, tradition folklore of the Bodos. His love for the people further helped him to engross at the depth of the people's mind, feelings and thoughts. This has created an awakening in the mind of the surrounding Bodo villages and created the eagerness to come into contact with the missionaries. This helped them to extend the preaching work in the areas of Tezpur, Darrang, Udalguri and Lakhimpur districts of Assam. Through preaching the gospel of Christ many individuals and villages got their conversion to Christianity.

**c. The Indian Home Mission: (Lutheran Church)**

The Lutheran Church had their initial preaching work in the district of Goalpara in 1880. The missionaries established mission stations in the areas of Bodo domains in Rajadabri, Nangdorbari Bongaigoan, Gaurang, Nangdorbari, Dumbajhar, Gumurgaon, Kolabari and Parkijuli. (N. Borgoary) This mission stations covered and took hold of many Bodo villages under them. Through the intensive process of preaching many Bodos got converted in the larger areas of Assam. By 1922 the number of converts among the Bodos increased and the Gospel message spread in many villages in the present Kokrajhar, Bongaigaon, Chirang and Baksa Districts of Assam. They covered larger part of Bodo areas in Lower Assam extending up to the foot hills of Bhutan.

**d. The Presbyterian Church of Scotland:**

The Presbyterian Church is basically witnessed preaching Christianity

in the Duar areas of Darjeeling and Jaipalguri districts of West Bengal among the Mechis (Bodos) since 1868. The first majority conversion was received at Pankabari near Siliguri. The missionaries laboured all through in preaching the Gospel conquering every difficulties, learned the Bodo language and explored the Bodo villages regularly. The conversion to Christianity gradually extended its service to the Bodos of Alipurduar. The conversion of Jagatsing Basumata created the history of Boro church among Bodos (Meches) where through his preaching and evangelization work as a pioneer Catechist, evangelist and Pastor brought almost 15 mechi villages to christianity in Jalpaiguri District. They also extended their evangelization work in Kokrajhar, Goalpara, Bongaigaon and Chirang districts of Assam. Thus the Presbyterian Church with the evangelization work under different missionaries spread the Gospel of God and received conversions in the Darjeeling and Duar areas for Bodo (Meches) of Jaipalguri district and Assam.

**e. The Catholic Church:**

The Catholic Church has brought conversion to Christianity among the Bodos from different parts of Assam. It is believed that they had arrived at North East India as early as 1626. But due to lack of personal the mission work started only by 1890. Although they are the last to arrive among the Bodos in 1928 yet their propagation of Christian teaching could soon become very close to the Bodos and got conversions in many Bodo villages. They had missionaries to spread the gospel of Christ from different congregations. This had created a challenging spirit within the Catholic Church to spread the gospel of Christ and to bring larger areas under their jurisdiction. The Catholic Church also has congregation of nuns who separately do missionary work for the Bodos especially for the poor women. This is why though they have arrived very late could cover larger areas in comparison to other Christian denominations among the Bodos. They have established early Mission stations in Gauhati, Udalguri, Tangla, Kumarikata, Barpeta and Bengtol among the Bodos and got conversions to Christianity. (Mathew Muttumana, 1984)

The Assam census report of 2001 reported the total population as 2.66 cores, out of which the Christians were 986589. At present as per the Census 2011, the total population of the Bodos is 1838000 where the Hindu population shares 90.1% and Christian 9.7%. The total Christian population in Assam is 1489345 of which 986589 are male, and 502756 are female. As per the population census report of 2011, the total Christian population in India is 24,080,016 with 2.3% of Christians out of the total Indian population.

However as per 2015-2016 record under different Christian denomination present among the Bodos are stated. Presently the Catholic Christian Boro population is approximately more than 75451. The latest population survey of the Lutheran Church states 27,174 and increasing Boro Christians. The Boro Baptist Convention Udalguri has 55,628 and fast

increasing Boro Christians. The Goalpara Boro Baptist Church Union has approximately 50,000 Boro Christians. The Bodo community of Church of North India under Northern Assam Deanery has 10,500 and the Himalayan Diocese has 5,500, increasing Bodo population. The Presbyterian Church has more than 15000 Boro Christians. (Boros adjoining West Bengal and Darjeeling).

However due to unavailability of data there is no accurate statistical portrayal on Christian Bodo population from the Assam Government. The Data above is only the statement collected within the different Christian denomination and unfortunately some of the denomination has no records and documentation of the Christian population.

### **Reasons for Conversion:**

In the Bodo society the conversion to Christianity has been judged in various angles, for some it has been always a positive outcome since its advent, with reformation and transformations. While for others it has been judged in the negative impact with religion alien and destroying the tradition and socio-cultural life of the Bodos to western life.

(a) The approach of the Christian missionaries was welcomed by many Bodos. The uneducated, illiterate Bodo society was never hostile to the approach of Christian missionaries. This is because as a society the Bodos were searching for reformation and transformation. The preaching of the gospel was a proclamation of the good news of salvation. This has attracted many Bodos and conversion to Christianity was possible. Thus the missionaries became ever determined to increase the intensity of evangelical work among the Bodos of Assam.

(b) The approach of the Christian missionaries that has brought conversion among the Bodos has been sometimes viewed with controversy. The missionaries are witnessed approaching firstly the rich and the elderly wise persons of the village. This is perhaps the policy and intention that their conversion could be the passage to get the mass of ignorant to Christianity.

(c) The missionaries' persuasive approach with humbleness and submissive character to the tribalism endeavors has been a point of appreciation and attraction to Bodos. The missionaries' attitude was that of a Christ like in all his beauty and loveliness. They had less argued the philosophy of the other religion. This has made many Bodos closely look at the Christianity and its goodness as a religion. This has helped the missionaries get opportunity for natives' conversion.

(d) The majority of the Bodos were poor, innocent, illiterate, ignorant, restrained with primitivism of life activities. The Bodo people of the region were basically confined to orthodox belief, thoughts and ways of life. The coming of the Christian Missionaries and contact with them has indeed been

the turning point in their life. They stood for them as an inspiration, a life giver a supporting help and a consoler to their adversaries.

**(e)** The missionaries offered charitable care and special attention to the needy. They showed caring love and good will to all people basically the poor and the sick. The charitable works serve to the Bodos a help and a support to the family and society. This gained attention and sympathy among the people towards the Christian missionaries and thus many Bodos embraced Christianity.

**(f)** The States of North East India has experienced natural calamities like Earth quake, draught, flood, epidemic, failure of crops etc. These natural calamities had indeed affected the lives and activities of the Bodos. The fears of the nature and consequent destruction had made many Bodos converted to Christianity. This is because the Christian missionaries have propagated that Jesus Christ is the only God above all Gods and that he alone controls the heaven and the earth.

**(g)** The Christian missionaries aimed at helping the needy poor natives. They aimed not only to Christianized the natives and gain souls, together with saving souls and spiritual life they accompanied the mission of saving the body. The medical work was one of the most effective means that has destroyed the traditional belief system of sicknesses and misfortune punished by the evil spirit. They brought the concept of naturalistic view of diseases and medicine and broke the animistic world-view. The serving of liquid medicine and tablets and prayers help the natives heal from disease. The effect of healing was a miracle and a trust bond between the Bodos and the missionaries. This medical work served as an agent and has brought conversion to Christianity in many places.

**(h)** The opening of Educational institution and hostels by the Christian missionaries has been the centre of attraction for many Bodos. It was different feeling and contrasting experience to Brahmanism's consciousness and transformation in education. Under Brahmanism larger domains of the Bodo villages could not received awareness. It was only the few restricted areas that the Bodos got the benefit of education under them. The Majority of them remained still unaware to the concept of learning and education. The unification was only seen among the converted Bodos in Brahmanism. And so the destiny was still at doom in the Bodo society, who were constantly brought to division through influences of socio- cultural life and religion of the invaders and intruders.

The Christian educational institutions were opened to all sections of religion with no distinctions. In fact the institutions were modernized and solving the need of the technological advancements. The education brought to the growth of unification and revitalization of culture and tradition. This

gave trust and confidence towards the missionaries and brought conversion to Christianity to greater extend.

(i) The greater transformation was witnessed very little with the other religion, among the Bodos because the other religion only brought division and restrictions in the socio-cultural life of the Bodos. The other cast and society neglected the Bodos and considered them as inferior, outcast and unpurified on the ground of religion beliefs. Within the doctrines of Christianity the Bodos felt that there is no such division. Everyone was considered as one and same in the house of God and in Christian society. This brotherhood and unity gave a new life to the Bodos and so many Bodos got converted to Christianity.

(j) The missionaries always aimed towards the growth of the Bodo society. They have organized institutions serving the ever demanding growth in several fields of learning. These institutions are administered with lesser fee as compared to other commercial private institutions. Often the converted Christians are demanded to pay just the marginal of the fee of their children. Many extremely poor Christians are given free of education and boarding. The educational fee may be lesser to the Christian converts than that of the other religion. This is because the Christian institutions are always aiming to create human resources among the poor Bodos.

However many viewed that this humanitarian assistance is part of the Christian missionaries policies used to get conversion to Christianity. To the converts Christianity was not only a religion but was everything that has brought changes and transformations in their life, family and children.

(k) The Christian missionaries and institutions are very often viewed and commented by the Bodo society of Hindu cult religion for forceful conversion and proselytizing Christianity on the pretext of opportunities for family and children. However in most of such conversions the converted Christians viewed Christianity as a religion with more of civilizing the society and bringing transformations with modernism. For many converts the desire to receive the opportunities offered by the missionaries was a self felt concept and longing to be part of the global society. In fact, for many converted Bodos Christianity became a known religion only in the later stages of their life.

#### **Social Transformation:**

The Christian missionaries aim at civilizing the Bodo community. They wanted to change the primitivism of life habits and determined to develop socio-cultural, belief, thoughts, education and ways of life and several activities among the Bodos. There are many works and special activities through which the missionaries have utilize and have brought some success in bringing social transformation among the Bodo society. These are some of the areas where the Bodos are basically observed to have received social transformation.

**a. School and Education:**

The opening of Schools by the Christian Missionaries is believed to bring positive change and social transformation among the Bodos. The missionaries had opened schools and boarding and aimed to educate the converted Bodo Christians. This has helped them in the ministry of the evangelization and educating the children for future leaders in the society.

The influence of other religions had dragged the Bodo society to the influence of sankritization. Hindunization had led them to abandoned the rich Bodo heritage, the dress, language, costumes, Titles etc. many have stop speaking their language, many felt ashamed to identify themselves as Bodos, they pleased to engulf oneself in the society of other community. As Gurudev, Harka Bahadur Chhetri Atreya (2007) states: "Brahma Religion under Gurudev Kalicharan Brahma gave efforts to contribute the basis of the modern Bodo society to lead them to the welfare of the students, villages, women, farmers in their respective destinations". This brought back some reunion and unity among the Bodos.

The coming of the Christian missionaries was a further changing contribution to many Bodos. The missionaries were seen not only in spreading Christianity but establishing schools for a positive outlook which the Bodos begin to accept as a religion better than the previous other religions. The thought of accepting Christianity as a better religion itself was a social transformation. The missionaries wrote text books, for the elementary education. They had opened night schools for the elderly persons. In the night schools both men and women were taught to read and write. This learning process was never experienced earlier in the other religion. The schools were opened to all section of community with no distinction to any religion. This liberal thinking of the Christian missionaries helped the Bodos to feel wider acceptance to their approach and gradually brought social change amongst them.

The missionaries were not only preaching Christianity but most of them were social workers. The work of a Christian missionary Rev. Sidney Endles' 1911 literary contribution has brought to the lime light the historical fact about the socio- culture and economic aspect of life of the Bodos. Through missionaries many schools were established in the most interior villages of the Bodos. The villages begin to put trust and confidence in the Christian missionaries. In the process gradually more Bodos got the opportunity to acquire education. It is therefore due to the extensive sacrificial work of the Christian missionaries and with the opening of early schools that has brought socio- cultural consciousness among the Bodos and brought transformation in the society.

**b. Christianity and transformation:**



The evangelization work of the Christian missionaries has gradually spread Christianity among the Bodos. The converted Bodos has brought some remarkable transformation in the pattern of living, custom, habit, belief and values. The constant influence with the missionaries brought the Bodo Christians adopt some of the western values and culture. This philosophy enabled the Bodos to evaluate their own culture and society. The converted Bodos formed Bodo Christian society under the Church and the Churches were build in those villages where there are a few majorities of converts. Every religious worship and social instructions were done through the society. The establishment and formation of a new social institution among the Bodo Christians originated. This was a completely new transformation seen among the converts. The spread of Christianity has resulted to the transition of Bodo society to some extent from tradition to modernity.

This new formation of Christian society is believed to have brought social transformation among the Bodo Christian society. The church and the Christian values were very strictly practiced among the Bodo Christians. Every social evil practice was prohibited for the converted Christians. This brought the Bodo Christians conscious of their life and existence spiritually and mentally. The Church poured out spiritual care and developed socio-cultural, belief, thoughts and ways of life among the Bodo Christians. This consciousness helped the Christians ultimately to be part of the better developed society globally. The seeking for a better religion among the Bodo people let them for a better transformation and reformation under Christianity. The lost tradition, culture and identity under the influence of different religion are believed to have revived under the influence of Christianity. So Christianity was felt a better convincing religion for many Bodos.

**c. Superstition beliefs:**

The Christian evangelization and their close association with the backward areas among the Bodos brought social transformation in certain traditional evil beliefs. Their activities directly or indirectly freed many age old superstitious beliefs and practices. The conversion to different sects of Hinduism though brought many reformations in the traditional Boro society yet could not bring effective changes in the superstitious beliefs and practices. The prevalent of superstitious beliefs were still at large present in the Bodo society at the time of the arrival of the Christian missionaries. The Bodos completely believed and depended traditionally their every life and daily activities at the mercy of Bathou Bwrai (Obonglaori) the Creator of the universe. (Kameswar Brahma, 2009) So any misfortune in the family and life was considered as a punishment of God. So to please back Obonglaore and to be forgiven from their misconduct they needed to offer sacrificial rituals which sometime were costly.

The disease and the sicknesses were very much prevalent in the Bodo

villages due to the poor maintenance of health and hygiene. The patient with any sickness was mostly treated with herbal medicines given by the herbal practitioner called 'Oja'. Sometimes certain diseases were incurable and deadly. The nature also brought out epidemic disease in the village at certain times. The simple Bodo villagers thought the epidemic as the act of an evil spirit and tried to propitiate the spirit by sacrificing chicken, goat or pigeon at the advice of the priest. The practice of the black magic was also very much prevalent among the Bodo society. Therefore superstitious belief among the Bodo society existed since years and brought stagnant to the social development and transformation.

The arrival of the Christian missionaries transformed such evil concepts from the mind of the Bodos. The missionaries established dispensaries and provided medical treatment to the Bodos of the interior villages. The converted Christians were taught how to maintain good health and hygiene and advice to maintain cleanliness. The missionaries encouraged the Bodos to pursue modern education and become self dependent. The education has brought them the knowledge of diseases and its consequences. These works and activities of the Christian missionaries brought huge transformation among the Bodos in their individual life and society. Though acts of superstitious practice and belief among the Bodos is not completely eradicated however its prevalence and existence among the converted Christians is further not seen.

**d. Evangelization and transformation:**

The process of evangelization was closely associated with the British colonialism in Assam. It is no doubt that the Christian Evangelization has brought much transformation in the life of an individual, community and society. Their religious invasion has slowly brought missions stations and consequent establishment of institutions including schools and other humanitarian works. The Bodos were seeking for a transformation constantly and this is why Bodos accepted different religions in different periods of time.

As Sekhar Brahma, states, "The Boros who were in search of a change and development of their community, became Brahma or Christian because even the traditional religion became expensive, as very frequently they have to sacrifice chickens, pigeons, or animals. So the poor people could not bear the expense of performing worship even if they wished to do so." (Sekhar Brahma, 2006)

The arrival of Hinduism and conversion to different set of Hinduism and consequent sanskritization was an adoption of new values and a hope for life to belong to higher status or upper cast. Therefore there is no doubt that sanskritization movement had not touched the secular life and aspect of the Bodo society. Every new religion brought some refinement in the Bodo society.



Through sanskritization some of the striking changes are seen in their customs, habit, food and drink, manner, economic institution, psychology of the people for upward progress of social rank. (Sekhar Brahma, 2006) But it has been no doubt that sanskritization has also brought the Bodo society to abandon many of their traditional social customs and belief and adopted sanskritic culture. This led to the direction of extinction to the society.

The Christian evangelization crept in a slow progress and covered its mission work through different directions. Their effort of work among the Bodos was not only for religious conversion but also intended to serve the people for the good cause. Many missionaries became so attached with the innocent rustic life, habits, culture and tradition of the Bodos that they preferred never to return to their native country. They believed and loved the people so dearly that they intended to sacrifice their life among the Bodos.

Thus Evangelization has brought a deep attachment with the missionaries and the native Bodos. The selfless sacrifice, utmost vigour and tremendous endurance of the missionaries' work slowly brought more confidence and trust within the society which resulted social transformation. The simple uneducated, illiterate Bodo society was never hostile to the Christian missionaries approach. Thus they became ever determined to increase the intensity of evangelical work.

The influence of Christianity created a sense of awareness in all direction of social activity among the Bodos. In the later period of the 20<sup>th</sup> century, the cultural unification and the search for a political right became a strong slogan and continuous movement till this day. This indeed has some relation with the Evangelization of the Christian missionaries that has brought socio cultural and political consciousness among the Bodos. (Arjun Basumatary, 2000) The Church poured out spiritual care and development for socio-cultural, and education for the Bodos. The missionaries felt the need of helping them to preserve their own tribal identity and to indoctrinate their cultural values into their own lives as Christians.

The traditional Bathou religion and other sects of Hindu religion which have influence the Bodos for centuries could not ensure satisfactory desire in the mind of many Bodos. Therefore Christianity was felt as a religion by the converted Bodo community as nourishing, satisfying and comforting their inner longings. Christianity offered universal appeal, growth and transformation. The Christian Missionaries are witnessed not to have only enriched and elevated the Bodo society but every culture and society wherever they went. Their culture, language and Linguistic identity has been felt revived from the invasion of sanskritization and hinduization.

**e. Transformation through literary work:**

The Bodo literature is abundantly blessed with the pioneer works done

by the zealous missionaries. The Christian missionaries have recorded the Boro folk literature in written form which has been passing from generations as an oral tradition. In initiating to bring the Boro folk literature the missionaries has played a supportive role and begun the first light of literature for Bodo society. (Anil Boro, 2001) This literary work has become the passage of every Bodo to know its history, the past and to become the part of the civilized world. The Boros have a rich folk literature which has existed in oral form and has been passing from generation to generation such as songs, proverbs, riddles, sayings, charms, tales and tradition, cure of disease, seasonal and agricultural observances, belief, superstitions etc. Rev. Sidney Endle's work, *An outline of Kochari Grammar or Mech language* 1884 and *The Kacharies* 1911, brought the first Boro language and Bodo folk tales into written form. There is no trace or record mention writing prior to Sidney Endle's work. Another work by J.D. Enderson's, *A collection of Boro Folk Tales and Rhymes* 1895 has been a great contribution recorded as another earliest written work on the Boro language and literature. As Sekhar Brahma (2006) states; "The Boro folk literature, which have been passing from generation to generation first recorded in book by Christian missionaries". L.O. Skrefsrud contribution of *A Short Grammar of Mech or Boro Language* 1889 and the book of A. Kristiansen *Grammar and Dictionary of Kochari Language* also brought to the earliest opportunity to the Bodos to receive early education and transformation. The richness of the folk lore of the Bodos always attracted the Christian Missionaries to endeavor and bring into the form of literature. As Ramdas Basumatary, states; "Although at the frowning of time most of the Bodo folk items have been lost their traces and decayed in the womb of oblivion, yet hundreds of them are still alive with the cowherds, the ploughing youths, the paddy planting girls, the fishing man and women, and the old couples of Boro families". (Sekhar Brahma, 2006) There are also several Christian missionaries whose contributions had served as a great help and beginning to the literary work among the Bodos. Their contribution has paved ways for many Bodo writers in the downstream for literary contribution.

The early contribution of folktales and writing of Boro grammar for Boro schools witnessed as an enlightenment and transformation in education and learning process. The beginning of a new era for greater civilization and consequent development was thus paving its way. The impact of transformation was not only among the converted Bodo Christians but was more to the growth of the Bodo society. The growth of education inspired the young generation to undertake constructive work.

It is therefore clearly noticeable, from the beginning of the advent of Christian missionaries till to this day they played bigger role in bringing all round transformations. Apart from establishments of learning institutions and medical care centers, they have become the guiding source that has produced

thousands of human resources. They have guided the Bodo Society to be modernized and face the challenges of the world confidently.

Christian Missionaries have revived the culture as a whole and changed the socio-cultural life. They brought changes and reformations in various aspects especially in the field of literature. It is therefore due to the extensive sacrificial work of the Christian missionaries and with the opening of early schools that has brought cultural consciousness and larger transformation among the Bodos.

**f. Medical work:**

The Bodos have believed in the supernatural and religion. Bathouism was the the guiding force of the society from time immemorial. The conversion to Hinduism, and Sanskritization and later conversion to more religious sects brought socio-cultural and religious transition in the Bodo society. It was a difficult task for the Christian missionaries to bring transformations in the concept of naturalistic belief.

As a part of the missionary work the Christian missionaries involved themselves in the medical work. Their involvement in the medical work was a clear desire to help the poor Bodos and not merely humanitarian motivation. This has served in parallel on the positive approach with opening of schools and establishing of educational institutions. The missionaries who established hospitals and schools saw these institutions as aids in saving souls for Christianity in the nineteenth and twentieth century (Lal Dena, 1988)

The missionaries who landed among the Bodos felt the need of establishing medical institutions. Their experiences and the difficult circumstances made them realise more and more that the saving of souls must be accompanied by the saving of Bodies. This is why gradually there had been medical institutions established by the missionaries in mission institutions.

The majority of the Bodos had believed in the system which was essentially super naturalistic. The traditional view attributed any misfortune or sickness to evil and hostile spirits. The Bodos would approach and trust the village priest or the herbal mediciner in any calamities and diseases. It was not easy at times for the priest to identify which spirit was causing the trouble and what form of sacrifice would appease the disease. The missionaries were with the naturalistic world-view and opposed the endeavours of every supernaturalistic approach. The missionaries understanding of diseases and illnesses made for the natives to receive proper diagnosis, to have knowledge about the germs and the cause of the diseases.

The knowledge of the missionaries on the medicine was a helped to serve the poor Bodos which attracted more on every approach of the missionaries and also resulted in conversion. As Lal Dina (1988) states on

the preview of Christian medical work, “With the advance of a technology to their own advantage, the missionaries work with a highly naturalistic view of disease and medicine which accelerated the breakdown of traditional animistic world-view thereby acting, directly or indirectly, as an effective agent for conversion.”

It was therefore witness in the present day that the Christian missionaries could give conceptual difference of disease between supernaturalistic and naturalistic in the mind of the Bodo Christian. The knowledge for medicine has testified to the medical change which the medicine had created in the primitive mind and belief system. Therefore in missionary work every missionary was equipped with the knowledge of basic pharmaceutical. The effectiveness even small tablet and the liquid medicine became a great factor in winning the hearts of the people.

Many a time the poor villagers surrounded the missionaries who whenever and wherever the native wanted influenced them in person and in motivation. The villagers and the poor natives were often motivated to ignore the choice of the traditional form of remedy in sicknesses that is offering of Goat, chicken, pigeon and other fowls as a form of a sacrifice through priest. They were guided that any natural calamities and that sicknesses and diseases are not the destructions of God’s anger. The missionaries often invoked divine help by saying prayers over the liquid medicine and tablets, this administering of medicine which is a naturalistic world-view gave the impression that God was acting through human agency and medicines. The effect of the medicine was like a miracle and an astonishing fact which the natives never experienced before. This is why there are dispensaries almost in every mission stations and many medical institutions run by the Christian missionaries among the Bodos even to this day.

The contribution of the medical work has transformed the traditional concept of the supernatural belief towards the diseases and the sicknesses among the Bodos. Though many of the poor failed to be administered due to extreme poverty and reluctant notion of medicine and prevention from traditional religion but the gradual result is felt effective among the Bodos. Thus from the concept of primitivism and restrictions of religious belief towards diseases and sicknesses and traditional sacrifices the Bodos learned to accept transformations through the influences of the Christian missionaries.

### **Conclusion:**

The arrival of Christian missionaries among the Bodos has paved a way for conversion to Christianity. The Conversion was one of the basic objectives of the missionary movement. So converts basically through evangelization and works on education, literature and medical work was a successful progress. The influence of Christianity has created a sense of

awareness in all direction of social activity among the Bodos. The greater progress was gradually creeping in with modern educational institution, health-care facilities and social works. Beside evangelical and humanitarian social work they particularly also took keen interest in studying the people and the Land. Transformation was also possible in the Bodo society because the missionaries took basic importance in literary work and translations. The beginning of early schools and hostels in the remote villages among the Bodos brought the converts to get opportunity to learn education and become part of the civilized world. The humanitarian work of social activity like medical work has further helped the Bodos understand the naturalistic world-view and opposed the endeavours of every supernaturalistic approach. Thus the Bodos received gradual transformation through missionaries work among the Bodos.

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23. Sources also collected from several Souvenir, Translations, Interview and Discussions.

## **National integration of India Concept and challenges**

**\* Swetambu Gautam**

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**Abstract-** *It is high time to take up the problem of national integration of India, for the nation is caught in the trap of socio-economic-political turmoil manifested in terrorist and Naxal violence, secessionist demands as well as communal and caste-based conflagrations. At present, India is confronted with a lot of serious problems and challenges particularly in the realm of national integration. Some problems are the result of its colonial past whereas some other problems are basically due to the backwardness of the Indian economy. The economic crisis brought on by decades of profligacy, the political strains on account of centrifugal forces aided and abetted by interested aliens, the domestic tensions of regional disparity and uneven development of states and regions, lingual diversity and socio-religious heterogeneity manifested in ethno-communal and caste terms are all reflected in a configuration in which one-third of the population are below the poverty line, another one-third or so float above the consumerist plimsoll mark and the rest provide the ballast to hold the Indian ship of the state steady on turbulent waters. The social configuration of India itself leads to some challenges and threats. But when we take a holistic view, it becomes obvious that the problems and the challenges that exist before the Indian state today cannot be studied in isolation. Every problem, challenge or threat is the outcome of various factors, though one factor might be playing a dominant role in its origin and sustenance. With these grimaces of national scenario combined with crony capitalism and rampant corruption badly contaminating our top brass of bureaucracy and political class are eating into the vitals of our democracy and beloved nation - INDIA.*

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### **Key Words- National integration, Caste, Religion, Language, Ethnicity**

The contention to take up this research venture, therefore, is that the primordial variables – caste, religion, language and ethnicity – which have immense disruptive and centrifugal potentialities, are normally not so, instead they may also be utilised rather to make pace with the process of national integration. Hence, what is really alarming is the role of political elites who, shaking hands with criminal-bureaucrat-crony capitalist nexus, are all out to politicise these variables for their narrow selfish designs of lust for power and pelf without paying much heed to the repercussions on the self of the nation at large. Closely linked with this phenomenon are the problems of

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\* Research Scholar, Political Science, J.P. University, Chapra (Bihar)



rampant corruption, smuggling, violence-based caste animosity, communalism and left extremism as well as cross-border terrorism. Clandestine activities of the alien elements which have supports of anti-national elements within with their hands in gloves are creating a dangerous socio-political and security scenario. This situation aggravates when problem like lumpenisation of youths, politicisation of criminality and criminalisation of politics creep into the already alarming situation.

### **Concept of National Integration:**

National integration has been a very serious and prominent challenge in all developing countries including India. For a proper analysis of the concept of national integration it is necessary to know the meaning of certain concepts. The first and foremost concept is the term integration itself which may be defined as a process of becoming whole. In other words, an integrated whole is one in which all structural aspects and parts, fit together with at least some maximal amount of unity or mutual compatibility. Furthermore, integration is the name for the state of relationship between parts of the system. It has to do with the interrelations of units. Thus, an integrated society is one in which established institutions and rights and values associated with them are generally accepted. National Integration is a socio-physiological and educational process through which a feeling of unity, solidarity and cohesion is developed in the hearts of the people and a sense of common citizenship or feeling of loyalty to the nation is fostered.

However, national integration lacks a precise definition. To a common man, the term 'integration' implies 'the process of becoming a whole'. It is more a psychological, behavioural and emotional concept. In a limited sense, it (national integration) believes in a sense of territorial nationality which overshadows or eliminates the subordinate parochial loyalties as recommended by Myron Weiner<sup>1</sup>:

National Integration, according to Myron Weiner again implies:

- (a) A process of bringing together culturally and socially discreet groups into a single territorial unit and establishment of a national identity;
- (b) The process of establishing a national authority over subordinate political units or regions, with distinct cultural and social groups;
- (c) Forging a link between the ruling elite and the ruled or reducing the gulf between the elites and masses in terms of aspiration and life-conditions;
- (d) Evolving a minimum value consensus necessary to maintain a social order;
- (e) Integrative behaviour which involves the capacity of the people in a society to organise for some common purpose.

The concept of national integration includes two processes – the process of nation-building and State-building. Nation-building involves doing away with the casteist, communalist, linguistic and regional lines on the one hand



and fostering psychological sense of unity on the other. State-building refers to territorial integrity which implies the absence of separatist forces within the territorial boundaries where the administration of central and state government runs. However, both the processes are interrelated and mutually influenced. Thus, national integration is the process wherein the discreet segments of people develop a feeling of togetherness, a sense of unity and sense of belongingness constituting a broad socio--political entity, the State despite diversities of religion, language, region and caste.

National integration thus involves the following principles:

1. Nation and national loyalty supersedes all other types of loyalties such as caste, religion, region, language etc.
2. National integration is to be viewed as a sea into which the diverse rivers of culture flow, meet and mingle.
3. National integration is a comprehensive process which includes cultural as well as political integration. Political integration is maintained by safeguarding administrative unity, universal legal system, protection of states' territory etc. Cultural integration is achieved through reconciliation and mutual consensus of diverse groupings, religions, values etc.
4. It does away with divisive forces and disintegrating tendencies which are hazardous to the feeling and spirit of mutual integration in a nation. And
5. In a plural society like India, it requires ideological goals such as inclusive development, secularism and democracy.

National integration includes nation-building and State-building which means doing away with the boundaries which divide the society on tribal communal, racial, casteist, linguistic or regional lines on the one hand and territorial integrity which implies the absence of secessionist and separatist forces on the other. National integration implies a sense of belongingness as feeling of togetherness and of unity. It is a process in which people of a nation are made to know, feel and act as people of one nation. A person should have a set of loyalties such as loyalty to the State he lives in, to his region, religion, language etc. But national loyalty is primary and above all. National integration stands for mutual tolerance. It includes political, social and cultural cooperation and co-existence, and also requires secularism and democracy.

These definitions generally present the static character of integration with its main focus at maintenance of the system. But in reality while being concerned with the process of becoming whole, integration is also directed towards an orderly change within the system.

The above discussions on the concept of integration make it evident that the term is contextual. One may talk of the integration of a small group, society, culture, and nation or of the entire world. In each case, no doubt, integration contributes to the maintenance of the social system as growing

concern with respect to the properties of cohesion, boundary maintenance, procedural and functional efficiency, and adaptation to change in enviroining situation.

However, the mechanism to attain the goals of integration changes with every increase in area or type of integration, leading to the greater complexity in the meaning of the term. The term national integration tends to be obscure in the light of varying definitions of nation and nationalism. The minimum requisite for nationhood is considered to be the people living in a compact geographical area with general cultural unity. They form a nation by accepting a particular political order and forming a state. Language, race, religion and history are additional factors which generally strengthen the bond of nationhood. According to J. P. Narayan, nationhood is made up of tangible and intangible elements, the latter constituting much the larger part of it. The most essential tangible elements of nationhood are:

1. A well-defined territory;
2. Political unity represented by a constitution, common citizenship and agovernment; and
3. A workable medium of communication.

The intangible elements are:

1. An attitude of mind which makes it natural and normal for every citizen to regard loyalty to the nation as being above sectional and group loyalties;
2. An attitude of mind which makes it natural and normal for every group and section of the nation to subordinate its interest to national interests;
3. An attitude of mind which makes it natural and normal for the nation to think of the interests of every citizen and of every group and section of the nation.<sup>2</sup>

On the other hand certain theorists have treated the nation to be a mental construct than being a community whose 'essence' or identity is fixed.<sup>3</sup> Marxism explains it as a 'bourgeois concept.' Marxism believes that class struggle is the motor of social change. Success of the revolution depends on the intensification of class struggle. But the ruling class counters the threat of social revolution by emphasising on inter-class solidarity, and the ideology of nationalism is used as a means to this end. Thus, Marxists describe nationalism as a 'bourgeois concept' and a 'false-consciousness.' Eric Hobsbawm described nations as 'invented traditions' while making an analysis of the phenomenon of nationalism from a modern Marxist perspective. Hobsbawm maintains that a widespread consciousness of nationhood in the late 19<sup>th</sup> century was consequent upon the invention of the national anthem and national flags and the extension of primary education. Thus, Hobsbawm concludes "in short, for the purpose of analysis, nationalism comes before nations. Nations do not make states and nationalisms but the other way round."<sup>4</sup>

Benedict Anderson described the nation as an 'imagined politicalcommunity'.

According to Anderson the nation is an artifice constructed through the education, the mass media and the process of political socialisation. The national community, he argues, is a particular kind of cultural creation: an imagining of an abstract common tie of citizenship that extends uniformly across the territory uniting the members of “even the smallest nation.” Although most members of a nation remain unknown to each other, “in the minds of each lives the image of their communions.”<sup>5</sup>

The formation of nation depends upon both the objective and subjective factors. The objective factors include such identities like the language, religion, race, traditions, culture and so on. They are objective realities. But only these objective realities in themselves do not create the nation. Ultimately it depends on the subjective feeling of becoming a nation. That is the main reason why there are different foundations for a nation at different places. For example at some place or time, region might be playing dominant role during the formation of a nation where as at some other place or time it may be the language. According to Achin Vanaik:

“Thus nationalism can refer to the ‘idea of the nation’ – the beginnings of a national identity or consciousness which then spreads. This is a subjective definition which, however, has strong objective foundations both cultural and non-cultural, for example, capitalist modernisation, growth of communications, erosion of traditional identities, emergence of new forms of cultural representation, and so on.”<sup>6</sup>

But though nations necessarily need the two components – objective base and subjective awareness – and both are important for a nation, the subjective consciousness in the form of belongingness or togetherness is more important in the formation of a nation. Objective elements are always there and important for the formation of nationhood, they are not decisive. It is the subjective element which is the key to the emergence of a nation. The nation emerges and demises with the emergence and decline of this subjective consciousness.

As such, the term national integration refers specifically to the problem of creating a sense of territorial nationality which overshadows or eliminates subordinate parochial loyalties. The concept of national integration is quite comprehensive. It covers all dimensions – political, economic, social, cultural, legal, educational and psychological. That is, it does not merely support the existence of a strong and viable nation-state; it also aspires for social, economic and cultural integration. Above all, it desires emotional integration of the people. Thus, it comes to involve a value system as well.

#### **The Indian Context:**

The idea of nationalism has two different connotations – ‘Western’ and ‘Eastern’ – having their relevance in the process of nation-building. So the idea of national integration has its two broad varieties. In other words, there are two public policy forms and strategies for achievement of the goal

of national integration. The first is the elimination of the distinctive cultural traits of the minorities into some kind of or what the leaders in power call- 'national' culture which is invariably the culture of the group in majority. It may be defined as national assimilation, though in the context of a particular country it may have the appeal of something like 'Americanisation', 'Germanisation', 'Vietnamisation', 'Indianisation' and the like. The second is the course of having 'unity in the midst of diversity'. Here we find synchronisation or ordering of national loyalties without eliminating subordinate cultures. The case of national integration in India falls in the latter category where instead of assimilation or absorption of the minorities, the ideal of 'unity in diversity' has been adopted. In India the ideal of 'integration' does not imply 'absorption'. The purpose is not to have unity at the cost of surrendering diversity. What is really required is that there should be unity in the midst of diversity. Let the people with their own religion, caste, language, culture and the like exist and yet they should harmonise their varying loyalties in such a way that the country is strengthened. The essence of national integration in India is not assimilation but is a two-fold strategy involving the elements of bringing unity in diversity but at the same time protecting diversity in unity. "Indian nation builders, therefore, adopted a strategy of gradual transformation that was open, democratic, and based on acceptance of diversity and dissent. This was at once bold and necessary: bold in design but necessary because there was no other way of building a nation out of these diverse elements."<sup>7</sup>

### **Politicisation of Primordial challenges in India:**

The problem of national integration is universal and it involves reconciliation of all diversities to build up national solidarity. Indian national integration faces four major primordial challenges – caste, religion, language and region which have existed herein from time immemorial and have been playing integrative as well as disintegrative role in its process. However, it has been experienced that whenever these factors have been targeted for political or sectarian gains, their negative impact on the process of national integration can be easily visualized. The Indian culture is soft, reasonable and tolerant, and has shown ample capacity to adjust, absorb and accommodate diversities to foster peaceful existence, unity and strength.

### **Casteism:**

When caste is misused for one's political designs even against social cohesion or national aspiration, it becomes casteism which poses a challenge to national integration. India is an ancient society and caste has been working from the Vedic period as the basic factor of social organisation based on functional specialization drawn upon individual traits and functional specialization. Lord Krishna has said in the Bhagwatgita, "*chaturvarnyam mayasrishtam gunakarmavibhagasah*" (I have created four *varnas* based on traits and functions), but the people in power and influence vitiated classical

caste system and made them birth-based. This perversion of the system got further perverted and caused the social ills of mutual cleavage, animosity, hatred, social divide and even untouchability. Due to Brahmanical interpretations, these perversions were attributed ritual acceptability for their perpetuation. However, due to long struggle against and opposition to them, and modernisation caste hatred started getting cooling down. Its ritual values started diminishing. Nevertheless, with the commencement of the new democratic Constitution in the post-Independence era and introduction of adult franchised based elections for Lok Sabha and state legislature, and ultimately local bodies and PRIs, its political values got enhanced. The more the values of ideology and developmental politics diminished, the more and more the role of caste increased in shaping voting behaviour of the electorate. Instead of pursuing ideological and developmental goals, politicians find easy recourse in fomenting caste frenzy in elections to fetch bloc votes. Thus this traditional social institution is being utilised for modern election purposes and got strengthened. Although caste embarrass everybody, everyone embrace it which paves the way for what Rajni Kothari calls its politicisation. According to M.N. Srinivas:

“Caste is so tacitly and so completely accepted by all, including those who are most vocal in condemning it that it is everywhere the unit of social action.”<sup>8</sup>

This politicisation of caste is a natural outgrowth of our democratic elections because our very society is caste-based. For this political purpose in mind our political parties and leaders engineer caste-based bunds and movements with political overtones. All the movements for and against caste-based reservation for government jobs are organised to secure bloc votes, even though they create hatred and social divide posing a serious concern and grave challenge to national integration.

**However, as Rajni Kothari has said:**

“Caste provides to politics on the one hand an ongoing structure of divisions and accommodations and on the other hand a cohesive element which absorbs tensions and frustrations through its intimate particularistic channels.”<sup>9</sup>

Caste plays both an integrative and disintegrative role in politics. It is integrative because the castes have given up their localised character. “They are in a sense vehicle for transcending the technical political illiteracy, which would restrict political participation”.<sup>10</sup> There is clear-cut correlation between castes and elections which leads to democratisation of the masses. “One important consequence of caste mobility, and politically, perhaps most significant, has been the expansion of the area of political mobilisation, consensus building and interest articulation and aggregation.”<sup>11</sup>

**Communalism:**

Communalism is the perversion of religion which refers to the attitude of the people and their groups when they “place their loyalty to the community

above loyalty to the body politic to which they belong, or else when they develop active hostility towards communities living within the same body politic.”<sup>12</sup>

India has been a country where dharma - the basic norm for the existence of human being – formed the spirit of religious life which developed with propriety in response to the demand of place and time. That is why it contained ample scope for interpretations and further evolution keeping in view man and good life as the main focus. At least six established religious philosophies are there with their distinct interpretations, but they did not pose any serious threat to mutual relationships among the inhabitants of this land. Sometimes, minor contradictions erupted between *Shaiva* and *Vaishnava*, but they remained non-antagonistic. It is only after Mugals invaded India and settle with political power to rule the country that religious antagonistic contradiction between Muslims and Hindus developed and further conflagrated with British “divide and rule” policy. Although, Hindus were in majority, Muslims too were in good number; and the latter did not just want to share political power with Hindus, they rather aspired to dominate the political system. Such tendency with the instigation and intension of the British resulted in the partition of the country in 1947.

However, even after partition a large number of Muslims decided to live in India with secular democratic fervour and flourished demographically. In post-Independence era of democratic politics the Indian politicians again tried to persist the cleavage and jealousy between the two communities to garner bloc vote for their party and thus religion is being politicised for vote bank or identity politics. Thus although there exists no antagonistic contradiction between Hindus and Muslims on religious ground, and it is the famous line of poet-philosopher Iqbal that “*majahab nahin sikhata aapas mein bair karana*”. Both religions believe in one almighty God – Allah or Brahma, both believe in kindness towards human beings, both religious communities have been displaying harmony and cohesion in their mutual behaviour and Sufi tradition is the glaring instance of mutual respect and cohesion; however, due to politicisation of religion a milieu of communal hatred is injected to persist perpetual divide between Hindus and Muslims for vote bank politics. A section of Muslim community tries to misinterpretate the terms *kafir* and *jehad* to inflict religious wars and the terrorism is the direct consequence of this tendency. Nevertheless, our political leaders fail to perceive the alarming situation which may pose a serious challenge to national integration.

### **Linguism:**

India is a multi-lingual nation with several well developed languages which are rich in grammar, expression and literature and have their own distinct script. Multi-linguism is, therefore, one of the primordial facts of the Indian polity. There are four major language families and many other linguistic formats



and vocabularies from languages spoken from around India have been absorbed. Thus, there is vast linguistic diversity in India. But the big commercial centres, markets, people in *kâravâns* both of army and trade, sacred pilgrimage and religious practices have tended to favour a common language which could be understood and spoken by all in the bureaucracy, army, business and priesthood. However, it is strange that no link language was allowed to become the language of the common masses, as mere adoption of a link language symbolised a special status and widened the opportunity of employment for those who knew it. Such limited interaction of the elite of different parts of India gave full scope to the regional languages to develop and flourish.

In the pre-Independence period a controversy over national language came up. One view was in favour of a Sanskritised Hindi whereas the other view favoured *Hindustânî* which contained words both Sanskrit and Urdu allowing both the scripts – Deonagari and Urdu. The latter view was advanced by Mahatma Gandhi drawing inspiration from B.G. Tilak, and it was supported by the former followers – Rajendra Prasad, J.L. Nehru and Maulana A.K. Azad. However, amidst the widening gap between Hindus and Muslims in 1940s, Gandhi's idea of *Hindustânî* was shattered in the Constituent Assembly and Hindi with Deonagari script was adopted as official language of India.<sup>13</sup> Despite this, Nehru was not in favour of imposing Hindi on non-Hindi states.<sup>14</sup> But after his death, as per the decision of the Constituent Assembly, English was to remain in use for 15 years as the Associate Official Language, the Central Government issued Circulars to stop in its correspondence the use of English in Hindi-speaking states, and in the case of non-Hindi speaking States, English translation would accompany this<sup>15</sup> after 26<sup>th</sup> January, 1965. This was seen as linguistic chauvinism by the non-Hindi speaking people who raised resentment against it, and in Tamil Nadu it was most intense. With the help of non-Congress leaders, the 'Madras State Anti-Hindi Conference' was organised on January 17, 1965 which was led by the D.M.K. and C. Rajagopalachari. It decided to treat January 26, 1965 as the day of mourning. Two workers of D.M.K. burnt themselves to death publically which raised anti-Hindi feelings even higher.

To make a compromise between the supporters and the opponents of Hindi the 'Three Language Formula' was accepted as a middle path. However, the issue was finally settled by the Official Languages (Amendment) Act, 1967, and it was decided that English will continue to be the Associate Official Language of the Union for all the non-Hindi states till the time they themselves opt for Hindi. The provision made under the Official Languages (Amendment) Act, 1967<sup>16</sup>, and the 'Three Language Formula' has reduced the possibility of conflict on the basis of language. The formation of states on linguistic basis already solved a major linguistic crisis which had strong historical roots. In a multi-lingual country like India, the experience till date has given us the

confidence to face the language issue and solve them through negotiations.

**Regionalism:**

Regionalism is one issue that has apparently caused the greatest threat to national integration. Regionalism is defined as politicisation of regional sentiment. Region is characterised, more than anything else, by a widely shared sentiment of 'togetherness' among the people, internalised from a wide variety of sources and, what is more, a 'separateness from others.' The concept of regionalism draws sustenance from the factors of geography, topography, religion, language, culture, economic life, customs, political traditions and shared historical experiences. The term regionalism has its wider and narrower connotations. In the former sense, it covers the case of a movement directed against 'centralism'; in the latter sense, it refers to the attachment of the people with interests of a local significance, and in that respect it becomes analogous to localism or sectionalism.

In India the most important factor responsible for the growth of regionalism has been regional imbalance and regional disparity. The unequal development of different regions of India owes its genesis to the colonial past. The British did not have much interest in India's development maintaining regional balance. The unequal development of different areas within the country became the major cause of popular movements after independence also, no matter what form they took. Since a detailed description of the movements mainly caused by the regional disparities is beyond the purview of this article, suffice it to say that unequal regional development is one of the major challenges to national integration in India.

**Corruption and Clandestine Activities as Modernist Challenge:**

National integration can be strengthened only when inclusive and sustainable development will be ensured and the people will not feel deprived. A successful democracy needs active, effective and enlarged people's participation in democratic process for which even deprived sections of the people nurture hope of their development and destiny. It is a fact that at the planning level Governments come out with good and people friendly schemes like Mid Day Meal, MGNREGA, Right to Education, Pradhanmantri Gramin Sadak Yojana, Ujjwala and so many schemes, but corruption is so rampant in our political and administrative system that even Rajiv Gandhi, a former Prime Minister of India immediate successor of his mother P.M. Indira Gandhi is reported to have categorically said that only 16 paise out of 100 reach the real beneficiary at the grassroots level. Almost all in position, right from Mukhiya or Gram Pradhan at the Panchayat level upto P.M. at national level, are generally accused of corruption, and people think very low of them. Consequently, people are losing faith in them feeling strut and fret in the drama of democracy. What to talk of marginalized or deprived section of the people, even conscious lots feel thrown out of mainstream of national life. This situation of deprivation leads to gross dissatisfaction and breeds Naxalism



and terrorism. Although Governments provides good schemes as confidence building measures, prevailing corruption shatters all hopes by devouring almost 75% of the earmarked amount, and thus eats into the vitals of inclusive development. In modern time with effective media informations, people are well informed and in a position to analyse them. Although at present it may not be counted as a serious challenge to national integration, people's alienation caused by deprivation and dissatisfaction is certainly working as a fetter in the process of national integration.

Our society lacks adherence to social and national values. We have ample media informations to believe that people in position are so much corrupt that for even a small amount of money, a few bottles of wine or honey trap they can supply even defense secrets to enemy countries. In bordering states of India smuggling and drug trafficking are generally reported. Separatists of J&K are reported to finance terrorists managing funds from enemy country which is providing funds, training, logistics, arms and ammunitions. The Ministry of Home Affairs also confirms media reporting that left extremists have developed contacts with the terrorists and clandestine exchanges of logistics, arms and ammunitions are executed between them. A new phenomenon of urban Naxalism is expected to add fuel to the fire and make the clandestine activities more dangerous by having its reach to the urban centres of the nation. Even mainstream political parties are reported to be indulged in engineering anti-social movements on the caste, communal and regional lines to defame political adversaries. These are the clandestine activities which if not unchecked may hamper nation-building and work as fetter to the process of national integration. Furthermore, even mainstream political parties criminalize politics by allotting tickets to criminals in the elections of Lok Sabha and State legislatures turning them into houses of criminals. Again, they even politicise criminal activities like terrorist operations, Naxal violence, caste and communal violence etc. "Tukade-tukade gang of JNU" and political support in their favour may be treated as glaring example of politicisation of crimes. Such activities should be discouraged with iron hands, otherwise they may vitiate political milieu to hamper the process of national integration.

#### **Co-operative Cultural Federalism:**

In a plural society having a multiplicity of languages, religions, regions etc., federalism offers a viable solution and institutional arrangement for co-existence of various pluralities. Along with the institutionalised arrangement of federalism in the state system, federal nation-building also comes as a complementary phenomenon. What one finds in most multi-ethnic states is a continuum between those who at one end will not accept anything less than independence and full political sovereignty and those at the other end who favour complete assimilation of various groups in the majority or so-called mainstream culture. Both these viewpoints i.e., demand for complete autonomy

and pressure for complete assimilation evoke strong resistance. Federalism in such a situation becomes the most suitable institutional way to avoid fear of cultural domination by one social group and feelings of frustration among ethnic minorities, for it legitimises the existence of both nationalism and regionalism. It provides for the co-existence of centripetal and centrifugal forces and permits the contrarities of centralisation and decentralisation, of desires for unity and diversity, for attachment – both to the nation and the region. Federalism is a method by which these countervailing forces are balanced and preserved. While political processes are allowed to operate within sub-national units of the federation, they also intermesh with the national political process.<sup>17</sup>

The present day concern over widespread intra-societal conflict – variously described as regional, ethnic, multi-nationalist or ethno-nationalist – within India and in many other parts of the world – has prompted fresh consideration of federalism as one of the approaches or strategies for management or resolution of the problems. Rasheeduddin Khan maintains: “for continental polities like India and China, which have, on the one hand, a distinct and unified civilisational unity, on the other, diversities of culture, social composition, belief patterns and language/dialect group etc. probably a more valid term is not “Nation-State but Federal Nation-State.” And “a federal nation is a mosaic of people in which unified political identity is reconciled with socio-cultural diversities. Its hallmark is unity of polity and plurality of society. It is a conglomerate of segments whose diverse identities based on ethnicity, language, religion, region etc. are nevertheless united politically into territorial sovereignty.”<sup>18</sup>

In India, unity itself is a federal concept. It is certainly not the unity of a unitarian polity. It is the unity born out of the inter-dependence of diverse socio-cultural entities that pass through the stages of competition, conflict and reconciliation and realise that in mutual confrontation they might themselves destroy each other, while in reciprocal co-operation they can thrive jointly and severally.

#### **National Integration Council:**

The first National Integration Council (NIC) of India, 1961 has explained the scope of National Integration as a ‘psychological and educational Process involving the development of—(a) a feeling of unity, solidarity and cohesion in the hearts of the people; (b) a sense of common citizenship, and (c) a feeling of loyalty to the Nation. Thus the foundations of National Integration include: (1) A common citizenship, (2) Unity in diversity, (3) A feeling of loyalty to the Nation, (4) A sense of fraternity among all diverse communities, (5) Secularism, (6) Freedom of religion, (7) Socio economic and political justice, and (8) Equality.

Even as there is a lot of noise around nationalism and national integration, there is least endeavour on the part of the Government to make effective this

institution. The last meeting of NIC was held in September, 2013, but no meeting of NIC is held during NDA regime of Modi. In response to certain RTI queries clubbed together, however, the Public Information Officer of MHA is reported to have informed that “the reconstitution of the National Integration Council is under consideration of the government.”<sup>19</sup> Singh, I.P., “Reconstitution of National Integration Council under government consideration” MHA to RTI query, TNN, updated January 18, 2018.

### **Conclusion:**

Thus, national integration in India may be summed up to signify a condition of unity in diversity in which both the components are equally valid and mutually interdependent. Viewed thus, the concept of national integration, as given by the academics and democratic leaders of the country, is quite different from one given by the caste and religious communalists and the sectionalists. It does not imply ‘Hinduisation’ of the people as described by the leaders of the Hindu Mahasabha or Vishwa Hindu Parishad (BHP), nor can it have any reconciliation with the ‘Islamisation’ of the country as suggested by the leaders of the Jamat-e-Islami. It also does not imply Muslim appeasement as championed by some pseudo-secularist political leaders, nor does it imply imposition of majority culture on minorities. However, one may not easily object to the case of the ‘Indianisation’ of the people if this term is understood in the proper perspective like asking and expecting every citizen of the country to be loyal to the nation, - “Indian first, Indian second and Indian last.”

India is a multi-religious, multi-lingual, continental stratified society full of diversities. We find here social differentiations on the basis of caste, creed, religion, economic status and cultural differences. They intend to weaken the feeling of unity, solidarity, social harmony and regional balance. The process of national integrations, therefore, tries to achieve—the forces of national unity, solidarity and cohesion and the regional identity and freedom. In brief, national integration helps building up the national character out of the individual character. It involves national cohesiveness through territorial unity. It is an ongoing process of cohesiveness and harmonisation of discrete elements, and it is not ever finality at any point of time. Amidst socio-cultural, regional, religious, linguistic and economic diversities, national integration aims at the process of uniting together various parts of the society into a “functions whole”, wherein there shall be reduction of all barriers and tolerance of all differences, and encouragement of unity, shared values and consensus.

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## **An Empirical Study on Brand Switching Behavior of Electronic Goods: A Markovian Approach**

\* Manash Pratim Kashyap  
\*\* Dhiraj Neog, \*\*\*Pallabi Sinha

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**Abstract-** *The emphasis on this paper is mainly on the empirical study of market share of the products Television, Washing Machine, Refrigerator & AC of Panasonic brand in comparison to all other brands available in Guwahati city based on Markov chain model. Firstly, we review basic theory of Markov chain model. Secondly, four examples are cited to analyze the market share of Television, Washing Machine, Refrigerator, AC and Microsoft Excel is used to calculate the numerical solution. By scientific and reasonable information of the market share, we try to position these specific brands depending on the products accordingly.*

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**Key Words-** Markov Chain Model; Transition Probability Matrix; Market Share

**Introduction:** Market share is the proportion of total sales a company claims to have in a particular market over a specified period, i.e. the size of a business relative to the size of the industry. Total sales may be measured by volume (unit share) or value (revenue share)<sup>[1]</sup>. Managers carefully monitor their company's (or product's) share of the market because it may be a sign of the firm's relative competitiveness. If sales grow at the same rate as whole market, the share of the market has remained constant. If its growth exceeds the market's rate of expansion, market share is getting bigger.

As a rule, companies aim for a high market share as it is usually connected to high profits. However, having a very high market share also involves increased risk. It ensures aggressive competition and may lead to anti-trust action. As a result, some companies seek to keep their market share lower than it could potentially be to avoid being targeted by the competition and harsh regulations<sup>[2]</sup>.

In this paper, we study the brand position of Panasonic Television, Washing Machine, Refrigerator & AC in Guwahati in comparison with its

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\* Department of Business Administration, North Eastern Regional Institute of Management Assam

\*\* Department of Business Administration, North Eastern Regional Institute of Management Assam

\*\*\* Department of Business Administration, North Eastern Regional Institute of Management Assam

various competitors with a sales report for a period of three months during the month May-July, 2018.

### **1. Markov Prediction of the Product Market Share:**

Markov chain<sup>[3]</sup> is a special kind of random process; it shows the state of things from the past to now, from now to future, just like a chain, a ring by a ring. Its characteristic is “no after effect”. That is a time series, what it is in the future, what it will take which value associated with the status and the number selection of now, but it has nothing to do with the status or the number selection of past. Generally, the final state of  $n^{\text{th}}$  only associated with increase or decrease of the  $n^{\text{th}}$  period change and the final state of  $(n-1)^{\text{th}}$ , and has nothing to do with the previous state of  $(n-1)^{\text{th}}$ . This feature is a priority condition that Markov chain is applied into economic forecasting. Product market share is the percentage of enterprise actual sales quantity in the actual industry sales. It is a comprehensive indicator in evaluation of product market competition ability. The changes of development trend of the market share heralds the increase or decrease of the product competition ability, reflects the enterprise's competition situation and operation prospects. So, we must grasp the market dynamic at any time, understand the enterprise product market share, and predict the development trend of the share, take appropriate and effective measures to adjust measures, to make the enterprise products in an efficient benign condition forever in the market marketing situation. The change of product market share to a certain extent follows the same rule: the condition of the next time final market share is based on the current final market share, next period through market competition, that is customer transfer between each seller to change increase and decrease, forming a temporary market sales trend, it has no direct relation with the sales status of previous period even more previous.

Using the Markov chain to predict the market share basically has the following steps:

- (1) First of all, we through the market survey, make a statistical calculation of the necessary data.
- (2) Secondly using the obtained data, we calculate the initial market share of each manufacturer product.
- (3) Again, through the situation of the customer flowing between each manufacturer to calculate the transition probability matrix.
- (4) Finally, carry on the forecast.

### **2. The Construction of A Model:**

#### **2.1 Markov Process and Build up The Forecast Model:**

Markov chain is the generic terms of a number of Markov process of the things in a continuous period of time, it shows the state of things from the



past to the present, from now to future, it like a chain, a ring after a ring. In the field of prediction, people first study of the initial distribution of each state prediction object and the transition probability between each state, and describe the change trend of state and then predict the future. The characteristics of the Markov prediction method is that it don't need a lot of statistical data, only the limited recent data is needed, then the quantitative prediction can be realized. And on the basis of suitable for short-term forecasts Markov prediction method can be applied to long-term forecast at the same time, as long as the state transition matrix rolling times is enough. But the market is stable, and there aren't any big changes in a certain period of time.

## 2. Do market research, and establish the Markov transition matrix

The key of using the Markov chain to forecast is to establish the state transition probability matrix (It refers to the system state with the corresponding to a conditional probability when the situation at time  $t$  is change into that at time  $t+1$ ). Therefore, the key of the forecast of market share also lies in determining the transition distribution of product which is bought by users in the forecast period by the market survey.

Transition matrix if the probability from state  $i$  to state  $j$  is  $p_{ij}$ , then  $p_{ij}$  is the first-order transition probability from the state  $i$  transfer to state  $j$  after a period, where  $p_{ij}$  is transition probability at the same state, it is also known as the reserve probability. In general, transfer matrix is composed of transition probability is:

$$P(1) = \begin{vmatrix} P_{11} & P_{12} & \dots & P_{1n} \\ P_{21} & P_{22} & \dots & P_{2n} \\ \dots & \dots & \dots & \dots \\ P_{n1} & P_{n2} & \dots & P_{nn} \end{vmatrix} \quad P(k) = \begin{vmatrix} P_{11}(K) & P_{12}(K) & \dots & P_{1n}(K) \\ P_{21}(K) & P_{22}(K) & \dots & P_{2n}(K) \\ \dots & \dots & \dots & \dots \\ P_{n1}(K) & P_{n2}(K) & \dots & P_{nn}(K) \end{vmatrix}$$

- 1)  $P_{ij} \geq 0$ ; 2)  $\sum_{j=1}^n P_{ij} = 1$ , the sum of each column is 1.

$P(1)$  is the first step transition probability matrix,  $P(k)$  is the  $k$  step transition probability matrix, it is the result of the transfer once again on the basis of step  $k-1$ ,  $P(k) = P(k-1) \times P(1) = P^k(1)$ .

## 2.2 Structure Prediction Model, Calculation and Analysis:

Markov chain only depends on the initial state and transition probability of the system, the model is as follows:

when the initial system  $k=0$  (base) is known, after  $k$  transfer in state  $S_i(k)$ , and  $\dot{O}S_i(k)$ .

By Chapman Karl Mo Ge Lyapunov equation:

$$S_j(k+1) = S_j(k) \cdot P(k=0,1,2,3,\dots)$$

In vector:



$$S(k+1) = S(k) \cdot P$$

Can get recurrence formula:  $S(k+1) = S(0) \cdot P^{(k+1)}$ ,  $(k = 0, 1, 2, L)$ , it can be used as a prediction model of dynamic evolution system implementation.

According to the basic principle of Markov chain prediction: assume that the base of the market share is  $S(0) = [S_A(0), S_B(0), S_C(0)]$ . Therefore, a city car market shares is:

Establish a mathematic model of the application market forecast.

For the current forecast results:

$$S_A(1) = P_{AA} \cdot S_A(0) + P_{BA} \cdot S_B(0) + P_{CA} \cdot S_C(0)$$

$$S_B(1) = P_{AB} \cdot S_A(0) + P_{BB} \cdot S_B(0) + P_{CB} \cdot S_C(0)$$

$$S_C(1) = P_{AC} \cdot S_A(0) + P_{BC} \cdot S_B(0) + P_{CC} \cdot S_C(0)$$

Predicted results for next time:

$$S_A(2) = P_{AA} \cdot S_A(1) + P_{BA} \cdot S_B(1) + P_{CA} \cdot S_C(1)$$

$$S_B(2) = P_{AB} \cdot S_A(1) + P_{BB} \cdot S_B(1) + P_{CB} \cdot S_C(1)$$

$$S_C(2) = P_{AC} \cdot S_A(1) + P_{BC} \cdot S_B(1) + P_{CC} \cdot S_C(1)$$

By analogy, we can get the predicted state probability after some time (period).

**Table 1: Television Sales Report for 3 Month (May, June, July)**

Overall TV Sales Report (3 Months)		
Brand Name	Units	% age
Sony	2065	38.37
Samsung	1339	24.88
L.G	1037	19.27
Panasonic	615	11.43
Others	325	6.04
Total Stock	5381	

According to the above table, the television brands are divided into five main brands: Sony, Samsung, L.G, Panasonic and Others. The other category contains all other brands available in the Guwahati market.

The initial distribution of the five brands at the ending of the month JULY 2018:

$$B(0) = (0.384, 0.249, 0.193, 0.114, 0.060)$$

**Table 2: Brand-wise Television Investigation Data Analysis table**

	On May 1, Estimated sales	turn to (quantity: televisions)							On July 31, Actual Sales
		Lose ->							
			Sony	Samsung	LG	PANASONIC Panasonic	Others	Total	
Sony	2100	For taking	0	190	145	101	75	511	2065
Samsung	1315		145	0	121	92	65	423	1339
L.G	998		130	99	0	65	47	341	1037
Panasonic	605		105	90	65	0	21	281	615
Others	285		60	65	39	25	0	189	325
Total			440	444	370	283	208		
	Direct Acquisition		36	3	10	8	21		5381

We can see the data from the above **Table 2**: brand SONY of the estimated sales (on May 1) to sign the intent contract number is 2100, there are 511 customers to buy other brands at the same time, (remainder) for 2065/2100-511+440=36 ; keep original intention the probability of order user number is  $(2065-511) / 2100=0.74$  ; the probability of turn to brand SAMSUNG order users is  $190/2100=0.092$  ; the probability of turn to brand L.G order users is  $145/2100=0.069$ ; the probability of turn to brand PANASONIC order users is

$101/2100=0.049$ ; the probability of turn to brand OTHERS order users is  $75/2100=0.036$ .

In the same method we can calculate to the probability of other brands of keep and turn -to(omit). The calculated results column of a table in sequence, get Markov transition matrix—step transition probability matrix, it is:

$$P = \begin{vmatrix} 0.74 & 0.09201 & 0.070218 & 0.04891 & 0.03632 \\ 0.107407 & 0.696578 & 0.08963 & 0.068148 & 0.048148 \\ 0.118182 & 0.09 & 0.697395 & 0.059091 & 0.042727 \\ 0.166667 & 0.142857 & 0.103175 & 0.552066 & 0.033333 \\ 0.162162 & 0.175676 & 0.105405 & 0.067568 & 0.477193 \end{vmatrix}$$

If the market is stable, in a certain period of time without big changes, we can forecast.

The market share for the base period is:

$$SONY = 2065/5381 = 0.384$$

$$SAMSUNG = 1339/5381 = 0.249$$

$$L.G = 1037/5381 = 0.193$$

$$PANASONIC = 615/5381 = 0.114$$

$$OTHERS = 325/5381 = 0.060$$

So, the state probability of base period is

$$B(0) = (0.384, 0.249, 0.193, 0.114, 0.060)$$

This opening market share forecast is:

$$B(1) = B(0) \cdot P$$

$$= (0.384, 0.249, 0.193, 0.114, 0.060) \times \begin{vmatrix} 0.74 & 0.09201 & 0.070218 & 0.04891 & 0.03632 \\ 0.107407 & 0.696578 & 0.08963 & 0.068148 & 0.048148 \\ 0.118182 & 0.09 & 0.697395 & 0.059091 & 0.042727 \\ 0.166667 & 0.142857 & 0.103175 & 0.552066 & 0.033333 \\ 0.162162 & 0.175676 & 0.105405 & 0.067568 & 0.477193 \end{vmatrix}$$

$$= (0.348, 0.113, 0.235, 0.203, 0.422)$$

That is brand *SONY* television sales planning in current period market share is

$B_{\text{SONY}}(1) = 0.348$ ; brand *SAMSUNG* television sales planning in current period market share is  $B_{\text{SAMSUNG}}(1) = 0.113$ ; brand *L.G* television sales planning in current period market share is  $B_{\text{L.G}}(1) = 0.235$ ; brand *PANASONIC* television sales planning in current period market share is  $B_{\text{PANASONIC}}(1) = 0.203$ ; brand *OTHERS* television sales planning in current period market share is  $B_{\text{OTHERS}}(1) = 0.422$ ;

In the state of the consumer durable (TELEVISION) marketing system relatively stable situation, after the sales planning the second marketing planning can continue to solve the next market share, by  $B(2) = B(1) \times P$ , we can get:

$$B(2) = (0.348, 0.113, 0.235, 0.203, 0.422) \times \begin{vmatrix} 0.74 & 0.09201 & 0.070218 & 0.04891 & 0.03632 \\ 0.107407 & 0.696578 & 0.08963 & 0.068148 & 0.048148 \\ 0.118182 & 0.09 & 0.697395 & 0.059091 & 0.042727 \\ 0.166667 & 0.142857 & 0.103175 & 0.552066 & 0.033333 \\ 0.162162 & 0.175676 & 0.105405 & 0.067568 & 0.477193 \end{vmatrix}$$

$$= (0.309, 0.100, 0.245, 0.224, 0.316)$$

So, the next stage marketing planning of each brand market share respectively is:

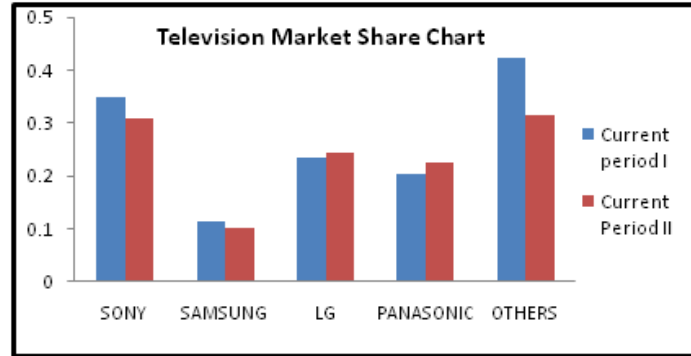
$$B_{\text{SONY}}(2) = 0.309 \quad B_{\text{SAMSUNG}}(2) = 0.100 \quad B_{\text{L.G}}(2) = 0.245$$

$$B_{\text{PANASONIC}}(2) = 0.224 \quad B_{\text{OTHERS}}(2) = 0.316$$

Each brand television predicts market share with graph, is shown in the following figure:

**Table 3: Television Market Share Brand-wise**

	SONY	SAMSUNG	LG	PANASONIC	OTHERS
Current period I	0.347935	0.112694	0.234707	0.20262	0.422197
Current Period II	0.309566	0.100394	0.244958	0.224237	0.316119



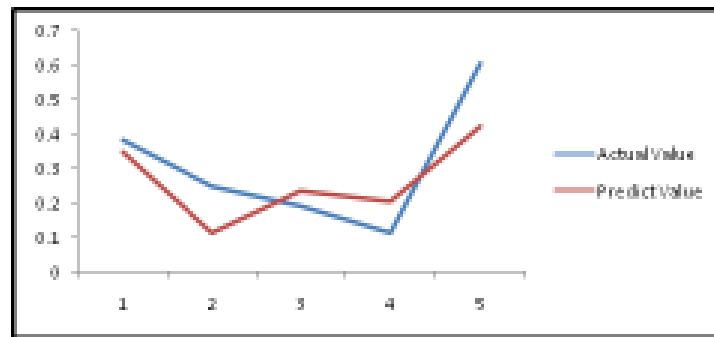
**Figure 1: The TELEVISION Market Share Chart**

***The prediction error analysis:***

According to the actual survey results, we get the current actual market share of each brand television, it is compared with the predicted value in Table 4, get the following results.

**Table 4: Error between Prediction (%) and Actual (%)**

Actual Value	Predict Value	Error
0.38376	0.34794	0.03582
0.24884	0.11269	0.13615
0.19272	0.23471	-0.042
0.11429	0.20262	-0.0883
0.60398	0.4222	0.18178



**Figure 2**

As we can see from **Table 4**, the predicted error is smaller. Thus it can be thought of that, using the Markov matrix method to forecast the market share of the television brand-wise, is very feasible.

**Table 5: Washing Machine Sales Report for 3 Month  
(May, June, July)**

Overall WM Sales Report ( 3 Months)		
Brand Name	Units	% age
Samsung	558	29.49
L.G	502	26.53
IFB	288	15.22
Whirlpool	201	10.62
Godrej	173	9.14
panasonic	103	5.44
Others	67	3.54
Total Stock	1892	

According to the above table, the Washing Machine brands are divided into Seven main brands: Samsung, L.G, IFB, Whirlpool, Godrej, Panasonic and Others. The other category contains all other brands available in the Guwahati market.

The initial distribution of the five brands at the ending of the month JULY 2018:

$$B(0) = ( 0.295, 0.265, 0.152, 0.106, 0.091, 0.054, 0.035 )$$

**Table 6: Brand-wise Washing Machine Investigation Data Analysis table**

	On May 1, Estimated sales	Turn to (quantity: Washing Machine)									On July 31, Actual Sales
		Lose ->									
			Sams ung	LG	IFB	Whirl pool	Godr ej	Panason ic	Other s	Tot al	
samsung	548	For Takin g	0	101	78	40	34	15	11	279	558
LG	498		97	0	54	35	24	17	11	238	502
IFB	299		77	43	0	32	25	17	7	201	288
Whirlpo ol	197		43	39	21	0	13	13	9	138	201
Godrej	170		31	26	19	17	0	13	7	113	173
Panason ic	90		21	19	9	7	9	0	6	71	103
Others	61		14	12	8	6	5	3	0	48	67
Total			283	240	189	137	110	78	51		
	Direct Acquisition		6	2	1	5	6	6	3		1892

We can see the data from the above **Table 6**: brand SAMSUNG of the estimated sales (on May 1) to sign the intent contract number is 548, there are 279 customers to buy other brands at the same time, (remainder) for 558/548-283+279=6; keep original intention the probability of order user number is  $(502 - 238) / 498 = 0.509$ ; the probability of turn to brand L.G order users is  $101/548 = 0.184$ ; the probability of turn to brand IFB order users is  $78/548 = 0.142$ ; the probability of turn to brand Whirlpool order users is  $40/548 = 0.073$ ; the probability of turn to brand Godrej order users is  $34/548 = 0.062$ ; the probability of turn to brand Panasonic order users is  $15/548 = 0.027$ ; the probability of turn to brand Others order users is  $11/548 = 0.020$ ;

In the same method we can calculate to the probability of other brands

of keep and turn –to (omit). The calculated results column of a table in sequence, get Markov transition matrix—step transition probability matrix, it is:

$$P = \begin{bmatrix} 0.509124 & 0.184307 & 0.142336 & 0.072993 & 0.062044 & 0.027372 & 0.020073 \\ 0.194779 & 0.53012 & 0.108434 & 0.070281 & 0.048193 & 0.034137 & 0.022088 \\ 0.257525 & 0.143813 & 0.29097 & 0.107023 & 0.083612 & 0.056856 & 0.023411 \\ 0.218274 & 0.19797 & 0.106599 & 0.319797 & 0.06599 & 0.06599 & 0.045685 \\ 0.182353 & 0.152941 & 0.111765 & 0.1 & 0.352941 & 0.076471 & 0.041176 \\ 0.233333 & 0.211111 & 0.1 & 0.077778 & 0.1 & 0.355556 & 0.066667 \\ 0.262295 & 0.196721 & 0.131148 & 0.098361 & 0.081967 & 0.04918 & 0.278689 \end{bmatrix}$$

If the market is stable, in a certain period of time without big changes, we can forecast.

The market share for the base period is:

$$\begin{aligned} \text{SAMSUNG} &= 558/1892 = 0.295 \\ \text{L.G} &= 502/1892 = 0.265 \\ \text{IFB} &= 288/1892 = 0.152 \\ \text{WHIRLPOOL} &= 201/1892 = 0.106 \\ \text{GODREJ} &= 113/1892 = 0.091 \\ \text{PANASONIC} &= 71/1892 = 0.054 \\ \text{OTHERS} &= 67/1892 = 0.035 \end{aligned}$$

So, the state probability of base period is

$$B(0) = (0.295, 0.265, 0.152, 0.106, 0.091, 0.054, 0.035)$$

This opening market share forecast is:  $B(1) = B(0) \cdot P$

$$= (0.295, 0.265, 0.152, 0.106, 0.091, 0.054, 0.035) \times$$

$$\begin{bmatrix} 0.509124 & 0.184307 & 0.142336 & 0.072993 & 0.062044 & 0.027372 & 0.020073 \\ 0.194779 & 0.53012 & 0.108434 & 0.070281 & 0.048193 & 0.034137 & 0.022088 \\ 0.257525 & 0.143813 & 0.29097 & 0.107023 & 0.083612 & 0.056856 & 0.023411 \\ 0.218274 & 0.19797 & 0.106599 & 0.319797 & 0.06599 & 0.06599 & 0.045685 \\ 0.182353 & 0.152941 & 0.111765 & 0.1 & 0.352941 & 0.076471 & 0.041176 \\ 0.233333 & 0.211111 & 0.1 & 0.077778 & 0.1 & 0.355556 & 0.066667 \\ 0.262295 & 0.196721 & 0.131148 & 0.098361 & 0.081967 & 0.04918 & 0.278689 \end{bmatrix}$$

$$= (0.236, 0.229, 0.181, 0.178, 0.160, 0.179, 0.180)$$

That is brand *SAMSUNG* washing machine sales planning in current period market share is  $B_{\text{SAMSUNG}}(1) = 0.236$ ; brand *L.G* washing machine sales planning in current period market share is  $B_{\text{L.G}}(1) = 0.229$ ; brand *IFB* washing machine sales planning in current period market share is  $B_{\text{IFB}}(1) = 0.181$ ; brand *WHIRLPOOL* washing machine sales planning in current period market share is  $B_{\text{WHIRLPOOL}}(1) = 0.178$ ; brand *GODREJ* washing machine sales planning in current period market share is  $B_{\text{GODREJ}}(1) = 0.160$ ; brand *PANASONIC* washing machine sales planning in current period market share is  $B_{\text{PANASONIC}}(1) = 0.179$ ; brand *OTHERS* washing machine sales planning in current period market share is  $B_{\text{OTHERS}}(1) = 0.180$

In the state of the consumer durable (WASHING MACHINE) marketing system relatively stable situation, after the sales planning the second marketing

planning can continue to solve the next market share, by  $B(2) = B(1) \times P$ , we can get:

$$B(2) =$$

$$= (0.236, 0.229, 0.181, 0.178, 0.160, 0.179, 0.180) \times$$

0.509124	0.184307	0.142336	0.072993	0.062044	0.027372	0.020073
0.194779	0.53012	0.108434	0.070281	0.048193	0.034137	0.022088
0.257525	0.143813	0.29097	0.107023	0.083612	0.056856	0.023411
0.218274	0.19797	0.106599	0.319797	0.06599	0.06599	0.045685
0.182353	0.152941	0.111765	0.1	0.352941	0.076471	0.041176
0.233333	0.211111	0.1	0.077778	0.1	0.355556	0.066667
0.262295	0.196721	0.131148	0.098361	0.081967	0.04918	0.278689

$$= (0.220, 0.217, 0.193, 0.204, 0.194, 0.227, 0.220)$$

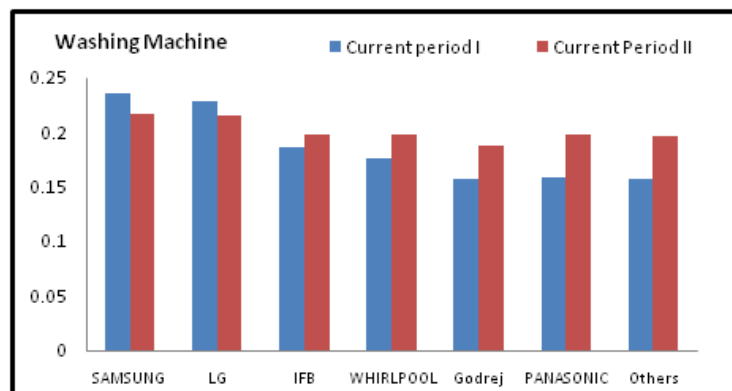
So, the next stage marketing planning of each brand market share respectively is:

$$\begin{aligned} B_{\text{SAMSUNG}}(2) &= 0.220 & B_{\text{LG}}(2) &= 0.217 & B_{\text{IFB}}(2) &= 0.193 \\ B_{\text{WHIRLPOOL}}(2) &= 0.204 & B_{\text{GODREJ}}(2) &= 0.194 & B_{\text{PANASONIC}}(2) &= 0.227 \\ B_{\text{OTHERS}}(2) &= 0.220 \end{aligned}$$

Each brand washing machine predicts market share with graph, is shown in the following figure:

**Table 7: Washing Machine Market Share Brand-wise**

	SAMSUNG	LG	IFB	WHIRLPOOL	Godrej	PANASONIC	Others
Current period I	0.234806	0.228416	0.186574	0.175473	0.157677	0.159004	0.157128
Current Period II	0.216528	0.215128	0.197558	0.197678	0.188094	0.197701	0.195794



**Figure 3: The WASHING MACHINE Market Share Chart**

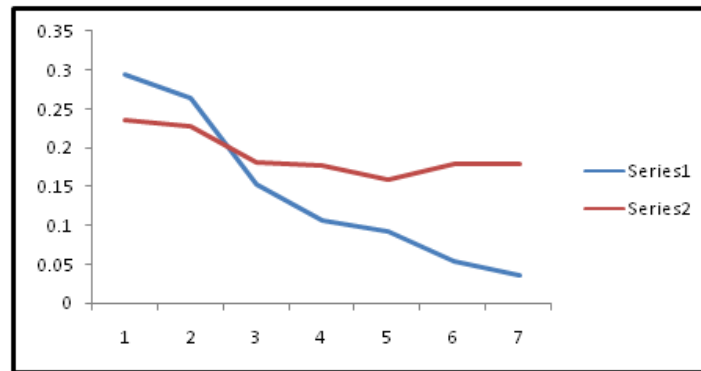
*The prediction error analysis:* According to the actual survey results, we get the current actual market share of each brand Washing Machine, it is compared



with the predicted value in Table 8, get the following results

**Table 8: Error between Prediction (%) and Actual (%)**

Actual	Predict	Error
0.294926	0.236351	0.058575
0.265328	0.22912	0.036207
0.15222	0.181339	-0.02912
0.106237	0.178346	-0.07211
0.091438	0.15989	-0.06845
0.05444	0.179175	-0.12474
0.035412	0.180007	-0.1446



**Figure 4**

As we can see from **Table 8**, the predicted error is smaller. Thus it can be thought of that, using the Markov matrix method to forecast the market share of the washing machine brand-wise, is very feasible.

**Table 9: Refrigerator Sales Report for 3 Month (May, June, July)**

Overall Refrigerator Sales Report (3 Months)		
Brand Name	Units	% age
Samsung	1206	34.77
LG	1187	34.22
Godrej	427	12.31
Whirlpool	376	10.84
Haier	154	4.44
Panasonic	118	3.4
<b>TOTAL</b>	<b>3,468</b>	

According to the above, the refrigerator brands are divided into six main brands. Samsung, LG, Godrej, Whirlpool, Haier and Panasonic.

**CTable 10: Brand-wise refrigerator investigation data analysis table.**

	On May1, Estimated sales	Turn to (quantity: refrigerator)								On July 31, Actual Sales
		LOSE								
			Samsung	LG	Godrej	Whirlpool	Haier	Panasonic	Total	
Samsung	1150	For taking	0	61	57	50	22	8	198	1206
LG	1150		51	0	50	47	20	9	177	1187
Godrej	400		54	50	0	45	34	15	198	427
Whirlpool	360		49	41	40	0	33	20	183	376
Haier	150		30	28	22	21	0	17	118	154
Panasonic	110		25	20	14	10	9	0	78	118
Total			209	200	183	173	118	69		
	Direct Acquisition		45	14	42	26	4	17		3468

We can see from the above data of **Table.10**: brand SAMSUNG of the estimated sales(on May 1)to sign the intent contract number is 1150, there are 198 customers to buy other brands at the same time, (remainder) for  $1206-1150-198+209=45$  ; keep original intention the probability of order user number is  $(1206-198)/1150=0.87$ ; the probability of turn to brand LG order users is  $61/1150=0.053$ ; the probability of turn to Godrej is  $57/1150=0.049$ ; the probability of turn to brand Whirlpool is  $50/1150=0.043$ ; the probability of turn to Haier is  $22/1150=0.019$  and the probability to turn to Panasonic is  $8/1150=0.006$ .

In the same method we can calculate to the probability of the other brands of keep and turn to(omit). The calculated result column of a table in sequence, get Markov transition matrix – step transition probability matrix, it is:

$$P = \begin{vmatrix} 0.8765 & 0.0530 & 0.0495 & 0.0434 & 0.0191 & 0.0069 \\ 0.0443 & 0.8782 & 0.0434 & 0.0408 & 0.0173 & 0.0078 \\ 0.135 & 0.125 & 0.5725 & 0.1125 & 0.085 & 0.0375 \\ 0.1361 & 0.1138 & 0.1111 & 0.5361 & 0.0916 & 0.0555 \\ 0.2 & 0.1866 & 0.1466 & 0.14 & 0.24 & 0.1133 \\ 0.2272 & 0.1818 & 0.1272 & 0.0909 & 0.0818 & 0.3636 \end{vmatrix}$$

If the market is stable, in a certain period of time without big changes, we can forecast the market share for the base period:

$$SAMSUNG= 1206/3468= 0.347 \quad LG=1187/3468= 0.342$$

$$GODREJ=427/3468=0.123$$

$$WHIRLPOOL=376/3468=0.108 \quad HAIER=154/3468=0.044$$

$$PANASONIC=118/3468=0.034$$

So, the state probability of base period is:

$$B(0) = (0.347, 0.342, 0.123, 0.108, 0.044, 0.034)$$

This opening market share forecast is:

$$B(1)=B(0).P$$

$$= (0.347, 0.342, 0.123, 0.108, 0.044, 0.034) \times \begin{vmatrix} 0.8765 & 0.0530 & 0.0495 & 0.0434 & 0.0191 & 0.0069 \\ 0.0443 & 0.8782 & 0.0434 & 0.0408 & 0.0173 & 0.0078 \\ 0.135 & 0.125 & 0.5725 & 0.1125 & 0.085 & 0.0375 \\ 0.1361 & 0.1138 & 0.1111 & 0.5361 & 0.0916 & 0.0555 \\ 0.2 & 0.1866 & 0.1466 & 0.14 & 0.24 & 0.1133 \\ 0.2272 & 0.1818 & 0.1272 & 0.0909 & 0.0818 & 0.3636 \end{vmatrix}$$

$$= (0.334, 0.326, 0.177, 0.164, 0.181, 0.182)$$

That is brand SAMSUNG refrigerator sales planning in current period market share is  $B_{\text{SAMSUNG}} = 0.334$ ; similarly for other brands the sales planning in current period share is  $B_{\text{LG}} = 0.326$ ,  $B_{\text{GODREJ}} = 0.177$ ,  $B_{\text{WHIRLPOOL}} = 0.164$ ,  $B_{\text{HAIER}} = 0.181$  and  $B_{\text{PANASONIC}} = 0.182$  respectively.

In the state of the consumer durables ( refrigerator ) marketing system relatively stable situation, after the sales planning the second marketing planning can continue to solve the next market share, by  $B(2) = B(1) . P$ , we get:

$$B(2)=(0.334, 0.326, 0.177, 0.164, 0.181, 0.182) \times \begin{vmatrix} 0.8765 & 0.0530 & 0.0495 & 0.0434 & 0.0191 & 0.0069 \\ 0.0443 & 0.8782 & 0.0434 & 0.0408 & 0.0173 & 0.0078 \\ 0.135 & 0.125 & 0.5725 & 0.1125 & 0.085 & 0.0375 \\ 0.1361 & 0.1138 & 0.1111 & 0.5361 & 0.0916 & 0.0555 \\ 0.2 & 0.1866 & 0.1466 & 0.14 & 0.24 & 0.1133 \\ 0.2272 & 0.1818 & 0.1272 & 0.0909 & 0.0818 & 0.3636 \end{vmatrix}$$

$$=(0.331, 0.320, 0.228, 0.217, 0.241, 0.254)$$

So, the next stage marketing planning of each brand market share respectively is:

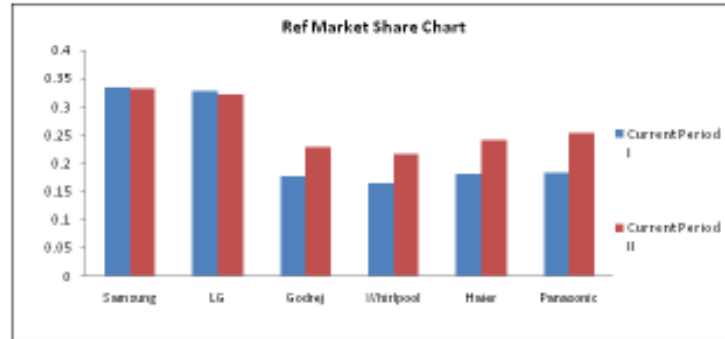
$$B_{\text{SAMSUNG}} = 0.331 \quad B_{\text{LG}} = 0.320 \quad B_{\text{GODREJ}} = 0.228 \quad B_{\text{WHIRLPOOL}} = 0.217$$

$$B_{\text{HAIER}} = 0.241 \quad B_{\text{PANASONIC}} = 0.254$$

Each brand predicts market share with graph, is shown in the following figure:

**Table 11: Refrigerator Market share brand-wise.**

	Samsung	LG	Godrej	Whirlpool	Haier	Panasonic
Current period I	0.334869	0.326849	0.177468	0.16408	0.181192	0.182799
Current period II	0.331526	0.320913	0.228379	0.217253	0.241189	0.254334



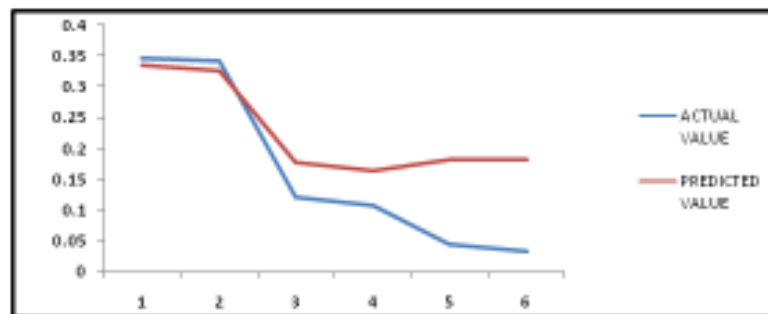
**Figure 5: Ref Market Share chart**

**The prediction error analysis:**

According to the actual survey results, we get the current actual market share of each brand refrigerator, it is compared with the predicted value in Table 12, get the following results.

**Table-12: Error between PredictCiion (%) and Actual (%)**

ACTUAL VALUE	PREDICTED VALUE	ERROR
0.3477	0.3348	0.0129
0.3422	0.3268	0.0154
0.1231	0.1774	-0.0543
0.1084	0.164	-0.0556
0.0444	0.1811	-0.1367
0.034	0.1827	-0.1487



**Figure 6: Error between Prediction (%) and Actual (%)**

As we can see from Table 12 the predicted error is smaller. Thus it can be thought of that, using the Markov matrix method to forecast the market share of refrigerator brand-wise is very feasible.

**Table 13: Integrated three months sales of AC in quantity**

TOTAL QUANTITY		
BRAND NAME	QUANTITY	PERCENTAGE
LG	1085	20.78
Voltas	862	16.51
Bluestar	687	13.16
Godrej	569	10.9
Panasonic	493	9.44
IFB	404	7.73
Samsung	301	5.7
Others	819	15.68
<b>TOTAL</b>	<b>5220</b>	

According to the above, the AC brands are divided into seven main brands. LG, Voltas, Bluestar, Godrej, Panasonic, IFB and Samsung. In others category, it consists of 11 brands those are Dakin, Haier, Lloyd, Carrier, Reconnect, Whirlpool, Hitachi, Micromax, Onida, O-General and Intex.

**Table 14: Brand-wise AC investigation data analysis table.**

Brands	On May 1, Estimated sales	Turn to (quantity:AC)										On July 31, Actual Sales
		LOSE										
		LG	VOLTAS	BLUESTAR	GODREJ	PANASONIC	SAMSUNG	IFB	OTHERS	Total		
LG	1050	For taking	0	28	26	22	20	19	15	11	141	1085
VOLTAS	850		33	0	27	26	22	12	10	6	136	862
BLUESTAR	650		28	27	0	26	24	9	7	2	123	687
GODREJ	550		27	25	24	0	21	7	6	4	114	569
PANASONIC	450		26	23	21	19	0	8	5	3	105	493
SAMSUNG	400		20	14	11	9	6	0	5	2	67	404
IFB	280		21	17	16	15	11	8	0	7	95	301
OTHERS	780		14	11	9	7	5	4	2	0	52	819
Total			169	145	134	124	109	67	50	35		
	Direct Acquisition		7	3	26	9	39	4	66	56		5220

From the above Table 14 Brand LG of the estimated sales (on May1) to sign the intent contract number is 1050, there are 141 customers to buy other brands at the same time, (reminder) for  $1085 - 1050 - 141 + 169 = 36$ ; keep the original intention the probability of order user number is  $(1085 - 141) / 1050 = 0.899$ ; the probability of turn to brand Voltas order users is  $28 / 1050 = 0.0266$ ; the probability to turn Bluestar is  $26 / 1050 = 0.0247$ ; the probability to turn to brand Godrej is  $20 / 1050 = 0.209$ ; the probability to turn to brand Panasonic order user is  $19 / 1050 = 0.190$ ; probability to turn to brand Samsung is  $19 / 1050 = 0.180$ ; for IFB it is  $15 / 1050 = 0.142$  and for the rest other brands it is  $11 / 1050 = 0.0104$ .

In the same method we can calculate to the probability of the other brands of keep and turn to (omit). The calculated result column of a table in

sequence, get Markov transition matrix – step transition probability matrix, it is:

0.899048	0.026667	0.024762	0.020952	0.019047619	0.0180952	0.014286	0.010476
0.038824	0.854118	0.031765	0.030588	0.025882353	0.0141176	0.011765	0.007059
0.043077	0.041538	0.867692	0.04	0.036923077	0.0138462	0.010769	0.003077
0.049091	0.045455	0.043636	0.827273	0.038181818	0.0127273	0.010909	0.007273
0.057778	0.051111	0.046667	0.042222	0.862222222	0.0177778	0.011111	0.006667
0.05	0.035	0.0275	0.0225	0.015	0.8425	0.0125	0.005
0.075	0.060714	0.057143	0.053571	0.039285714	0.0285714	0.735714	0.025
0.017949	0.014103	0.011538	0.008974	0.006410256	0.0051282	0.002564	0.983333

If the market is stable, in a certain period of time without big changes, we can forecast the market share for the base period

$$LG = 1085/5220 = 0.027$$

$$VOLTAS = 862/5220 = 0.165$$

$$BLUESTAR = 687/5220 = 0.131$$

$$GODREJ = 569/5220 = 0.109$$

$$PANASONIC = 493/5220 = 0.0944$$

$$SAMSUNG = 404/5220 = 0.773$$

$$IFB = 0.031/5220 = 0.0576$$

$$OTHERS = 819/5220 = 0.1568$$

So, the state probability of base period is:

$$B(0) = (0.207, 0.165, 0.131, 0.109, 0.094, 0.0773, 0.057, 0.1568)$$

This opening market share forecast is:

$$B(1) = B(0) \cdot P$$

$$= (0.207, 0.165, 0.131, 0.109, 0.094, 0.0773, 0.057, 0.1568) \quad X$$

0.899048	0.026667	0.024762	0.020952	0.019047619	0.0180952	0.014286	0.010476
0.038824	0.854118	0.031765	0.030588	0.025882353	0.0141176	0.011765	0.007059
0.043077	0.041538	0.867692	0.04	0.036923077	0.0138462	0.010769	0.003077
0.049091	0.045455	0.043636	0.827273	0.038181818	0.0127273	0.010909	0.007273
0.057778	0.051111	0.046667	0.042222	0.862222222	0.0177778	0.011111	0.006667
0.05	0.035	0.0275	0.0225	0.015	0.8425	0.0125	0.005
0.075	0.060714	0.057143	0.053571	0.039285714	0.0285714	0.735714	0.025
0.017949	0.014103	0.011538	0.008974	0.006410256	0.0051282	0.002564	0.983333

$$= (0.2024, 0.1619, 0.1400, 0.1199, 0.1156, 0.09, 0.091, 0.163)$$

That is brand LG AC sales planning in current period market share is  $B_{LG} = 0.2024$ ; brand VOLTAS sales planning  $B_{VOLTAS} = 0.1619$ ; brand BLUESTAR AC sales planning in current period is  $B_{BLUESTAR} = 0.1400$ ; brand GODREJ AC sales planning in current period is  $B_{GODREJ} = 0.1199$ ; brand PANASONIC AC sales planning in current period is  $B_{PANASONIC} = 0.1156$ ; brand SAMSUNG AC sales planning in current period is  $B_{SAMSUNG} = 0.09$ ; brand IFB AC sales planning in current period is  $B_{IFB} = 0.091$  and other brands

AC sales planning in current period is  $B_{\text{OTHERS}} = 0.163$ .

In the state of the consumer durables (AC) marketing system relatively stable situation, after the sales planning the second marketing planning can continue to solve the next market share, by:  $B(2) = B(1) \times P$ , we can get:

$$B(2) = (0.2024, 0.1619, 0.1400, 0.1199, 0.1156, 0.09, 0.091, 0.163) \times$$

0.899048	0.026667	0.024762	0.020952	0.019047619	0.0180952	0.014286	0.010476
0.038824	0.854118	0.031765	0.030588	0.025882353	0.0141176	0.011765	0.007059
0.043077	0.041538	0.867692	0.04	0.036923077	0.0138462	0.010769	0.003077
0.049091	0.045455	0.043636	0.827273	0.038181818	0.0127273	0.010909	0.007273
0.057778	0.051111	0.046667	0.042222	0.862222222	0.0177778	0.011111	0.006667
0.05	0.035	0.0275	0.0225	0.015	0.8425	0.0125	0.005
0.075	0.060714	0.057143	0.053571	0.039285714	0.0285714	0.735714	0.025
0.017949	0.014103	0.011538	0.008974	0.006410256	0.0051282	0.002564	0.983333

$$= (0.199, 0.160, 0.148, 0.130, 0.135, 0.102, 0.117, 0.171)$$

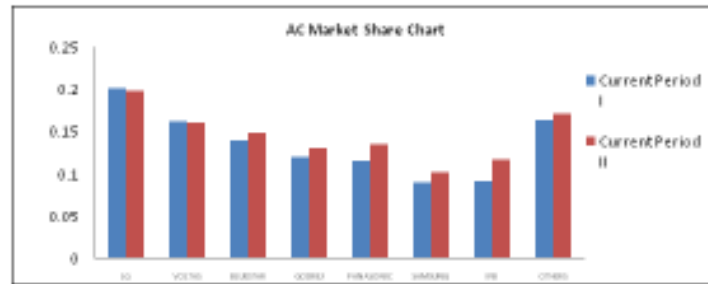
So, the next stage marketing planning of each brand market share respectively is:

$$B_{\text{LG}} = 0.199 \quad B_{\text{VOLTAS}} = 0.160 \quad B_{\text{BLUESTAR}} = 0.148 \quad B_{\text{GODREJ}} = 0.130$$

$$B_{\text{PANASONIC}} = 0.135 \quad B_{\text{SAMSUNG}} = 0.102 \quad B_{\text{IFB}} = 0.117 \quad B_{\text{OTHERS}} = 0.171$$

**Table 15: AC market share brand-wise**

	LG	VOLTAS	BLUESTAR	GODREJ	PANASONIC	SAMSUNG	IFB	OTHERS
Current period I	0.202484	0.161951	0.1400321	0.11999	0.115688378	0.09037117	0.091242	0.163988
Current period II	0.199204	0.160806	0.1487641	0.130432	0.135040421	0.10217667	0.117804	0.171305



**Figure 7: AC market share brand-wise**

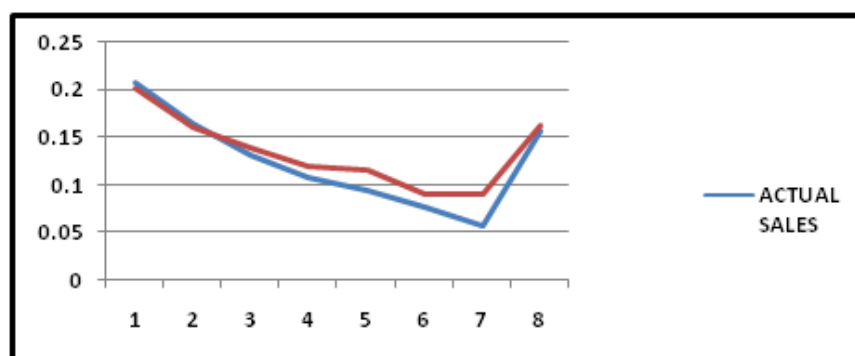
**The prediction error analysis:**

According to the actual survey results, we get the current actual market share of each brand AC, it is compared with the predicted value in Table 15 get the following results

**Table 15: Error between Prediction (%) and Actual (%)**



ACTUAL SALES	PREDICTED SALES	Error
0.207854406	0.202484218	0.00537
0.1651341	0.161951318	0.003183
0.131609195	0.140032125	-0.00842
0.109003831	0.119989899	-0.01099
0.094444444	0.115688378	-0.02124
0.077394636	0.090371169	-0.01298
0.057662835	0.091242474	-0.03358
0.156896552	0.163988113	-0.00709



**Figure 8: Error between Prediction (%) and Actual (%)**

As we can see from Table 15, the predicted error is smaller. Thus it can be Thought of that using Markov matrix method to forecast the market share of the AC brand-wise, is very feasible.

### **Conclusion:**

It is very difficult to predict the market share using general methods, however Markov prediction method overcomes these deficits and gives accurate results. In this study we compare the market share of various television and washing machine brands available in Guwahati city and finally we can conclude the brand positions accordingly to their market share.

For the product television, SONY holds the first position followed by SAMSUNG in second, L.G in third, PANASONIC in fourth and all other television brands under OTHERS category in fifth position. However, for the product washing machine, SAMSUNG holds the first position followed by L.G in second place, IFB in third, WHIRLPOOL in fourth, GODREJ in fifth, PANASONIC in sixth, and all other washing machine brands in Others category in the last position. In case of Refrigerator, SAMSUNG holds the first position followed by L.G in second, GODREJ in third, WHIRLPOOL in fourth, HAIER and lastly PANASONIC in the last (sixth) position. In the case of AC, the first place in market share is occupied by L.G, followed by VOLTAS, BLUESTAR, GODREJ, PANASONIC (fifth), IFB, SAMSUNG and OTHER brands.

This study was done during the months May-July,2018 and it was a peak time of sales of television for these brands since the FIFA world cup 2018 was going on.It was the Summer season, and the sales of Refrigerator and AC was high while the sales of Washing Machine was low since the sales of WM is high during winter season.

**Acknowledgement:**

We would like to show our gratitude to the Chairman of NERIM Group of institutions Dr. Zoi Nath Sarma and the Director of NERIM Group of Institutions Prof. (Dr.) Sangeeta Tripathi for sharing their pearls of wisdom to carry out the research.

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## **A Study of Effect of nature of employment on Investment pattern of Professional Women**

\* Priyanka Jain

\*\* Laxmikant Tripathi

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**Abstract-** *The research study was based on the micro economic approach of estimating the responses of the respondents i.e. professional women towards their investment pattern in Indore city. The motive of the study is to determine the association between the investment characteristics and nature of employment. The study was done on the different professional women from different sectors of industry. The data was collected by distributing a structured questionnaire to 480 professional women belonging to diversified fields in Indore city. The research shows that the marital status, yearly savings have significant relationship.*

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**Key Words-** Annual savings, Investment, professional women, nature of employment

**Introduction:** Investment can be defined as gathering money into an asset with the expectation of capital appreciation, dividends and/or interest earnings. Investors invest in various investment types. Investment is an art which changes situationally & a science because of having certain rules & regulations. It needs both the knowledge & experience in selection of the better investment opportunities from the various available options in the market. One can have sound portfolio only when he has enough knowledge about all the economic, market and political factors. Keeping oneself updated is a continuous process. Reserve Bank of India with other regulators like Security and Exchange Board of India (SEBI), Insurance Regulatory and Development Authority of India (IRDA) and National Stock Exchange (NSE) have been organizing investment awareness programs to spread the awareness and knowledge regarding investments. Preference of investment avenues are always persuaded by different factors which investors desire and not desire. Financial Institutions look for improving their financial products by enhancing the characteristics that investors desire and eliminating non desirable characteristics. As these characteristics play a major role in the decision making process, they are the variables that investors use in the investment choice. Although each investment avenue has its own unique nature, characteristics and behavior the aspects

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\* Research Scholar, School of Commerce, Devi Ahilya Vishwavidyalaya, Indore (M.P.)  
\*\* Dean, Student Welfare, Devi Ahilya Vishwavidyalaya, Indore (M.P.)

used for deciding the investment instrument by the investors are common and straight forward. One thing to note is that weightage given to these aspects by investors may differ based on their age, marital status and gender to achieve their investment goals. Savings are the results of disposable income available after consumption expenditure, committed expenditure and statutory dues. Savings of the individuals are highly related to the income level of the people, number of dependents, total family income, their experience and their awareness. Savings are low risk funds that are liquid and available when needed. Savings may help in satisfying the immediate or short-term needs. Savings retained does not help much in taking care of the future needs unless invested, especially when it is long term as it is exposed to inflation and economic downturns. Investments, on the other hand, are for wealth building and targeted for long-term needs. Despite investments involve greater risk, but, investments also yield much greater returns when left alone and monitored for long enough to ride out the turbulence of the financial market. Investments converted from savings can help to determine the maximum potential of investments that an investor can make. This study attempts to identify how the nature of employment of professional women is associated with the different investment characteristics.

#### **Literature review :**

1. Tripathi (2009) observed that most of the investors use both fundamental as well as technical analysis while investing in the Indian stock market. The investors agree to the point that various company fundamentals influence stock prices in India. It was also found that the investment horizon of investors has a reduced due to higher volatility.
2. Singh (1972) attempted to examine “The Determinants of Aggregate Savings”, and found that there is a significant correlation between the average rate of saving and income growing at a steady rate. Moreover, the average saving rate is related to the rate of growth of income.
3. National Council of Applied Economic Research (NCAER) (1961) noticed that irrespective of occupation followed and educational level and age attained, households in each group thought saving for the future was desirable. It was found that desire to make provision for emergencies was the primary saving motive.
4. Verma (2008) analysed the effect of personalities and demographics on the investments decisions and specifically the choice of investments by Indian investors, he found mutual fund investment are most preferred avenue of investment by different investors categories. It was also found that highly educated people understand better the complexities of investments. Equity shares and mutual shares most preferred sources of investments among all alternatives.

**Scope of the Study:**

The research study covers profession women working in different organization or running their self establishments in Indore city of Madhya Pradesh. Their saving and investment behaviour is analysed.

**Objectives of the Study:**

1. To evaluate the saving and investment pattern of professional women.
2. To analyze the nature of employment and investment characteristics of investments of professional women.

**Hypothesis framed for the Study:**

$H_01$ : There is no significant difference between the nature of employment and the annual savings of the respondents.

$H_02$ : There is no significant difference between nature of employment and frequency of reviewing investments by the respondents.

$H_03$ : There is no significant difference between nature of employment and investment holding period of respondents.

**Methodology:**

The research study is based on both primary and secondary data. Primary data has been collected by conducting a survey among 480 samples of professional women of Indore city through structured questionnaire. The secondary data have been collected from books, journal, newspaper, periodicals, reports, internet and published and unpublished thesis.

**Sampling Design:**

For the purpose of research 480 working woman professionals from various fields of Indore city were selected. Non probability Convenient sampling method was adopted.

**Statistical Tools Used for the Analysis** The following statistical techniques had been applied depending on the nature of data collected from the respondents, Percentage analysis, descriptive analysis and chi square test. The reliability of the data in this study was analysed using Statistical Package for Social Sciences (SPSS v 21.0). For analyzing the data collected during the investigation, the following statistical values were used according to the relevance of its application.

**Data Analysis and interpretation:**

**Table No.1- nature of employment and savings per annum**

Savings Per Annum		Nature Of Employment		Total
		Self Employed	Employed	
Below 100000	Count	64	145	209
	Expected Count	51.8	157.2	209.0
100001-200000	Count	28	124	152
	Expected Count	37.7	114.3	152.0
200001-300000	Count	14	57	71
	Expected Count	17.6	53.4	71.0
300001 & Above	Count	13	35	48
	Expected Count	11.9	36.1	48.0
Total	Count	119	361	480
	Expected Count	119.0	361.0	480.0

**H<sub>0</sub>1:** There is no significant difference between the nature of employment and the annual savings of the respondents.

**Table No. - 2 Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.234 <sup>a</sup>	3	.041
Likelihood Ratio	8.330	3	.040
Linear-by-Linear Association	2.110	1	.146
N of Valid Cases	480		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 11.90.

Chi Square result shows that the significance value is **0.041** which is less than the level of significance which is **0.05**. Hence Null Hypothesis is rejected. It proves that there is significant relationship between nature of employment and annual savings of the respondents.

**Table No. 3 – Nature of Employment And Frequency of Reviewing Investments**

Frequency of reviewing Investments		Nature of Employment		Total
		Self Employed	Employed	
Fortnightly	Count	8	28	36
	Expected Count	8.9	27.1	36.0
Once a Month	Count	39	113	152
	Expected Count	37.7	114.3	152.0
Half Yearly	Count	41	106	147
	Expected Count	36.4	110.6	147.0
Annually	Count	31	114	145
	Expected Count	35.9	109.1	145.0
Total	Count	119	361	480
	Expected Count	119.0	361.0	480.0

**H<sub>0</sub>2 :** There is no significant difference between nature of employment and frequency of reviewing investments by the respondents.

**Table No.4 - Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.852 <sup>a</sup>	3	.604
Likelihood Ratio	1.865	3	.601
Linear-by-Linear Association	.244	1	.622
N of Valid Cases	480		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.93.

The **chi square test** result shows that the significance value is **0.604** which is less than the level of significance i.e. **0.05**. Hence Null Hypothesis is rejected. It proves that there is no significant difference between nature of employment and frequency of reviewing investments by the respondents.

**Table No.- 5 Nature of Employment and investment holding period**

Investment Holding Period		Nature of Employment		Total
		Self Employed	Employed	
Less Than 1 Year	Count	11	33	44
	Expected Count	10.9	33.1	44.0
1-2 Year	Count	21	58	79
	Expected Count	19.6	59.4	79.0
2-3 Year	Count	34	80	114
	Expected Count	28.3	85.7	114.0
3 Years & Above	Count	53	190	243
	Expected Count	60.2	182.8	243.0
Total	Count	119	361	480
	Expected Count	119.0	361.0	480.0

**H<sub>0</sub> 3** : There is no significant difference between nature of employment and investment holding period of respondents.

**Table No. 6- Chi-Square Tests**

	Value	Df	Asymp. Sig. (2-Sided)
Pearson Chi-Square	2.844 <sup>a</sup>	3	.416
Likelihood Ratio	2.812	3	.421
Linear-By-Linear Association	.861	1	.353
N Of Valid Cases	480		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.91.

The **chi square** result shows that the significance value is **0.416** which is more than the level of significance which is **0.05**. Hence Null Hypothesis is accepted. It proves that there is no significant difference between nature of employment and investment holding period of respondents.

**Conclusion:** The present study is based on primary sources of data which



are collected by distribution of a close ended questionnaire. The data has been analyzed using chi-square test. It was found that nature of employment differ significantly with annual savings of professional women. While it does not has significantly differ with frequency of reviewing investments and investment holding period.

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## **A Comparative Study of Emotional Intelligence among Adolescents**

**\* Jago Choudhary**

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**Abstract-** *The present study examined emotional Intelligence among male and female student of class 11th and 12th Emotional intelligence is a set of abilities such as conception utilization of emotion. As emotional intelligence is acquisitive and of social origin, parents and children thus expose their emotions in an expressive way to one another, either consciously or unconsciously in their interactions. It seems that further to individual difference of boy and girl, the expectations of society and people around especially parents are different in terms of children's sexuality culturally girls are mostly expected to be more expressive of feelings, whereas abstaining from feeling expression in boys is strengthened as a manly model. The research showed that emotional intelligence is meaningful associated with gender differences. Finally, as conclusion it was found that girls were higher than boys in emotional intelligence. The implication of the present finding for school counseling and were discussed.*

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### **Key Words- Emotional intelligence, Gender**

Adolescents have long been regarded as group of people who are searching for them to find some form of identity and meaning in their lives (Erickson, 1968). They have long been regarded as a unique group with a wide range of difficulties and problems in their transition to adulthood. Self efficacy, psychological well being and emotional Intelligence are some of the important psychological constructs that has been overlooked within schools and society as a whole. Students are measured in terms of their performance and grades. They are assessed on how well they can play, act, draw, sing, and so forth.

Thus emotional intelligence is the concept, which is currently in focus among the general public, practitioners and researchers. Emotional intelligence is emerging as a critical factor for sustaining high achievement, retention, and positive behavior as well as improving life success. Increasingly, schools and educational organizations are turning to EQ seeking a systemic solution to improve outcomes- both academic and social (such as school attrition, student satisfaction, peer relationships, and health). Emotional intelligence is the ability to perceive emotions, to access and generate emotions so as to assist thought,

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\* Head, Department of Psychology, Jagdam College, Chapra

to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth.- Mayer & Salovey, 1997. It's being widely believed by the public that emotional and social competence is as important, or even more important, than traditional dimension of intellectual ability and personality (Goleman, 1995, 1998).

Emotional intelligence is defined as "the composite set of capabilities that enable a person to manage himself/ herself and others" (Goleman, 1995, 1998). "It is more accurate to say that the frequency with which a person demonstrates or uses the constituent capabilities, or competencies, inherent in emotional intelligence determine the ways in which he/she deals with themselves, their life, work and others" (Boyatzis, Goleman and Rhee, 2000). It is "the ability to: (1) be aware to understand and to express oneself; (2) be aware of, to understand and to relate to others, (3) deal with strong emotions and control one's impulses; and 4) adapt to change and to solve problems of a personal or a social nature (Baron, 1988).

Emotional intelligence has five components which are self awareness, self regulation, motivation, empathy, and social skills. The first components of emotional intelligence is self awareness which means, "having a deep understanding to one's emotions, strengths, weaknesses., needs and drives" (Goleman, 1995). The second components of emotional intelligence are self regulation. This is an ongoing conversation people have with themselves, which frees them being prisoners of their feelings (Goleman, 1995). The third component of emotional intelligence is motivation, which extends to the deep inner desire to achieve for the sake of achievement. The fourth component of emotional intelligence is empathy which means to be considerate and aware of other's feelings. Empathic individuals are also effective in retaining talent because they are able to develop personal rapport with others.

The last component of emotional intelligence is social skills Individuals use their friendliness in order to have people do what they want. Social individual is an effective persuader. It is believed that emotional intelligence plays a very important role in leadership, work life and career development IQ predicts only about 20, percent of career successes, which leave the remaining 80 percent to other factors such as emotional intelligence (pool, 1997).

Emotional intelligence does not respect the gender. The popular belief is that, women are not more emotionally intelligent than men. They are, however, emotionally intelligent in different ways. An analysis of emotional intelligence was found in thousands of men and women which showed that women, on average, are more aware of their emotions, show more empathy, and are more adept interpersonally. Men, on the other hand, are more self-confident, optimistic, and adaptable. It was found men are also able to handle stress better than women. In general, however, far more similarities exist

than difference. Some men are empathetic as the most interpersonally sensible women are, while some women are just as able to withstand stress as the most emotionally resilient men.

After taking into account overall ratings for men and women, the strengths and weakness average out, so it is a competition between both sexes. Thingujam and ram (2000) in their attempt of Indian adaptation of Emotional Intelligence Scale (Schutte et al, 1998) had developed Indian norms (N=811) for males and females separately and found that women were significantly scoring higher than men. Similarly, Mohanty and Devi. L (2010) have revealed in their study on gender differences among EI (N=60) that girls are more optimistic and well aware of their feelings in comparison to boys. Girls are more aware and understand their own feelings (Components of EI) than boys. Similarly Ciarrochi, chan and Bajgar (2001) found that EI was reliably measured in adolescents and was higher for feelings than males. The relationship between emotional intelligence and sex differences among 134 adolescents involved in a six week training camp run by the military was investigated by Charbonneau and Nicol (2002). Results revealed that girls scored somewhat but not significantly higher than boys on emotional intelligence. Mishra and Ranjan (2008) have also been studied whether the gender difference affects emotional intelligence of adolescents (N=80, 40 males, 40 females).

The results showed that adolescent boys and girls differ significantly on emotional intelligence and boys were found to be significantly higher on emotional intelligence than the girls. The higher scores of adolescent's boys indicate that they are better on interpersonal, intrapersonal, adaptability and stress management skills and their overall general mood (happiness and optimism) are of higher order than the adolescents girls.

To observe emotional intelligence levels of undergraduate male and female college students (N=200) (100 males and 100 female) 17-20 years, Nasar and Nasar (2008) have made an attempt and the results ensures the presence of higher emotional intelligence in the adolescent girls students in comparison to the boys. In the study reported by Uma Devi and Rayal (2004) based on gender differences among EI (N=224) it was revealed that seventy six percent of girls have scored EI above average. Whereas, eighty one percent of boys have scored their EI above average. This concluded that boys have scored slightly higher on their emotional intelligence as compared to their counterparts. Hunt and Evans (2004) have reported in their study on individuals [N=414 (181 male and 233 female)] having traumatic experiences and simultaneously studied on their emotional intelligence level, and the results showed that males have higher EI than females.

**Hypothesis:** Female will score high on emotional intelligence than male.

### Materials and Methods:

**Sample:** The research sample consisted of one hundred and fifty subjects (N=150) of class XIth and XIIth divided into two groups. Group A consisted of seventy five subjects (n=75) who were male, group B consisted of seventy five subjects (n=75) who were female. All of them were studying in private school of Chapra. They were more or less similar with regard to socioeconomic status and cultural background.

**Instruments:** The data was collected with the help of following measures:-

- (i) Personal Data Sheet Personal Data Sheet of the sample was obtained by collecting demographic information namely age, sex, educational qualification, parent's monthly income, family system (nuclear).
- (ii) Emotional Intelligence questionnaire (1998) by Schutte et al used for the purpose of measuring emotional intelligence. It is a 33 items emotional intelligence scale as developed by Schutte, Malouff, Hall, Haggerty, Golden and Dornheim (1998) was used. The questionnaire contains a 5 point scale with higher score indicating a higher level of emotional intelligence a Cronbach's alpha of .87 was found for internal consistency of the scale. Also a two week test retest showed a reliability of .78. Scale also showed evidence of validity.

**Procedure:** It was a comparative study which had been conducted in Chapra. Randomly subjects were selected. Rapport was established with the subjects who were approached individually for data collection. All of the subjects were informed about the purpose of the research and then they were asked to give full information. They were also told about the confidentiality and its limits. Demographic information of all the subjects of two groups (N=150) was obtained. Test was administered to all the subjects. Emotional intelligence questionnaire was used to assess the level of emotional intelligence among the subjects.

**Statistical analysis:** Means, standard deviations, mean and t-value showing difference in scores between Gender on Emotional Intelligence questionnaire (N=150).

**Table1, Means, standard deviations, and t-value showing differences in scores between Gender on Emotional Intelligence questionnaire**

Gender	n	M	SD	t-value	Sig.
Male	75	54.63	6.55	5.422	.001**
Female	75	56.45	7.88		

Gender	n	M	SD	t-value	Sig.
Male	75	54.63	6.55	5.422	.001**
Female	75	56.45	7.88		

\*\*p<.01

A significant difference found ( $p < .01$ ) among males and females on Emotional Intelligence questionnaire.

**Results and Discussion:** The result shows that females scored high than males on Emotional Intelligence questionnaire.

High scores on this scale indicates the higher level of Emotional Intelligence, so the above findings clearly suggests that females are emotionally intelligent than males.

The present study was designed to investigate the emotion intelligence male and female. The sample consisted of one hundred and fifty ( $N=150$ ) subjects. Our findings suggest that a significant difference exists among the subjects on Emotional Intelligence questionnaire when compared in terms of gender. Brackett, Mayer and Warner (2004) have also been reported in their study among 330 college students that women scored significantly higher in emotional intelligence those men. Lower emotional intelligence in males shows principally the inability to perceive emotions and to use emotion to facilitate thought was associated with negative outcomes including illegal drug and alcohol use, deviant behavior and poor relations with friends.

Study done by Saranya and Velayudhan (2008) among 30 males and 30 female, university students regarding gender differences in emotional intelligence revealed that there exists no significant differences in self awareness, self regulation, social awareness and social skills among day scholars boys and girls. There exists a significant difference in the dimension of motivation. Girls are better motivated than boys; this is because girls have a better driving and pulling forces which result in persistent behavior directed towards certain goals.

Another study made by Singh Choudhary and Asthana (2008) on impact of gender on emotional intelligence of adolescents, among a sample of 400 adolescents (200males and 200female) from various schools and colleges. The results revealed that male and female adolescents exhibit some emotional intelligence, concluding that both male and female adolescents are caring, giving, and supportive and enriching. Carr (2009) have studied sex differences in emotional intelligence among a student sample of medical schools ( $N=177$ ). Results indicated that male candidates had higher emotional intelligence scores than females. However, Gowdhaman and Murugan (2009) have been reported a significant effect of gender on emotional intelligence, in their study among 300 B. Ed teacher trainees. Jadhav and Havalappanavar (2009) investigated the level of emotional intelligence among male female police constable trainees ( $N=200$ ). Results revealed that women police constable (WPC) trainees have scored significantly high on emotional intelligence than their counterparts it may be because of the fact that men spend most of their time with peers and home whereas, women spend most of their time from the childhood in the

home, with family members and even in their later life at houses. Hence they learn how to behave with others and how to control their emotions. Women are keener in every aspect and they utilize opportunities properly etc. furthermore, the results also revealed that the women police constable trainees (WPC) scored higher on self motivation, emotional stability, commitment, altruism empathy and self awareness factors of emotional intelligence in comparison of male candidates.

Tatawadi (2009) have studied the differences in emotional maturity among male and female students studying in a management school. The results revealed that the females are emotionally stronger than the males. The girls score higher with regard to empathy, social responsibilities and interpersonal relationships than boys. They are more sensitive towards their relationships with parents, friends and siblings. All these traits help them to acquire more emotional intelligence as compared to boys.

### **Conclusion:**

This study provides an insight about emotional intelligence and gender differences. Results of the present study demonstrate that there is a significant relationship between emotional intelligence among male and female. The information gathered by the study would assist curriculum experts to review the present educational curriculum with the aim of mainstreaming emotional intelligence skills as core components of senior secondary school curriculum.

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## **Attributes of learners in regard to BPP and B.Com Programmes: Case Study of an urban IGNOU Study Centre**

\* Rupmala Barman

\*\* Manab Deka, \*\*\*Hrishikesh Baruah

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**Abstract-** *IGNOU, by virtue of being the largest Open University in the World as on today, has been significantly contributing towards enhancement of the GER of the Nation in the field of higher education. A total of 228 programmes have been dished out for the prospective learners to grab the same in a flexible mode across the Nation as well as 35 countries abroad. The present study aims at understanding the attributes of learners allotted to Arya Vidyapeeth CollegeIGNOU Study Centre-04177 with reference to BPP and B.Com Programmes. Data have been compiled for the period 2012 to 2016, consisting of two cycles - January and July for each year. It has been observed that among learners in BPP and B.Com programmes over the sample period, majority of them (60% to 70%) are males, around 85% of the learners allotted to SC 04177 are from Greater Guwahati area, 85% to 95% are unemployed and 80% to 94% choose English as their medium of instruction. Moreover, continuity in their studies for B.Com learners has also been studied over the sample period. After enrolment in the first year, it has been observed that the percentage of learners who have enrolled themselves in subsequent classes have been low. Analysis reveals that the rate of progression from BPP to B.Com programme for students allotted to SC 04177 ranges from a dismal 1.5% to 15.4%. Additionally, statistical tool such as Chi-Square test has been applied for testing association between different attributes. It is expected that the outcome of the present study will enlighten all concerned with regard to certain attributes of learners of IGNOU.*

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**Key Words-** Arya Vidyapeeth College, IGNOU learner attributes, BPP, B.Com.

**Introduction:** Distance education facilitates learning without regular physical presence within the corporal premises of the institution. Traditionally this mode of education heavily depended on postal services right from the days of Issac Pitman in England in 1728(Holmberg, B., 2005). This journey got a big recognition when The University of London initiated distance learning courses

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\* Assistant Professor, Department of Education, Arya Vidyapeeth College, Assam  
\*\* Assistant Professor, Department of Statistics, Arya Vidyapeeth College, Assam  
\*\*\* Associate Professor, Department of Geology, Arya Vidyapeeth College, Assam

in 1858 (Rothblatt et al., 1988). Quite interestingly, Charles Dickens used the term “People’s University” then only as it made higher education accessible to lesser mortals. This concept proliferated in the United States 1870 onwards. With time, distance education gained a lot of popularity and the main reasons being flexibility, low cost and formulation of courses as per students’ need (Clarke, 1906). The advent of radio and television contributed a lot in this regard.

As on today, the learners can have access to many open online courses which offer largescale interactive participation and online pedagogy (Kaplan, A. M. and Haenlein, M., 2016). The Open University of Catalonia, Spain became the first fully online university in 1994. However, pedagogical instruments like synchronous and asynchronous learning sessions, assignments, project works have made distance education hybrid. Students these days are found to pursue accredited online courses along with their conventional education.

Roots of distance education in India can be traced back to proliferation of radio. Although radio was in use since early fifties distance education got a major boost in India with the entry of television in 1959. Use of satellites for tele-education programmes vide Doordarshan has been a big success even today also. A noteworthy advance in the area of educational television in India was the launching of the Satellite Instructional Television Experiment (SITE) which launched pre-recorded programmes. SITE was followed by INSAT programmes. Correspondence courses on the other hand at secondary level were started in 1965 on the recommendations of CAGE and the Madhya Pradesh Open School was the first to launch off such programmes.

The Delhi University in 1962 initiated correspondence courses for higher education marking the entry of distance education at the tertiary level. Buoyant by the success, the Education Commission (1964-66) recommended the expansion of correspondence education for various purposes and as on today many universities in India has its own distance education wing.

However, the credit for opening up of the first dedicated Open University in India goes to Andhra Pradesh government for setting up the Andhra Pradesh Open University which was later renamed as Dr. B.R. Ambedkar Open University at Hyderabad in 1982. The success was overwhelming. In 1985, the Govt. of India vide an Act of Parliament established the Indira Gandhi National Open University (IGNOU). IGNOU, the world’s largest Open University now, was also made responsible for determining and maintaining standards of distance education and coordination among all distance education institutions in the country. However, in June 2013, the UGC took over the erstwhile Distance Education Council (DEC) and rechristened it as the Distance Education Bureau (DEB) to govern the distance education programmes in India.

**IGNOU – spearheading the distance education movement:**

Ever since establishment in 1985 by an Act of Parliament, IGNOU has been in relentless pursuit to enhance the Gross Enrolment Ratio (GER) through high quality in teaching through open and distance learning (ODL) mode. GER in higher education was a pitiable 6.0% in 1990-91 (Singha Roy, 2014) compared to 23.6% in 2014-15. Without any doubt it may be stated that in this increase of GER in higher education in India, IGNOU has a substantial contribution. In its mission to provide access to high quality, innovative, inclusive and need based higher education to all sections of the society right from urban centres to nook and corners of the nation IGNOU has been striving hard. It may be mentioned that apart from IGNOU and around 13 State Open Universities, there are many universities in the country which offers correspondence courses through its distance education wing. With over 50% of the population below the age of 25 years providing higher education to one and all in India is a major challenge.

As on today IGNOU caters to the educational aspirations of over 3 million students in India and abroad through 21 Schools of Studies. IGNOU has a network of 67 regional centres and 2696 learner support centres through which 228 certificate, diploma, degree and doctoral programmes are offered ([www.ignou.ac.in](http://www.ignou.ac.in)). Arya Vidyapeeth College Study Centre (04177) is one such window that facilitates IGNOU learners under the Guwahati Regional Centre.

**Arya Vidyapeeth College Study Centre (04177)**

Arya Vidyapeeth College became a part of the country's mission of enhancing the gross enrolment ratio in education sector which has been abysmally low compared to even the South East Asian countries. Initially Arya Vidyapeeth College was selected as a registered Study Centre under Convergence Scheme of IGNOU in early part of 2008. This scheme which was floated by Distance Education Council (DEC) desired to utilize the physical as well as intellectual infrastructure in some selected academic institutions through their parent universities.

Arya Vidyapeeth College was recognized as a regular Study Centre in April 2010 and was allotted academic programmes right from Post Graduate to Certificate level. The programmes are Masters in Economics, History and Political Science; P.G Diploma in Disaster Management, Analytical Chemistry, Environment and Sustainable Development; **B.Com**; Diploma in Creative Writing in English; Certificate Courses in Disaster Management, Environment Studies, Information Technology and Functional English, **Bachelors' Preparatory Programme**. Till date the Study Centre has handled the academic needs of 3740 allotted students and conducted examinations for 34933 allotted candidates.

A perusal of the allotted students' list (table I) reflects that B.Com. and BPP are the flagship programmes allotted to SC-04177 by virtue of their numbers. The present study aims at understanding the attributes and progression of learners allotted to SC 4177 with reference to BPP and B.Com Programmes.

**Table 1: Programme wise distribution of students allotted to the IGNOU Study Centre 04177.**

Programme	CODE	Session																				TOTAL	
		2010	2011		2012		2013		2014				2015				2016				2017		
		JULY	JAN	JULY	JAN	JULY	JAN	JULY	JAN		JULY		JAN		JULY		JAN		JULY		JAN		
									Fresh	Re.Reg.	Fresh	Re.Reg.	Fresh	Re.Reg.	Fresh	Re.Reg.	Fresh	Re.Reg.	Fresh	Re.Reg.	Fresh		Re.Reg.
PG	PGDAC	2		3		1		1			1									2		8	
	PGDDM						1	1	1		1				3					1		7	
	PGDESD		6		1	1					1				2					2		11	
	PGDFCS										1											1	
Master Degree	MEC		5	2		2									1					1		11	
	MEC2														2							2	
	MAH		7			1		1	1						3			2				15	
	MPS		6	1	1		1			1			1				1			1		12	
	MCOMFT												1		1							2	
	MAAN					1																1	
Degree (TDC)	BA			1																2		1	
	BCOM	23	61	236	47	237	74	382	102	47	169	125	60	79	271		32	59	125	40	37	2129	
Dip I.	DCE		1	1											1							3	
Certificate	CES		2						1				2									5	
	CFE		1												1					3		2	
	CIT		5	1					1						1							8	
	CDM		1																			1	
	CTPM					1																1	
	CFL	1		2	7	2	1													5		13	
	CFN		2																	1		2	
	CHR			1																		1	
BPP		283	85	141	74	173	77	171	66		125		46		67		51			51		1359	
TOTAL		309	182	389	130	419	154	556	172	48	298	125	110	79	353	0	83	60	127	1	108	37	3740

**Learner attributes: a statistical viewpoint:**

Data related to learners allotted to the Study Centre 04177 for five years from 2012 to 2016 have been analyzed with the help of statistical software SPSS version 11.5 in respect of different attributes. The results are presented in tabular form from table number 2 to table number 9 for certain important attributes. The results are presented in percentage form for convenience of interpretation.

**Table 2:****Session wise distribution of learners in regard to their Programmes of study and Gender (in %)**

Year	Session	Programme		Gender	
		B.Com.	BPP	Male	Female
2012	January	33.0	57.7	58.5	41.5
2012	July	52.7	41.6	68.4	31.6
2013	January	41.3	50.3	61.3	38.7
2013	July	51.3	44.8	70.9	29.1
2014	January	54.0	38.5	70.7	29.3
2014	July	53.8	41.8	69.2	30.8
2015	January	49.1	41.8	71.8	28.2
2015	July	62.9	28.9	66.4	33.6
2016	January	31.3	61.4	66.3	33.7
2016	July	54.1	41.2	67.8	32.2

It has been observed vide table 2 that out of allotted learners, 31.3% to 62.9% learners have opted for B.Com. programme and 28.9% to 61.4% learners have opted for BPP programme. However, Male learners have clearly outnumbered their female counterpart as far as learners allotted to SC 04177 are concerned.

**Table 3a:****Session wise distribution of learners in regard to their medium of instruction (in %)**

Year	Session	Medium of instruction	
		English	Hindi
2012	January	82.3	17.7
2012	July	87.9	12.1
2013	January	79.4	20.6
2013	July	86.1	13.9
2014	January	93.7	6.3
2014	July	91.3	8.7
2015	January	87.3	12.7
2015	July	94.0	6.0
2016	January	90.4	9.6
2016	July	93.7	6.3

**Table 3b:****Records of allotted learners who passed out from Assam Board.**

Year	Session	Admitted	Assam Board (401)	Percentage
2012	January	43	30	69.77
2012	July	222	130	58.56
2013	January	64	15	23.44
2013	July	196	120	61.22
2014	January	94	36	38.30
2014	July	161	101	62.73
2015	January	54	26	48.15
2015	July	146	91	62.33
2016	January	83	19	22.89
2016	July	255	101	39.61

It has been observed vide table 3a that English is the most opted medium of instructions for the learners allotted to this study centre. This does not signify that English is the most preferred medium of instruction. Can there be a third option of a regional language as the medium instruction for the students hailing from areas under the jurisdiction of the Guwahati Regional Centre? This opinion crops up from the data of table 3b which indicates that majority of allotted learners have passed their qualifying examinations from AssamBoard where local languages are in dominant use.

**Table 4:****Session wise distribution of learners in regard to their Category, Religion and Minority Status (in %)**

Year	Session	Category		Religion		Minority status	
		General	Others	Hinduism	Others	Yes	No
2012	January	70.8	29.2	86.9	13.1	4.6	95.4
2012	July	65.7	26.3	86.7	13.3	2.9	97.1
2013	January	70.3	29.7	87.7	12.3	7.7	92.3
2013	July	71.5	28.5	86.9	13.1	3.4	96.6
2014	January	63.8	36.2	87.4	12.6	4.3	95.7
2014	July	63.9	36.1	80.9	19.1	13.0	87.0
2015	January	52.7	47.3	85.5	14.5	7.3	92.7
2015	July	55.2	44.8	79.7	20.3	9.1	90.9
2016	January	62.7	37.3	83.1	16.9	7.2	92.8
2016	July	56.9	43.1	80.0	20.0	12.2	87.8

A look at table 4 indicates that majority of Learners represent General Category as compared to other categories. Same is the case for Religion, where 80% to 87% belong to Hinduism in comparison to other religions as far as learners allotted to SC 04177 are concerned. Further it has been observed that minority status of allotted learners is very less ranging from 2.9% to 13%. It is felt that a proper policy along with some possible incentives to attract potential learners from the minority community might have a positive impact in near future?



**Table 5: Session wise distribution of learners in regard to their Marital status and Employment Status (in %).**

Year	Session	Marital status		Employment status	
		Yes	No	Yes	No
2012	January	19.2	80.8	4.6	95.4
2012	July	11.2	88.8	2.6	97.4
2013	January	12.3	87.7	6.5	93.5
2013	July	11.3	88.7	13.9	86.1
2014	January	14.9	85.1	8.6	91.4
2014	July	27.4	72.6	12.4	87.6
2015	January	35.5	64.5	14.5	84.5
2015	July	34.5	65.5	12.9	87.1
2016	January	56.6	43.4	8.4	91.6
2016	July	48.6	51.4	11.4	88.6

Table 5 indicates that majority of the learners are unmarried and it has been observed that 85% to 97% learners are unemployed. This data does not reflect an encouraging scenario. Considering the fact that majority of the students are unmarried as well as unemployed, they should have performed better academically. Does this reflect lack of seriousness on the part of the learners or, is it due to lower stratum of intellect of majority of the learners opting for BPP and B.Com. courses under IGNOU?

**Table 6:**

**Records of BPP passed-out learners who have joined B.Com.**

Year	Session	Admitted to BPP	Continued to B.Com.	Percentage
2012	January	75	11	14.7
2012	July	175	23	13.1
2013	January	78	12	15.4
2013	July	171	8	4.7
2014	January	67	1	1.5
2014	July	125	3	2.4
2015	January	46	5	10.9
2015	July	67	4	6.0
<b>TOTAL</b>		<b>804</b>	<b>67</b>	<b>8.3</b>

A close glance at table 6 suggests that out of those BPP learners who have completed BPP from SC 04177, on the average 8.3% of the learners enroll themselves in B.Com. programme.

We also wished to check the record of continuation of their studies in respect of B.Com. learners allotted to SC 04177. It has been observed from above table that continuity record for B.Com. learners is not at all very encouraging.

**Table 7:**

**Records of continuation of studies in regard to learners admitted into B.Com. programme.**

Year	Session	Admitted	Continued	Percentage
2012	January	43	11	<b>25.6</b>
2012	July	222	5	2.3
2013	January	64	14	<b>21.9</b>
2013	July	196	3	1.5
2014	January	94	13	<b>13.8</b>
2014	July	161	40	24.8
2015	January	54	8	<b>14.8</b>
2015	July	146	70	47.9
2016	January	83		
2016	July	255		

### **Chi-Square Test 1**

**Hypothesis:** There is no significant association between Gender and Programmes of Study.

**Table 8: Association between Gender and Programmes of Study**

Gender	Programme		
		B.Com.	BPP
	Male	887 (58.3%)	634 (41.7%)
	Female	385 (53.3%)	335 (46.7%)
	Total	1272 (56.8%)	969 (43.2%)
			Total
			1521 (100%)
			720 (100%)
			2241 (100%)

A chi-square test has been conducted to see if the attributes Gender and Programmes of study have any association between them (table 8). The result of the test is as follows:

*Value of Chi-square* = 0.528 with P-value = 0.467

The above result suggests that the hypothesis may be accepted on the basis of given data and we conclude that there is no significant association between Gender and Programmes of study- B.Com. and BPP, which means that both the attributes are independent.

**Table 9: Association between Gender and Medium of instructions**

Gender	Programme		
		English	Hindi
	Male	1480(97.3%)	41(2.7%)
	Female	617(85.7%)	103(14.3%)
	Total	1993(88.9%)	248(11.1%)
			Total
			1521 (100%)
			720 (100%)
			2241 (100%)

### **Chi-Square Test 2**

**Hypothesis:** There is no significant association between Gender and Medium of instructions.

A chi-square test has been conducted to see if the attributes Gender and Medium of instructions have any association between them (table 9). The result of the test is as follows:

*Value of Chi-square* = 4.898 with P-value = 0.027

The above result suggests that the hypothesis may be rejected on the

basis of given data and we conclude that there is significant association between Gender and Medium of instructions - English and Hindi.

### **Observations:**

Distance education can be very beneficial owing to flexibility of the courses and learners can be involved in lifelong learning. This helps students to develop a wide array of educational viewpoints. Study Centres can operate successfully by utilising the in-house intellectual stock despite infrastructural drawbacks.

1. Successful transition of learners from BPP to BDP (B.Com.) is not very encouraging. This may be due to delay in receipt of study materials by the learners or their poor understanding of the subject matter.
2. Based on the data it is seen that performance of BPP students in OMT-01 is very poor. Further, it is to be seen that how many BPP students opt for B.Com. or B.A. at the BDP level by considering a larger data. Supposing a larger number of students opt for B.A. course then it is better to replace OMT-01 course with a language paper which will help the students.
3. Considering the intellect level of the BPP students, this six months bridge course does not seem to help the students' progress smoothly at the higher level. Separate BPP programmes for Arts and Commerce stream may be introduced. This practice has already been started by Krishna Kanta Handique State Open University (KKHSOU) of Assam which is a two year programme.
4. As learners have to opt for either English or Hindi as medium of instruction, learners particularly coming from local board face difficulty in answering questions. One consideration may be that official language of the state may be considered as one of the medium of instructions. From the result of chi-square test it has been observed that females are reluctant to take English as a medium of instruction as compared to their male counterpart.
5. Some policy may be required to attract minority students towards different courses of IGNOU.

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## **Life Skills of Student Teacher in Relation to their Gender and Stream of Study**

**\* Suman Bhardwaj**

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**Abstract-** Term "Life skills" tends to be associated with competencies for life and more specifically as the abilities for positive and adaptive behavior which are needed to successfully address the challenges of daily life and face exceptional situations. Life skills contribute to perceptions of self-efficacy, self-confidence and self-esteem and therefore, promote mental wellbeing of individuals. A very important role is played by teachers in developing such competencies among their students. It was, therefore, thought worthwhile to assess the life skills of student teachers who are the future teachers of tomorrow. Main objective of the present study was thus, to carry out a gender-wise and stream-wise study on a sample of 600 student teachers studying in various colleges of Education of Himachal Pradesh to compare their life skills. Descriptive Survey Research Method was employed for collecting data for the study. Major findings of the study revealed that male and female student teachers do not differ from each other on life skills whereas stream of study had a significant effect on the life skills of student teachers. Sub-skill wise analysis was also done.

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**Key Words-** Life Skills, Student teachers, gender, stream of study

**Introduction:** Today's children and youth are the first generation to have access to many things which were not so easily available to the children of older generations – be it things of their daily needs or things like weapons, drugs, internet etc. They are, therefore, prone to depression, frustrations, conflicts, stress, strain, anxiety disorders, emotional problems, various kinds of behavioural disorders, etc. With this changing scenario, it is not enough if the teacher possesses only hard skills or technical teaching abilities. They also need to possess knowledge regarding Life skills that will help them to manage the psychosocial needs of their learners so as to develop a sense of internal strength and confidence among them to face various challenges that life poses and to determine right choices in life. Keeping all the above problems in mind, the World Health Organization laid emphasis on Life skills, which are necessary to all children alike across the globe. World Health Organization (1997) reiterated the significance of Life Skills as a way of one's life and concisely explained it as abilities for adaptive and positive behavior, that enable

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\* Assistant Professor of Education Vallabh Government Degree College, Mandi (HP)

individuals to deal effectively with the demands and challenges of everyday life. In particular, life skills are a group of psychosocial competencies and interpersonal skills that help people to make informed decisions, solve problems, think creatively and critically, communicate effectively, build healthy relationships, empathize with others and cope with and manage their lives in a healthy and productive manner. As per the views of Swamy (2011) Life Skills are not a domain or some subject but cross cutting applications of knowledge, values, attitudes and skills which are important in the process of individual; development and lifelong learning. They are not just a set of skills nor are they equal to survival skills, livelihood skills or vocational skills but important part of these skills.

According to World Health Organization (1997), analysis of the life skills field suggests that there is a core set of 10 skills that are at the heart of skills based initiatives for the promotion of health and well-being of everyone including children as well as adolescents. Those life skills are listed below:

- Decision making skills
- Problem solving skills
- Creative thinking skills
- Critical thinking skills
- Effective communication
- Interpersonal relationship skills
- Self-awareness skill
- Empathy
- Coping with emotions
- Coping with stress

Present study was delimited to five life skills namely communication skills, interpersonal skills, problem solving skills, decision making skills and critical thinking skills.

#### **Communication Skills:**

Communication which is etymologically related to both communion and community comes from the Latin word *Communicare* which means to make common or to share. Valenzuela (1992) defines communication as any act by which a person exchange information with others regarding needs, desires, perceptions, knowledge or emotions. Thumar and Prajapati (2012) opine that communication means being able to express opinions, desires, needs and fears effectively.

#### **Interpersonal Skills:**

Interpersonal relationship literally means relationship between two individuals; it may be a blood relationship or develop later in life with social

interactions as among friends. Interpersonal skills refer to the ability to fulfill own responsibilities towards such relationships. These skills pertain to mental and communicative algorithms applied during social communications and interactions in order to reach certain effects or results. Interpersonal skills are how people relate to each other (Kewlani, 2009). People with good interpersonal skills are generally more calmed, confident and charismatic and more successful in both their professional and personal lives.

**Problem Solving Skills:**

Problem solving can be understood as consciously making plan to reach an objective which cannot be reached so quickly; a complicated interaction process to adapt into internal or external needs (Heppener and Baker, 1997). It is the process of logically analyzing, synthesizing and evaluating the given phenomenon to derive the solution. It basically involves steps like; identifying the problem, listing the objectives, formulating the hypotheses, collecting data, analyzing the data and finally drawing conclusions (Passi and Anuradha, 2002). In recent years, educators have devoted their attention in trying to define and teach problem solving skills.

**Decision Making Skills:**

In life, one continuously goes through the process of decision-making or selection from available or created options. From a very young age, people make various decisions daily. Decision-making refers to the choice of the most appropriate solution among possible alternatives (Mettas, 2010). Decision making may be defined as the selection of a future course of action from among the available alternatives. The process of decision making extends over a period of time, depends on previous experiences and influence and directs the outcome.

**Critical Thinking Skills:**

The word 'critical' comes from the Greek word 'critic' (kritikos) which means to question, to make sense of, to be able to analyze. Critical thinking is that mode of thinking about any subject, content or problem in which the thinker improves the quality of his or her thinking by skillfully taking charge of the structures inherent in thinking and imposing intellectual standards upon them (Jignesh, 2009). Critical thinking is an important issue in the 21<sup>st</sup> century teaching and learning largely because it is an important element in life success.

**Rationale and Scope of the Study:**

To meet the expectations of today's learners, teachers need a new kind of preparation- one that enables them to go beyond "just covering the curriculum" to develop their learners to face the real-life stress and situations in an efficient manner. It is well established fact that education ultimately aims at the development of a complete man, which is not possible without exposing the students to various life skills. Only a teacher himself/ herself



having good life skills can impart the same to his/ her students. Prospective teachers or student teachers are the future teachers of tomorrow. The present study is therefore, intended to study the life skills of student teachers of Himachal Pradesh. This study is expected to provide insight to the administrators, curriculum setters and teacher educators to necessitate modification to the B.Ed. course in order to incorporate Life Skills, so that the future teachers are not denied the keys of success in their personal and professional lives.

Various studies have been conducted in the past years relating importance of life skills to the teachers and teaching profession. Many researches have confirmed the indispensability of training or teaching of life skills for teachers especially in the view of pivotal role that they play in meeting the educational demands of the future. Field (1997) reported that students benefit greatly from instructions that engage them in Critical thinking processes. Parsons et al (1998) reported that good life skills help in the improvement of teacher student relationship and thereby enhance effective teaching. Kelly (2004) reported statistically significant relationship between student genders with the disposition to think critically. Qualitatively sex was not found to be linked with the disposition to think critically in the qualitative portion of the study. Singh (2002) reported that in the overall communication behaviour of prospective teachers in the classroom, no significant difference was observed between the male and the female prospective teachers as well as between the arts and the science stream prospective teachers. Kaur (2006) in her study on teacher effectiveness reported that Teachers who lack life skills are unable to teach in a planned and organized manner, lack the ability to motivate students, possess unapprovable teacher characteristics, do not get along well with others and are ineffective as compared to those who possess requisite Life skills. Johnson (2012) in his study suggested that teacher educators are good at social skills i.e. Effective communication and Interpersonal relationship. Effective communication skill is the one which most of the teacher educators are using in day to day life. Though, the teacher educators are aware of other skills such as negotiation skills and thinking skills but their percentage of awareness is low and only 43% of teacher educators are aware of coping skills. Nearly 54.4% of teacher educators feel that workshop will be effective in imparting life skills training to teacher educators. Sandhu (2014) reported average or low level of life skills among majority of pupil teachers. His study further revealed that science stream pupil teachers possessed better life skills as compared to arts stream pupil teachers. He thus suggested integration of life skills education in schools, colleges and other educational institutions. Kurtede and Aydogdu (2018) in their study on life skills from the perspectives of classroom and science teachers reported the importance of teachers' role in improving life skills of students and

emphasized the importance of their personal and professional roles in this regard.

**Objectives of the Study:**

1. To study the following life skills and a composite of these life skills among the male and female student teachers:
  - (i) Communication skills
  - (ii) Interpersonal skills
  - (iii) Problem solving and decision-making skills
  - (iv) Critical thinking skills
2. To study the following life skills and a composite of these life skills among the student teachers of arts and science stream:
  - (i) Communication skills
  - (ii) Interpersonal skills
  - (iii) Problem solving and decision-making skills
  - (iv) Critical thinking skills
3. To study the interactional effect of sex and stream of study on the following life skills and a composite of these life skills among the student teachers:
  - (i) Communication skills
  - (ii) Interpersonal skills
  - (iii) Problem solving and decision-making skills
  - (iv) Critical thinking skills

**Hypotheses:**

1. There is no significant difference in the following life skills and a composite of these life skills among the male and female student teachers:
  - (i) Communication skills
  - (ii) Interpersonal skills
  - (iii) Problem solving and decision-making skills
  - (iv) Critical Thinking skills
2. There is no significant difference in the following life skills and a composite of these life skills among the student teachers of arts and science stream:
  - (i) Communication skills
  - (ii) Interpersonal skills
  - (iii) Problem solving and decision-making skills
  - (iv) Critical thinking skills
3. There is no significant interactional effect of sex and stream of study on the following life skills and a composite of these life skills among the student teachers:
  - (i) Communication skills
  - (ii) Interpersonal skills
  - (iii) Problem solving and decision-making skills

(iv) Critical thinking skills

**Method and Sampling:**

Descriptive Survey Research method was used for the present study. Sample of the study consisted of 600 student teachers studying in various colleges of education of Himachal Pradesh. Out of total twelve districts, four districts, i.e., Hamirpur, Mandi, Shimla and Solan were selected at random. From these four districts, different colleges of education were selected randomly. In Hamirpur district there are a total of 10 colleges of education. From these, a total of 6 colleges of education were selected randomly. In Mandi district there are a total of 16 colleges of education. From these, a total of 7 colleges of education were selected randomly. From Shimla district, out of 8 colleges of education, 5 colleges of education were selected randomly and from Solan district, out of 7 colleges of education, 4 were selected randomly. Then from these colleges of education, total of 600 student teachers of science and arts stream were selected randomly. From this sample of 600 student teachers, 140 male and 140 female student teachers were selected randomly for the final analysis.

**Tools Used:**

For the present study, “Life Skills Scale” developed and standardized by Bhardwaj (2013) was used. It is a 5-point scale which consists of total 88 items. It comprises of different items dealing with the five dimensions of Life Skills viz. Communication skills, Interpersonal skills, Problem solving and Decision making skills and Critical thinking skills. Content validity of the tool has been established by showing it to the subject experts. Reliability of the tool was computed by using test-retest method. The Test-Retest correlation found for this tool was 0.708 which is significant at 0.01 level (2 tailed) of significance.

**Analysis and Interpretation:**

The data collected on the administration of the “Life Skills Scale” was analyzed on the basis of the objectives of the study. The means and standard deviations were computed and 2X2 ANOVA was applied to find out significant difference among different categories of student teachers i.e. male student teachers from arts stream, female student teachers from arts stream, male student teachers from science stream and female student teachers from science stream.

**Results and Discussion:**

Table-2 shows the means and standard deviations on the total life skills and dimensions of life skills based on sex:

**Table-2**  
**Mean and Standard Deviation values on Life Skills of Student teachers based on Sex**

S. No.	Skill	Sex	Sample	Means	Standard Deviations
1.	Communication skills	Male	140	97.67	9.995
		Female	140	97.56	11.191
2.	Interpersonal skills	Male	140	90.60	10.228
		Female	140	91.08	9.804
3.	Problem Solving and Decision making skills	Male	140	81.22	9.229
		Female	140	79.68	10.634
4.	Critical thinking skills	Male	140	69.61	8.487
		Female	140	68.16	9.271
5.	Total Life Skills	Male	140	338.52	32.95
		Female	140	336.03	34.61

Mean values as shown in Table-2 reveals that there is no difference among the male and the female student teachers on the communication skills, interpersonal skills and critical thinking skills. However, mean score for male student teachers on the problem solving and decision-making skills is 81.22 which is higher as compared to the mean score of female student teachers which is 79.68. From this, it may be concluded that male student teachers are comparatively better on the problem solving and decision-making skills as compared to the female student teachers. Also, Table-2 shows that the mean score for male student teachers on the use of total life skills is 338.52 which is higher to that of female student teachers (336.03). It shows that male student teachers are slightly higher on the use of total life skills as compared to their female counterparts.

Table-3 shows the means and standard deviations and F-values on dimensions of life skills based on stream of study:

**Table-3**  
**Mean and Standard Deviation values on Life Skills of Student teachers based on Stream of Study**

S. No.	Skill	Stream of Study	Sample	Means	Standard Deviations
1.	Communication skills	Arts	140	97.46	11.441
		Science	140	97.77	9.745
2.	Interpersonal skills	Arts	140	89.46	10.702
		Science	140	92.21	9.331
3.	Problem Solving and Decision making skills	Arts	140	79.04	10.216
		Science	140	81.86	9.647
4.	Critical thinking skills	Arts	140	67.59	8.946
		Science	140	70.17	8.811
5.	Total Life Skills	Arts	140	332.24	35.55
		Science	140	342.29	31.18

It can be seen from Table-3 that the mean score value for student teachers

from the arts stream on the use of total life skills is 332.24 and for the science stream is 342.29. Since, mean score for the science stream student teachers is considerably higher as compared to the mean score of the arts stream student teachers, it may be interpreted that student teachers from the science stream are better in the use of total life skills as compared to the student teachers from the arts stream. Also, Table-3 shows that the mean score for student teachers from the arts stream on the interpersonal skills is 89.46 and that of the science stream is 92.21. It shows that the mean score of the science stream student teachers is higher as compared to the mean score of the student teachers from the arts stream. It suggests that the student teachers from the science stream have better interpersonal skills as compared to the student teachers from the arts stream. Further, it can be seen from Table-3 that the mean score of student teachers from the arts stream on the problem solving and decision-making skills is 79.04, and that of the science stream student teachers is 81.86. It shows that the problem solving and decision-making skills of student teachers from the science stream are good as compared to the student teachers from the arts stream. Also, Table-3 shows that the mean score of science stream student teachers (70.17) on the skills of critical thinking is higher to that of the arts stream student teachers (67.59). It reveals that science stream student teachers possess better critical thinking skills as compared to arts stream student teachers.

Table-4 shows the complete summary for Analysis of Variance:

**Table-4**  
**Summary of ANOVA: Life skills of student teachers in relation to their Sex and Stream of Study**

S.No.	Skill	Sources of Variation	Sum of Squares	df	Mean Square	F
1.	Communication skills	Sex	0.914	1	0.914	<b>0.01</b>
		Stream of Study	6.914	1	6.914	<b>0.06</b>
		Sex X Stream of Study	26.414	1	26.414	<b>0.24</b>
2.	Interpersonal skills	Sex	16.514	1	16.514	<b>0.17</b>
		Stream of Study	532.129	1	532.129	<b>5.28*</b>
		Sex X Stream of Study	1.157	1	1.157	<b>0.01</b>
3.	Problem Solving and Decision making skills	Sex	166.629	1	166.629	<b>1.68</b>
		Stream of Study	560.057	1	560.057	<b>5.65*</b>
		Sex X Stream of Study	30.229	1	30.229	<b>0.31</b>
4.	Critical thinking skills	Sex	150.089	1	150.089	<b>1.90</b>
		Stream of Study	460.289	1	460.289	<b>5.83*</b>
		Sex X Stream of Study	63.175	1	63.175	<b>0.80</b>
6.	Total Life skills	Sex	437.500	1	437.500	<b>0.39</b>
		Stream of Study	7080.229	1	7080.229	<b>6.29*</b>
		Sex X Stream of Study	11.200	1	11.200	<b>0.01</b>

Table-4 shows that F-value for all the dimensions of life skills i.e. communication skills, interpersonal skills, problem solving skills, decision making skills and critical thinking skills is non-significant. It suggests that there is no significant difference between the male and female student teachers with regard to these skills. Table-4 shows that the F- values for the main effect of stream of study on the interpersonal skills, problem solving skills, decision making skills and critical thinking skills of the student teachers has come out to be 5.28, 5.65 and 5.83 respectively, which are significant at 0.05 level of confidence for 1/ 279 df. From this, it may be inferred that there is significant difference in the interpersonal skills, problem solving skills, decision making skills and critical thinking skills among student teachers of science and arts stream. Table-4 shows that the F- value for the main effect of stream of study on the life skills of the student teachers has come out to be 6.29, which is significant at 0.05 level of confidence for 1/ 279 df. From this, it may be inferred that there is significant difference in the life skills among student teachers of science and arts stream.

Also, the non-significant F-value as well as mean values for the communication skills shows that arts and science stream student teachers do not differ from each other on the communication skills.

### **Conclusion:**

From this study, it was found that the difference between male and female student teachers on the total as well as different dimensions of life skills i.e. communication skills, interpersonal skills, and critical thinking skills is non-significant. But, difference was found among the male and female student teachers in respect of problem solving and decision-making skills. Male student teachers were found to have better problem solving and decision-making skills. Further, arts stream student teachers differ significantly from the science stream student teachers on the total life skills and its dimensions viz, communication skills, interpersonal skills, problem solving skills, decision making skills and critical thinking skills. Science stream student teachers were found to have better life skills. These results are in conformity with other studies also. Also, interaction effect of sex and stream of study on various life skills under study is non-significant.

### **Educational Implications:**

The researcher, on the basis of results suggests the need to develop life skills among student teachers who are the future teachers of tomorrow as life skills are the important aspect of quality education today. Teachers need to possess knowledge regarding life skills that will help them to manage the psychosocial needs of their learners so as to develop a sense of internal strength and confidence among them to face various challenges that life poses and to determine right choices in life. For this, it is must to incorporate life skills

education in the teacher education programmes. Apart from this, special sessions, guest lectures, group discussions may be organized from time to time on life skills so as to familiarize the teacher trainees towards the development of life skills and encourage them to develop a healthy and progressive attitude towards life. Extra tutorial groups may be organized for arts stream student teachers as well as female student teachers who were found to be lacking in various dimensions of life skills as revealed in this study. Thus, a conscious and deliberate effort to promote life skills among student teachers, will empower the future learners to become more active citizens of the society.

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## **A Study of Effect of Yoga and Cross Country Training Program on Physiological Components among Selected Students**

\* Vijaykumar b. Algotat

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**Abstract-** *The purpose of the study was to find out the effect of yoga and Cross Country training program on Physiological components. On 100 students i.e. boys belonging to the age group of 15 to 20 years were selected randomly from Secondary School Boys. Surendranagar to act as subjects for the study. The subjects were further divided into four group by equating tem. (A) Group yoga (B) Group for Cross Country (C) Combined group Yoga & Cross Country (D) No activity group. The experimental A,B & C group were trained with exercises for 8 weeks. The no-activity group carried out their daily normal routine work only. After 8 weeks of test. The t-ratio was used to find out the different between pretest and post-test of both the experimental and non-activity on the basis of the results were drawn.*

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### **Key Words- Yoga, Cross Country Training Program, Physiological Components**

The ancient science of India says that “Health is Wealth” for any Human being. As the science progressed, the information Technology played vital role in the countries development. But at the same item it is causing ill effects on human beings because of the life styles followed by them. The main reason is the static types of life style making the human beings to stick to their and work, and on addition the food habits are contributing for the unhealthy behavior. In this competitive world, the human being are competing with each other causing problems of not only physical but also psychologically affecting them. Because of this life it is very important and crucial to maintain good health. It can be achieved only through exercise, playing, sports, yoga, meditation ect. The guru of medicine “sushruta” said doing exercise is not the solution for good health but doing it rights is the solution for good health. Every person needs to exercises as per his/her own body tolerance and the environment. For doing this, the human beings should consider age, energy, body structure, area, climate and food habits for doing the exercise if not, it leads to diseases.

**Purpose of Study:** This study is mainly aimed in fiding out Yoga and Cross Country which have effect on the Physiological components of human body.

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\* G.B.Parmar College Ratanpar (Surendranagar)

For this study the sample size is taken from Secondary School Boys Surendranagar, Surendranagar of the age group 15-20 years of 100 students were selected. Among them, the students were given choice to choose any of the 4 groups of their wish such as Yoga group 25, Cross Country group 25, Yoga & Cross Country group 25 and No activity group 25. For the 100 students the Physiological components like heart beat, Blood pressure, vital capacity are noted down. Later among the 4 groups, the Yoga groups was taught only Yoga, for the Cross Country group only Cross Country runnings, was taught and for combined group, both Yoga and Cross Country running was taught for 8 week and later the Physiological components was checked. The pre and post numerical are analyzed through “t” test.

### Blood Pressure

No.	No.	Group	Blood Pressure	Test	Average	S.D.	Co-Relatin	“t”	Level of Significant
1	25	Non Active	Dystolic	Pre-Test	7.5	7.61	0.88	1.83	0.05 Not Significant
				Pos-Test	73.50	6.71			
			Systolic	Pre-Test	112	7.86	0.86	0.44	0.05 Not Significant
				Pos-Test	11.50	9.88			
2	25	Yoga	Dystolic	Pre-Test	70.50	7.42	0.58	2.68	0.05 Not Significant
				Pos-Test	74.25	5.51			
			Systolic	Pre-Test	111.50	8.13	0.64	0.90	0.05 Not Significant
				Pos-Test	110	9.18			
3	25	Cross Country	Dystolic	Pre-Test	70.50	6.86	0.36	2.16	0.05 Significant
				Pos-Test	73.75	4.55			
			Systolic	Pre-Test	109.00	7.18	0.37	2.13	0.05 Significant
				Pos-Test	113.50	9.33			
4	25	Yoga & Cross Country	Dystolic	Pre-Test	70.00	8.58	0.54	2.54	0.05 Significant
				Pos-Test	73.50	5.64			
			Systolic	Pre-Test	111.00	8.52	0.86	0.44	0.05 Significant
				Pos-Test	113.00	7.33			

**Controlled Group:** As shown in table 1 (1) the value of “t” of systolic pressure is 0.44 and diastolic pressure value ‘t’ is 1.83 by observing these values we found that the difference between both the values before and after test is not significant. So we can conclude that the blood pressure of non active group is not changed after test.

**Yoga Group :** As shown in table 1 (2) the value of ‘t’ of systolic pressure is 0.90 which is not significant while the value ‘t’ of diastolic pressure is 2.68 which is significant at level 0.05. So we can conclude that the change in syxtolic pressure is negligible and diastolic pressure is very positively through fromal Yoga training.

**Cross Country Group:** As shown in table 1 (3) the value of ‘t’ of systolic pressure is 2.13 and the value ‘t’ of diastolic pressure is 2.16 which is

significant at level 0.05. So the difference of the both is meaningful. So we can conclude that the change in systolic pressure and diastolic pressure is very positively through formal Cross Country training.

**Combined Group (Cross Country & Yoga):** As shown in table 1 (4) the value of 't' of systolic pressure is 2.15 and the value 't' of diastolic pressure is 2.54 which is significant at level 0.05 Therefore the difference of the both is meaningful. So we can conclude that the change in systolic and diastolic pressure is very positively through formal Cross Country and yoga training. If Cross Country training is given along with yoga, will be more positive for the systolic and diastolic pressure.

### Heart Beat

No.	No.	Group	Test	Average	S.D.	Co-Relatin	"t"	Level of Significant
1	25	Non Active	Pre-Test	75.55	7.13	0.92	0.08	0.05 Not Significant
			Post-Test	75.60	6.74			
2	25	Yoga	Pre-Test	75.15	8.24	<u>0.96</u>	<u>4.35</u>	0.05 Significant
			Post-Test	74.90	7.92			
3	25	Cross Country	Pre-Test	76.70	6.85	<u>0.93</u>	<u>4.04</u>	0.05 Significant
			Post-Test	75.60	6.09			
4	25	Yoga & Cross Country	Pre-Test	80.75	5.45	<u>0.83</u>	<u>10.48</u>	0.05 Significant
			Post-Test	74.00	3.84			

**Controllede Group:** As shown in table 2 (1) the value of "t" of heart beat rate is 0.88 therefore, we can conclude that the heart beat rate of controlled group is not changed after test.

**Yoga Group:** As shown in table 2 (2) the value of "t" of heart beat rate is 4.35, which is significant at level 0.05. So we can conclude that the decrease in heart beat rate is positive through formal yoga training.

**Cross Country Group:** As shown in table 2 (3) the value of "t" of heart beat rate is 4.04, which is significant at level 0.05. therefore, the decrease in heart beat rate is positive through formal Cross Country training.

**Combined Group (Cross Country & Yoga):** As shown in table 2 (4) the value of "t" of heart beat rate is 10.48, which is significant at level 0.05. therefore, the comparative decrease in heart beat rate is more positive through formal Cross Country and yoga training.

### Vital Capacity Of Lungs

No.	No.	Group	Test	Average	S.D.	Co-Relatin	"t"	Level of Significant
1	25	Non Active	Pre-Test	2248.50	551.12	0.84	2.43	0.05 Not Significant
			Post-Test	2465.00	721.86			
2	25	Yoga	Pre-Test	1753.00	602.14	<u>0.83</u>	<u>7.07</u>	0.05 Significant
			Post-Test	2527.00	859.35			
3	25	Cross Country	Pre-Test	1892.00	647.20	<u>0.87</u>	<u>3.66</u>	0.05 Significant
			Post-Test	2167.50	661.52			
4	25	Yoga & Cross Country	Pre-Test	1803.00	583.00	<u>0.84</u>	<u>6.62</u>	0.05 Significant
			Post-Test	2777.00	1072.31			

**Controlled Group:** As shown in table 3 (1) the value of “t” of vital capacity of lungs is 2.43. therefore, we can conclude that the vital capacity of lungs is significant.

**Yoga Group:** As shown in table 3 (2) the value of “t” of vital capacity of lungs is 7.01, which is significant at level 0.05.

So we can conclude that the increase in vital capacity of lungs is positive through formal yoga training.

**Cross Country Group:** As shown in table 3 (3) the value of “t” of vital capacity of lungs is 3.66, which is significant at level 0.05. Therefore, the increase in vital capacity of lungs is positive through formal Cross Country training.

**Combined Group (Cross Country & Yoga):** As shown in table 3 (4) the value of “t” of vital capacity of lungs is 6.62, which is significant at level 0.05. Therefore, the comparatively increase in vital capacity of lungs is more positive through formal Cross Country and yoga training.

**Outcome Decision:** The analysis of the data gives information that offer the activity group showed that the student physiological components improved. In comparison of physiological components between activity group students vs (Verses) Non activity group students is very high. Among the activity group the yoga and Cross Country group physiological components are high compared other two group of activity group. The only Yoga group and only Cross Country group but higher than non activity group. The physiological difference the only Yoga and only Cross Country group results are all most equal to each other. By this study we can come to the conclusion that along with Cross Country, Yoga training is very effective. By comparing between activity group and non-activity group, the 8 week of training increase the physiological components of activity group. Because of the 8 week training the activity group physiological components improved. And it is also observed that they are not getting much tired and they are able to gain the energy very fast.

#### **Conclusion:**

- 1 In the non activity group there is no change of physiological components between pre test and post test.
- 2 Among the activity group the yoga and Cross Country group physiological components is very high compared with other two group.
- 3 The only Yoga group results and only Cross Country group physiological components results are medium.
- 4 So, the conclusion of this study reveals that to the Cross Country athletes if provided yoga training then the efficiency and physiological components of their body increases which is very effective for the

athletes.

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## **Controversy, Censor and Ban: Bollywood Films from 1970s Onwards**

**\* Abhiranjan Kumar**

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**Abstract-** *Bollywood films are now more than a century old and India's freedom is more than 70 years old, yet it seems that the authorities in free India lives in the same colonial world of controlling the Indian landscape including her expression and artistic creation whereas some people don't want to come out of their archaic, dominating and feudal world look. Controversies/bans/censors appear to have been an increasing part of the Bollywood industry which seem to have escalated from 1970 onwards. Films belonging to various themes including historical, romantic, changes in family or society, political, gender or religion, have to undergo such experiences. The existence of the narrow frame of working mechanism of censor board, patriarchal and dominating society and the presence of populist government etc. provide the feeding of suppression of film as a medium of expression as well as a work of imaginative art. The court, however, has been a relief for such films in many cases by providing succor, a timely intervention and a check on the uncontrolling and unreasonable sections of the society. It will always remain the wish of the film makers to not ever greet a situation of vandalism and unnecessary provocation about their films.*

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**Key Words-** Films, Courts, Censor, Controversy, Ban, Art

**1. Introduction:** Controversy often create pressure group which bear the potential to cause censorship in a film which may even lead to a ban, partial/spatial/long term etc. Bollywood film industry is now accustomed to go through these controversy/censorship/ban in one or the other form. The frequency of films which are joining the not-so-wishful list of controversial films have actually been increasing as the country is marching more on the path of development, progress or liberalization. The multiplicity of factors especially in a transforming India like feudal mentality of certain sections of Indian population, lack of patience and ability to comprehend within context, political or sectional approaches, lesser tolerance, lesser mutual respect, growing segmentation of society and government legislations/rules/guidelines etc. have been playing major roles in constructing a less tolerant environment for films in the country. There have been many films like *Garam Hawa*, *Aandhi*, *Kissa*

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\* Assistant Professor, Department of History & Archaeology, Central University of Haryana, India



*Kursi ka, Bandit Queen, Kamasutra-A Tale of Love, Padmavat* etc. which have been quite controversial and could be released only after court cases, censor cuts and many high controversies from 1970s onwards. For the makers of the film and the artists of the film, such episodes are saddening where as to those who objects, such films do not deserve to be released unless their objections are taken into considerations. Broadly, this issue involves the issues of freedom of expression, hurting sentiments as well as space for artistic creativity.

The broad objectives of this discourse are:

- a) To know about some of the most controversial Hindi films;
- b) To discuss the factors responsible for such an impasse; and
- c) To examine the role of judiciary in the protection of film makers.

This brief discourse hinges mainly on a qualitative, analytical and visual analytical approach.

The period taken here, viz., 1970 onwards, is important because, first, some of the films in this decade substantially helped to change the complexion of the Bollywood films in many ways like the portrayal of violence as in *Zanzeer, Deewar* and *Sholay*, bold romance like in *Bobby* and *Julie*, comedies like *Chupke –Chupke* and religious films like *Jai Santoshi Maa*. Second, the number of controversial films also began to increase from this decade like *Siddhartha, Garam Hawa, Aandhi* and *Kissa Kursi Ka*. Third, in the last couple of years, the reflection of new changes have become quite discernible especially among the youths in this country. The use of abusive language in the film *Gangs of Wassyepur (2012)*, intimate scenes in many of the films in near past like in *Sins (2005)* and the naked reality depiction in the *Bandit Queen (1994)* etc. all shows that the traces of the era of 1950s-60s are no more existing.

The changes in the recent past in the post 1991 globalized world shall also be taken as a kind of eye-opener for the government agencies as well the moral contractors of the society who needs to learn, observe and come out of the aura of regulations as exhibited through the Cinematographic Act of 1952, in accepting the portrayal of changes through films. Historical/Period films have also become a butt of soft target for the reactionaries in the name of sectional prestige and distortion of historical facts.

It may also be noteworthy in this context that banning a film or a film falling under controversy does not happen in India alone; it's a global practice which is followed by the government or certain section of the people. Such examples can be cited from across the globe which includes *A Clockwise Orange* by Stanley Kubrik (1971), *Apocalypse Now* by Francis F. Coppola (1979), *the Blue Kite* by ZhuangZhuang Tian (1993), *Brokeback Mountain* by Ang Lee (2005), *Battle royale* (2000), *the Hunger Games* (2008), *Hail*

*Marry* (1985) and *Persepolis* (2007) etc.<sup>1</sup> Main reasons behind such shoutings and bans are the explicit depiction of sexuality, violence and exploitative state mechanisms.

**2. Major Bollywood Controversial Films:** In the 1970s, three major films had to face most heated controversies. They included, *Garam Hawa*, *Aandhi* and *Kissa Kursi Ka*.

*Garam Hawa* was directed by M S Sathyu and was released in the year 1974. Ziya Us Salam while reviewing the film retrospectively in the Hindu in 2014 writes that the film was about those Muslims who continued to stay back in India and joined Pakistan as their new homeland in the aftermath of the partition of the country in 1947. Further that this ‘...film is a grim, very grim reminder that not all is well with the nation where the minorities live in fear. Quietly, persuasively, the film reveals the psyche of the community, its anxieties, its insecurities, its longing for a past that cannot be reproduced, its inability to come to terms with the present...’<sup>2</sup> The film still has its own admirers and relevance is also unailing.

Initially, though the movie was commercially supported but owing to the critical content, the producer backed off that led Sathyu to ask Government support which though he received, but then the film was banned. It was after many convincing attempts that the movie was given green signal and then it went on to win national film award for national integrity.<sup>3</sup>

*Aandhi* was released in the year 1975 and was directed by Gulzar, the noted hindi film maker. At the time of its release, the film created sensation as rumour spread that the lead female actor resembles the then Prime Minister of India, late Smt. Indira Gandhi, mainly the way the female character, Suchitra Sen alias Aarti, wore saree and kept hairstyle. It was also so because she had played the role of a politician in the film. Mr. I. K. Gujral, the then minister of Information and broadcasting, watched the film and liked it and then the film was released.<sup>4</sup> This film is also known for its music, song and extraordinary performances by the actors. Ziya Us Slam mentions that “A poster in South India declared, “See your Prime Minister on screen”. An advertisement in a Delhi daily called the film “the story of a great woman political leader in post-Independence India”.<sup>5</sup> Clearly, the controversy was exploited by the promoters of the film to make it success.

*Kissa Kursi Ka*, released in 1978, was one of the biggest political satire in the post-emergency phase by two times Congress Member of Parliament, Mr. Amrit Nahata, who later joined the Janta party. It attacked congress party, its leadership and populism inherent in the then Indian politics. However, even now, the film holds great relevance. Due to the political content, the film faced uphill task in its release. Initially, all its copies were burnt, perhaps at the behest of Mr. Sanjay Gandhi<sup>6</sup>, but it was again shot and then released. It

attained a moderate success, though still it is known for its depiction of Indian political reality.

*Siddhartha*, released in 1972, starring Simi Grewal and Shashi Kapoor, was based on the novel with the same name by the famous German author Herman Hesse. Because of the nude or semi-nude poses of Shashi Kapoor and Simi Grewal and the publication of the same in two magazines led to the controversy of the film. But the film did not cause much popular protest from society.

In 1990s, India witnessed the opening of economy and adoption of the policy of liberalization. It heralded new era in the development and growth of the country. It also augmented well for the cinema industry in India. New generation of cinema lovers as well as cinema makers, new themes, fearless directors and a gradually changing audiences to support bold and innovative artistic works, led to such cinemas which actually blurred the distinction between parallel and commercial films. The use of new technology based on computer, better sound technology, new editing software and hard hit, straight dialogues in a new changing environment brought a new culture of cinema in India. Three films were noteworthy for their controversies during this decade: *Bandit Queen*, *Fire* and *Kamasutra: A Tale of Love*.

*Bandit Queen* was a dark shaded, reality based film by Shekhar Kapoor who had taken its story from Mala Sen's biography of Phoolan Devi, 'India's Bandit Queen: The True Story of Phoolan Devi'. The film went through many controversies especially for its depiction of reality through nudity, rape and violence within the caste, gender and administration milieu. The initial cut demands of many scenes were overruled by the FCAT (Film Certificate Appellate Tribunal) which incidentally consisted of three female members at that time. The film, however, then went through some of the court wrangling as some Gujjar community people approached the High Court of Delhi and demanded cuts or ban. The Delhi High Court ordered for deletion of nude and rape scenes which took the matter to the Supreme Court where finally the FCAT order prevailed and the film was allowed to be screened.<sup>7</sup> The movie succeeds greatly in depicting social, physical and psychological brutality in the name of caste and gender differentiation in Indian society.

The film *Fire* by Deepa Mehta was released in the year 1996 and since then the controversy has failed to subside. The movie explores the hidden sexuality of two women which could surface because of their own unsuccessful/ignored/traumatized sexual lives. Both Nandita Das and Shabana Azmi, plays to almost extraordinary level. The film received too much of criticism, protests and censor-both by censor board and by certain section of the society. The New York Times in 1996, calls the theme of the movie 'dated' as per the American standards though may be 'bold and novel' in India and a melodrama and a Jackie Collin plot.<sup>8</sup> However, as per Indian consideration,

the film was perhaps one of the first celluloid representation of lesbianism in India with fearlessness. Praising the film, the Indian Express writes, "*In the year of its 20th anniversary, Fire retains its position as a relevant reference for films on gender relationships in India. Last year, the British Film Institute selected Fire as one of its top 10 feminist films.*"<sup>9</sup> However, in its own time, the film was a kind of direct revolt against male chauvinism, feudal domination and patriarchal control over the family; it led to street movements, halting of parliament sessions and vandalizing of picture halls which ran the film.<sup>10</sup> No doubt, this was the heralding of a celluloid version of new India where acceptance, taboo, struggle and conflicts began to march together.

*Kamasutra: A Tale of Love* (1997) was directed by Mira Nair who epitomized love and the art of love making while keeping women sexuality as a liberating force. The film succeeds in bringing the idea of achieving spirituality through practicing sexuality in mainline discussion. The film was banned in India for its extreme eroticism and sexist dialogues. A review of the film showers praises on the film by mentioning, "*As a winner of the Independent Spirit Award for cinematography, with lavish costumes by Eduardo Castro, Kama Sutra: A Tale of Love is a visually and emotionally indulgent epic, a delight for the senses.*"<sup>11</sup> The New York Times writes, "*In a visually lovely film that summons an alluring impression of her native India, Ms. Nair concentrates so deeply on sensual detail that the audience can almost smell the incense wafting from the screen. Shining silks, brilliant colors, Sufi music, intricately adorned bodies and languid movements all conspire to create a seductive mood.*"<sup>12</sup>

The beginning of the twenty first century in Bollywood greeted with controversy on the film *Urf Professor* (2001). The list of controversial films has grown longer since then, followed by *Sins* (2005), *Water* (2005), *Pink Mirror* (2006), *Black Friday* (2007), *Parzania* (2007), *India's Daughter* (2015), *Baji Rao Mastani* (2015), *Uda Punjab* (2016), *Lipstick under My Burqa* (2017) and *Padmavat* (2018). The themes in these films varies from historical to communal riots to rape to violence to transgender to contemporary; the *mise en scene* of these films also varies starkly and at length, yet they had to undergo either through the governmental censor or through the public censor. Many of these films like *Padmavat* had to seek recourse in the courts for the release of their films.

### 3. What Causes Protests/ Controversies/ Censor:

The major factors which leads to the generation of controversies/ban/ censor are varied in character. It is not easy to discuss each and every cause in detail here. But with the help of some film examples, these can be comprehended to some extent.

The religious and communal issues in films have in many cases

witnessed controversies, vandalism and efforts to put ban on such films. In the last two-three decades, films like *Bombay* of Mani Ratnam (1995), *My Name is Khan*, starring Shahrukh Khan (2010), *PK* starring Amir Khan (2014), *Oh My God* with Akshay Kumar and Paresh Rawal (2012) have created strong controversies related to Hindu-Muslim relation, religious ritualism and reworking on the inner meaning of religion. This is considered to be one of the most sensitive areas of human socio-cultural evolution which is found to be too fragile; even slight questioning over the rituals, practices or even sayings of religion, it appears to its followers, can annihilate or impure the entire religious structure. It is also considered as deliberately making one's religion abusive, unholy and insulting though actually that is not the case. In fact, every religion only gets strengthened and more appealing if it allows the scope for discussion and reform within a religious structure according to the change of time and circumstances.

Another major factor include the depiction of intimate scenes and exploring sexual relations. Such scenes are often taken out of the context and have been treated separately as immoral and vulgar. Any public discussion on sex is still considered to be a taboo in our society despite many positive changes being witnessed on the issue. The film *Fire* takes a path towards exploring the sexual desires of two women of same house who are relatives. The act has its own reasons which is quite human but unfortunately, it was considered to be an attack on the social and family values. Till date, the film is a strong advocate of the personal fulfillment of natural desires and also an attack on many social-family orthodox rituals and beliefs.

*Kamsutra: A Tale of Loves* is a strong depiction of the art of love making, inspired from the book *Kamsutra*, the famous treatise on the understanding of sex and sexual relations from Ancient India. After the release of the film, the theme became captive of self-appointed moralists, though ironically it was liked by most of the people of society who practice and want to perform this art and seek pleasure.

Some of the topics from historical-cultural past have also created many controversies, hooliganism, censorship and legal battles. From the recent past, the example of the film, *Padmavat* (2018), can be cited as one such film. Those who opposed the film were keen on many cuts which they alleged, disparaged the dignity of the Queen Padmavati. They also hold that the film hurt their sentiments as it was against their history, beliefs, customs and traditions. Such arguments are, in fact, common to all oppositions against the period films.

The controversy took ugly turn when some people went on to issue firmans and fatwa in Taliban fashion, announcing prizes for those who chop off nose of the lead actress Deepika Padukon and also for beheading Sanjay Leela Bhansali and Deepika Padukon for a sum of five Crore.<sup>13</sup> This film

received supports for ban from many political quarters like regional branches of national political parties like Indian National Congress and Bhartiya Janta Party and also by some obscure leaders claiming their affiliations with regional parties like Samajwadi Party as well as caste associations like Karni sabha of Rajasthan and some Brahmin associations.<sup>14</sup> This was a direct outcome of vote politics for certain sections of Indian politics. Many states like Madhya Pradesh, Rajasthan, Haryana, Uttar Pradesh and Gujarat had even announced the ban on the film.<sup>15</sup> But the Supreme Court lifted the ban and the freedom of expression and creativity was restored.<sup>16</sup>

Some of the Bollywood films have seen political controversies resulting into censoring or banning of such films. In 1970s, *Aandhi* and *Kissa Kursi Ka*, were two such films. Last year, the film *Indu Sarkar* by Madhur Bhandarkar on the theme of emergency also fell prey to controversies and there were protests by the Congress workers and leaders against the film.

In an interview given to the Hindu, the director stated that he had even received death threats and many pressure to edit certain scenes by the political workers of the Congress party. He stated, "I've received threats," shares the director. "Some people want to blacken my face, some people want to put a chappal ka mala on my neck, and some people want to see the film before its release," referring to Jagdish Tytler wanting to "suitably edit" the film before it hits the theatres to ensure his portrayal is not negative. Among other calls to preview the film, a woman claiming to be Sanjay Gandhi's daughter has moved the Central Board of Film Certification (CBFC) against clearing *Indu Sarkar*.<sup>17</sup> The censor board suggested fourteen cuts to the film including the reference of RSS, Akali Dal, CBI and even Kishore Kumar.<sup>18</sup> Similarly, the just released trailer of the forthcoming film *The Accidental Prime Minister*, starring the veteran actor Anupam Kher in lead role as Mr. Manmohan Singh, has also kicked off a controversy, where the some congress workers have been demanding for a pre-screening of the film as, it is alleged, the film depicts Ms. Sonia Gandhi and her son Mr. Rahul Gandhi in poor light.<sup>19</sup>

Obviously, the purpose in such cases is to save public image and some of the political decisions of the political masters by their slaves –cum-unreasonable followers. The censor board, most of the times, in such cases, plays only a pawn in the entire scheme. The autonomy of the board remains highly contested and vulnerable.

The dealing of the issue of LGBTQ in films has also created some of these controversies. After *Fire* by Deepa Mehta in 1996 which was based on, *inter alia*, on the lesbian relation in an orthodox Indian family, in the year 2003, a film called *The Pink Mirror* (Gulabi Aaina), directed by Sridhar Rangayan, got mired in the controversy over the issue of the depiction of the life of indigenous gays. This film went on to win many international awards and was shown at more than fifty film festivals around the world. But because



of its unorthodox content, the film was banned in India. Once again, the censor as well the rigid and moralist sections of the country failed to understand the changing India in a globalized world and also the pertinence of the issue. The socio-cultural transformation through the opening up of society, voiceless sections in the society gradually getting more voices and expressions getting more space in the real world have failed to impress upon the Victorian minded authority.

Besides these explicit sectarian stands taken by sympathizers/followers/ party/groups etc., to oppose certain films or its certain parts, there exist organically, certain sociological, psychological, and feudal traits which appear to be innate in the society which have seen lesser magnitude of change over the period of time, providing underpinning to such oppositions. They may, further be entangled into the political vortex for a lasting sustenance of attack on artistic creativity.

### **The Acts/Rules and the Banning of Films:**

One of the first censorship acts in the world was introduced in Britain in 1909 with the main aim of providing 'better provision for securing security from cinematograph and other Exhibitions' to the movie watchers.<sup>20</sup> In India, the first Cinematographic Act came in 1918 which made it mandatory for the exhibitor to seek a license for exhibition through cinematograph in a defined place (Art 3), taking 'adequate precautions' to be taken 'to provide for the safety of persons attending exhibitions therein (Art 5 b). It also talks of forming 'as many committees' for the 'purposes of examining and certifying films as suitable for public exhibition' (Art 7). Further, it also delineates that such authority would consist of a Board with two or more persons, whereby not more than one-half of the members were to be in Government service.<sup>21</sup> One can easily trace the genesis of censorship through this Act in India. In this move of the government, two important factors must have played its role, a.) The influence of the Victorian morality and b.) The colonial intent of controlling native creativity and expression.

Another major move in this direction came in the post-independent India in the year 1952 which witnessed the promulgation of the Cinematograph Act. This act made the censor a rigid system and a custodian of public morality. Art 23 of the act provides for the formation of a committee with a Chairman and total number of members varying between 12 and 25. The main task entrusted was to a.) Unrestricted exhibition for all; b.) Unrestricted exhibition to adults only; c.) To suggest bring some modification or d.) To refuse to sanction any exhibition. Besides, it also allowed for the opening of regional centres of the censor board. Next, the films were to be defined into certain categories like U (universal or for all), U/A (with some restriction for kids and open for adults). A (for adults only) or S (restricted to any particular profession or class).



Article 5 B of this act provides for the 'principles' on which such certifications were based. Matters related with the sovereignty and security of the country friendly relation with the foreign countries, public order, decency or morality and the defamation or contempt of court, may not get the certification, if the certificate issuing authority thinks otherwise on any of these matters. However, as Art 5 E mentions that even if the certificate has been issued, the central government may by notification cancel the certificate and stop the exhibition of the film on certain grounds. It is these clauses which have most of the times created problems in the seamless exhibition of films in India. Art 9 of the act empowers the central government to make exemption in some cases.

It is not just the central government but the state or the union territories or the district magistrate also, as the article 13 imply, holds the power to stop the exhibition of the film in any concern area of their jurisdiction on the basis of the potential threat to law and order or 'breach of peace'.

In 1973 and 1983, certain changes were made in the existing cinematograph act of 1952. The changes brought in 1983 were more exhaustive and touched upon many aspects of censor board, certification, preservation of films, fees and rights and powers. It also clarified that the objectionable scenes were to be removed from the negatives and when the authority was satisfied then only certificate was to be given.<sup>22</sup>

Many of the states have also made their own rules regarding the exhibition of films. Some of them includes Bihar Cinema Act 1974, Kerala Cinema Regulation Act 1958, Tamil Nadu Cinema Act 1955, Punjab Cinema Act 1952 and such acts of other states. In all these provincial acts, the basic purpose is to allow the exhibition under the control of state machinery where the security of the people and the breach of peace are the foremost concerns of the authority.

### **Judiciary and the Issue of Ban:**

In most of the cases where a film producer has contacted the court against the ban, the court has come to the rescue of the producer. In the Central Board of Film Vs Yadavalaya Films, the Madras High court rejected the objections raised by the regional office, CDFC, Chennai (Para 21) and maintains that the producer tells the audience, 'what in a democracy is the right of the audience and the general public viz., the right to be informed and the right to know, which are vital in a democratic set up.'<sup>23</sup>(Para 18) On the objections held for airing the serial *Tamas* on television, the Bombay High Court ruled out the possibility for any ban. The court held that the serial was made with good intent and would be helpful in learning from the mistakes of the past.<sup>24</sup> Similarly, in many of the other court cases related with the demand to ban the films, Indian courts rescued films by allowing them to showcase

their creativity, messages, imaginative art and freedom of expression.

Some other prominent court cases which have provided strong underpinning to the cause of film makers *inter alia* include K. A. Abbas vs Union of India (1970) and Anand Patwardhan vs Union of India (1996). In Anand Patwardhan case, the issue was the expression of inability by the Doordarshan to telecast Anand's documentary '*In Memory of Friends*' which dealt with the issue of violence and terrorism in Punjab. The SC emphasized on the right of freedom of expression as it began with a quotation from the famous liberal of nineteenth century England, John Stuart Mill, which said, "*But the peculiar evil of silencing the expression of an opinion is, that it is robbing the human race; posterity as well as the existing generation...*" Then it observed that freedom of speech and expression has now been recognized as a natural right. It also observed that '*the documentary viewed in its entirety is capable of the creating a lasting impression of the message of peace... The standard to be applied by the Board or Courts for judging the film should be that of an ordinary man of common sense and the prudence and not that of an out of the ordinary or hypersensitive man.*'<sup>25</sup> Finally, the documentary was allowed to be telecasted.

In the recent case of film Padmavat in January 2018, the SC quoted a passage from another case of Nachiketa Walhekar on 2017, "*Be it noted, a film or a drama or a novel or a book is a creation of art. An artist has his own freedom to express himself in a manner which is not prohibited in law and such prohibitions are not read by implication to crucify the rights of expressive mind. ...A thought provoking film should never mean that it has to be didactic or in any way puritanical. It can be expressive and provoking the conscious or the sub-conscious thoughts of the viewer...*"<sup>26</sup>(Para 17) Related to the same film Padmavat, in another case in Madhya Pradesh, the High Court observed while favouring the artistic freedom, "... *A story told on celluloid or a play enacted on a stage or a novel articulated in a broad and large canvas or epic spoken with eloquence or a poem sung with passion or recited with rhythm has many a layer of freedom of expression of thought that requires innovation, skill, craftsmanship and, above all, individual originality founded on the gift of imagination or reality transformed into imagination or vice versa.*"<sup>27</sup>(Para 10)

**Conclusion:** Incompendium, therefore, it can be said that the increase in the controversies/bans/censorship is anachronous and fail to read the pulse of the changing moments. Since 1970 onwards, many films have to pay price for such protests and bans. Such political and feudal acts clearly have underpinning from the medieval and orthodox thoughts of the authorities as well as the social contractors. These repulsive ideas when encounter the aspiring, liberal and a better vision of the world, naturally, they result into some heated phases in the society. Disagreement is in fact a vibrant force of a democratic and

liberal society but contestation through hooliganism, vandalism, criminal acts and unnecessary censors ought to be considered as averse to a progressive society. Films are acts of creativity and imagination with reflection of the society. They do deserve every right as individual to express what they have to. In today's world, when films have broken the traditional image of film as mere tool of entertainment and is considered also as a major source of awareness and education, do one really need to keep the society volatile, disturbed and divided? Courts have mostly come to the rescue of the film makers, yet the politicians and censor boards and sections of people have failed to understand its larger implications.

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## Research Methodology Relevant To Literature

\* Shubha Tiwari

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**Abstract-** *Research Methodology is more about research and less about methodology. All methods and methodology finally point towards genuine research. Western or Indian, methodology inspires us to do genuine research. This is the reason why we must keep going back to research methodology. When we discuss methods and steps, we realize how important it is to be sincere and true in research. Indian academic institutions must promote genuine research. Our researchers must be trained well before they embark the intellectual journey. This paper is a small contribution in this direction.*

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**Key Words-** Research, Methods, Ontological, Epistemology, Paradigm

Re + search is searching again. The primary function of reading literature is enjoying it. Literature enriches human mind. It tells about patterns of life. It gives insight and makes us think from the point of view of others. Literature makes us understand society and its relation to the individual. Literature is expression. Expression is essential for human survival. Reading and enjoying literature is a complete process within itself. Researching literature enhances the joy, creates new patterns of meaning and helps us in understanding life better. Aristotle said that analysis is human intuition. A human being is human because of her/his analytical capability. Literature is a record of human experience and wisdom. Researching literature is like polishing that experience and wisdom. For example, all of us have read Ode to a Nightingale. It is a beautiful poem. It soothes the reader. It satisfies us in a strange way. It makes us forget where we are. It lifts us to the world of the bird.

### Ode to a Nightingale

John Keats, 1795 - 1821

1. My heart aches, and a drowsy numbness pains  
My sense, as though of hemlock I had drunk,  
Or emptied some dull opiate to the drains  
One minute past, and Lethe-wards had sunk:  
'Tis not through envy of thy happy lot,  
But being too happy in thine happiness,—  
That thou, light-winged Dryad of the trees,

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\* Professor and Head, Department of English, APS University, Rewa, Madhya Pradesh

- In some melodious plot  
Of beechen green, and shadows numberless,  
Singest of summer in full-throated ease.
2. O, for a draught of vintage! that hath been  
Cool'd a long age in the deep-delved earth,  
Tasting of Flora and the country green,  
Dance, and Provencal song, and sunburnt mirth!  
O for a beaker full of the warm South,  
Full of the true, the blushful Hippocrene,  
With beaded bubbles winking at the brim,  
And purple-stained mouth;  
That I might drink, and leave the world unseen,  
And with thee fade away into the forest dim:
3. Fade far away, dissolve, and quite forget  
What thou among the leaves hast never known,  
The weariness, the fever, and the fret  
Here, where men sit and hear each other groan;  
Where palsy shakes a few, sad, last gray hairs,  
Where youth grows pale, and spectre-thin, and dies;  
Where but to think is to be full of sorrow  
And leaden-eyed despairs,  
Where Beauty cannot keep her lustrous eyes,  
Or new Love pine at them beyond to-morrow.
4. Away! away! for I will fly to thee,  
Not charioted by Bacchus and his pards,  
But on the viewless wings of Poesy,  
Though the dull brain perplexes and retards:  
Already with thee! tender is the night,  
And haply the Queen-Moon is on her throne,  
Cluster'd around by all her starry Fays;  
But here there is no light,  
Save what from heaven is with the breezes blown  
Through verdurous glooms and winding mossy ways.
5. I cannot see what flowers are at my feet,  
Nor what soft incense hangs upon the boughs,

But, in embalmed darkness, guess each sweet  
Wherewith the seasonable month endows  
The grass, the thicket, and the fruit-tree wild;  
White hawthorn, and the pastoral eglantine;  
Fast fading violets cover'd up in leaves;  
And mid-May's eldest child,  
The coming musk-rose, full of dewy wine,  
The murmurous haunt of flies on summer eves.

6. Darkling I listen; and, for many a time  
I have been half in love with easeful Death,  
Call'd him soft names in many a mused rhyme,  
To take into the air my quiet breath;  
Now more than ever seems it rich to die,  
To cease upon the midnight with no pain,  
While thou art pouring forth thy soul abroad  
In such an ecstasy!  
Still wouldst thou sing, and I have ears in vain—  
To thy high requiem become a sod.
7. Thou wast not born for death, immortal Bird!  
No hungry generations tread thee down;  
The voice I hear this passing night was heard  
In ancient days by emperor and clown:  
Perhaps the self-same song that found a path  
Through the sad heart of Ruth, when, sick for home,  
She stood in tears amid the alien corn;  
The same that oft-times hath  
Charm'd magic casements, opening on the foam  
Of perilous seas, in faery lands forlorn.
8. Forlorn! the very word is like a bell  
To toll me back from thee to my sole self!  
Adieu! the fancy cannot cheat so well  
As she is fam'd to do, deceiving elf.  
Adieu! adieu! thy plaintive anthem fades  
Past the near meadows, over the still stream,  
Up the hill-side; and now 'tis buried deep



In the next valley-glades:

Was it a vision, or a waking dream?

Fled is that music:—Do I wake or sleep?

If we research upon this lovely poem, we know the personal life of the poet. What caused him to long for the flying life of the Nightingale. We know the meters which perfect this masterpiece. We observe that throughout the poem, there runs a binary structure that adds to the aesthetic beauty of this poem. On one hand we have this mortal world which signifies pain. On the other hand, we have the other world which signifies joy. The whole poem is a perfectly balanced song between bird, hungry generations, treading, sick and tearful Ruth, cheating, deceiving, plaintive anthem and waking on one hand AND death, immortality, song, charmed magic fairy lands, fancy, elf, dreams and sleep on the other. The poem is sitting as though on a perfectly balanced scale of THIS and THAT world. We may not realize on a casual reading. But much art has gone into making this poem what it is. Humans love binaries, comparisons and examples. This is the appeal of this poem.

Then poem is a well-crafted Raga of opposite notes. This can be one example of how research enhances our joy and understanding. Now let us turn to approaches and procedures of literary research.

Research is an academic and intellectual work. It is a systematic study of one or more than one literary text. The purpose is to give a fresh approach to the study of the chosen topic. We often re- evaluate a work of literature through research. For example, Tennyson was highly popular while alive and he adorned high places. However, through subsequent years through re-evaluation, his poetic worth has come down. Emily Dickinson was not known during her life time. After a century, through extensive and dedicated research, her worth as poet was established. Today, she is a touchstone for symbolic, spiritual poetry.

We also apply literary theories on texts. Post colonialism, feminism, structuralism, poststructuralism, neo historicism - these theories are applied on texts and fresh insights are drawn. For example, Shylock was a Jew, Caliban and Othello were black! Was the bard racist? We also study a text numerically. How many words have been used? How many words from flora and fauna and how many from royal court? How women are addressed? How many new words Shakespeare created? So, on and so forth.

We also research upon literary texts to develop new understanding of human life, sometimes even bring a new idea or theory. These are basically the types and objectives of research in literature. 1.Biographical 2. Bibliographical 3. Textual 4. Theoretical 5. Interpretative 6. A combination of two or more methods.

The process of research in literature starts with SELECTION OF A

TOPIC. We can choose from novel, poetry or drama. Selection of topic is important as it decides the major course of research process. We want a contemporary author or not. Do we identify with topic or not? Usually it is seen that a researcher works better if the topic comes close to her/his heart. A family which migrated from across the border will study partition literature with more intensity and sincerity. Although nothing is carved in stone, yet an effort must be made choose a topic which interests the researcher.

COLLECTING THE BOOKS (PRIMARY SOURCES) AND READING THEM is the next step. Using dictionary, taking help from the supervisor, friends and teachers, the researcher must develop a thorough understanding of the books in question.

FORMULATING A HYPOTHESIS AND WRITING A SYNOPSIS comes next. We should know what we are going to do. A clear-cut plan is essential. We should know broadly which type of research we are interested in. Once the synopsis is done, we come to exploring SECONDARY SOURCES. The researcher should read what has already been written on the author - books, research papers, online articles, newspaper articles, monograms etc. Research requires money and patience. Research is a luxury. It is always good if the research is funded by the UGC or any other funding agency. Traveling, going to libraries, printing online sources, downloading and paying online fees etc requires money. A researcher should have appropriate financial backing.

Then comes WRITING THE FIRST DRAFT. Language is magic and the researcher in literature has to be a magician. We should remember that it is easy to be difficult but difficult to be easy. If one cannot explain it, one does not know it.

We should not make any extra effort to look scholarly in our language. The purpose of language is communication, reaching the other person; nothing else. If our words are not understood, they are futile.

Along with the first draft, REVISION, CORRECTION, WRITING RESEARCH PAPERS AND ATTENDING SEMINARS form necessary components of research. Publishing papers, presenting papers in seminars and academic exposure make our research meaningful and add value to it.

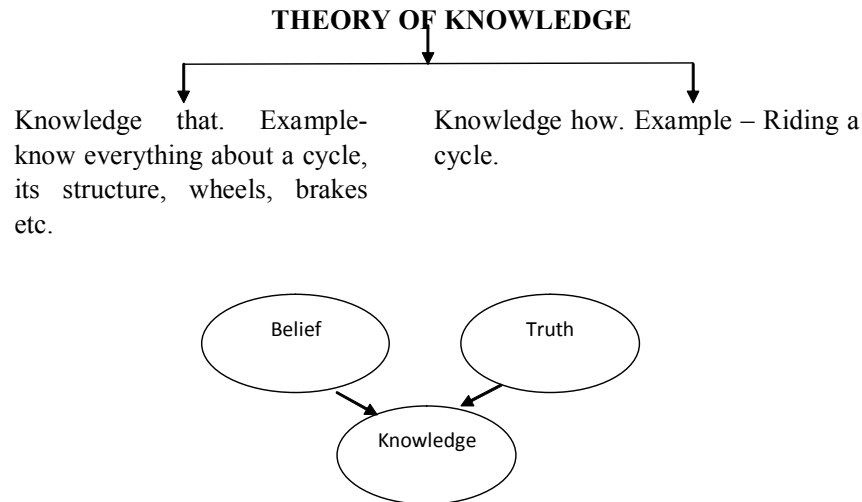
We should realize that research is about “doing”, about getting involved, about leaving everything else and focussing on the topic. We may know all procedures, all methodology but if we do not practice it, it is of no use. Researchers of the world are supposed to be intellectual leaders who lead the world through ideas. Formulation of ideas is important and equally important is expression. As we go on the path of research, we realize that it is about crossing inhibitions and entertaining all types of ideas. A researcher not only has an enhanced personality but also helps others in widening their horizons.

Finally, we come to writing the FINAL DRAFT. After submission, we wait for the oral presentation and Viva voce examination. It is during our interview we realize the importance of presenting papers in seminars. Viva, the word comes from Latin which means “with the living voice”. This examination is conducted to ascertain that the thesis is the work of the researcher and is not plagiarized. The researcher has understood what s/he has written. The researcher is aware of the relation of the work with other works of the field. No research project works in vacuum. The research work is part of a larger body of knowledge and therefore an awareness of connectedness is needed. Finally, Viva is conducted to see and suggest further research. It is advisable that the researcher practices for the Viva examination. A researcher does not give good impression when s/he is questioned on shortcomings of the work and s/he says that it happens in all works or the mistakes are typing mistakes or blames the supervisor for mistakes or says that the mistakes are not important. The researcher makes a good impression when s/he takes responsibility for the work, does not take criticism emotionally, takes time to reply and uses the questions as an opportunity to showcase her/his work. The usual questions revolve around summing up the work, what new the researcher has given, and why the work is important. The best advice for Viva is, honesty is the best policy.

After discussing the process and stages of research, we come to its soul or what is known as PHILOSOPHY OF RESEARCH. This aspect is important to literary research. A research philosophy is a belief about the way in which data about a phenomenon should be gathered, analysed, and used. The term epistemology (what is known to be true) as opposed to doxology (what is believed to be true) encompasses various philosophies of research approach. Ontology is the fundamental nature of reality. It is about naming and defining the types, properties and inter relationships of the entities that really or fundamentally exist for a particular domain of discourse. Ontology decides the universe of our research. For example, if the researcher believes that hell is a physical entity under the ground and then studies the physical locations in Dante’s inferno, the study will be a work of fantasy. If the researcher understands the symbolic meaning of “hell” and “inferno”, then he studies of The Divine Comedy will be literary. The world view of the researcher is paramount. The topic, the approach, the selection of references, and presentation - everything depends on the world view. What entities exist or may be said to exist and how such entities may be grouped, related within a hierarchy and subdivided according to similarities and differences. Ontology has tremendous practical application as it decides the framework of research. For example, an innocuous sentence like “Allahabad University is Oxford of the east” or “Kalidas is our Shakespeare” has horrible colonial hierarchy hidden in it. People easily say such sentences. “She is educated; she wears trousers,”

or “I am health conscious; I take sushi,” or “He is rustic; he eats jaggery”. They do not understand what they are saying. Being conscious of our view of reality is practical application of ontology in research.

Epistemology is the theory of knowledge, especially with regard to its methods, validity and scope and the distinction between belief and opinion.



How to reach knowledge? For example, one studies Tribal Literature, consults dictionary, visits libraries, talks to scholars and forms an opinion. The other person goes and starts living with tribal people and gets to know them. These are two ways of acquiring knowledge. For a researcher, it is a combination of the two.

A paradigm is a typical example or pattern model. A paradigm is a standard, a perspective or a set of ideas. A paradigm is a conscious way of looking at something or thinking about something. In literature, we have loosely two paradigms - positivism and phenomenology.

### PARADIGM

(A Set of Concepts That Operate a Particular Research Project)

<b>Positivist Paradigm</b>	<b>Phenomenological Paradigm</b>
1. The world is perceived as external and objective.	1. The world is conceived as socially constructed and subjective.
2. The observer is independent.	2. The observer is part of the scene being observed.
3. Value free approach should be applied in science.	3. Human interests should drive science.
4. The focus should be on facts.	4. The focus should be on meaning.
5. The focus should be on fundamental laws.	5. The focus should be on meaning of events.

6. Phenomenon should be taken as separate, simple element.	6. The researcher should explore the totality of each individual case.
7. The process is hypothesis formation and testing.	7. Ideas are developed by induction from data.
8. Concepts are operational.	8. Different methods should be used for understanding different parts.
9. Large samples are taken.	9. Small samples should be used for in-depth study over a long period of time. (Especially in general and stem cell studies etc)
10. The researcher stands apart.	10. The researcher is part of the research object, matter and theme.

Positivism is supposed to be the scientific paradigm. It proves or disproves a hypothesis. The method is used for generalizations. Auguste Comte, a French philosopher coined the term, meaning thereby that reality can be observed. Aristotle proposed deductive reasoning. It goes from top to bottom. For example, women are emotional; Avani is a woman; therefore, Avani is emotional. It is called syllogism where two statements are used to prove the third. Descartes propagated realism based on how we see the world. Galileo's scientific method comprises of three steps - resolution: demonstration: experiment. Francis Bacon proposed inductive reasoning which advocates systematic observation. He supports generalization but not over generalization. Karl Popper amended positivism and brought what we know as post positivism. Theories, background, knowledge and values affect research. However, the researcher should strive for detachment and objectivity.

Phenomenology is the other paradigm. It is also called interpretivist approach. It believes that reality is indirectly constructed based on individual interpretation. Reality is subjective. People make their own meaning and often research is meaning making. Events are distinctive and cannot be generalized. There are multiple perspectives on one text or event. Bookish knowledge is to be perfected by application and experience. Interpretation is not a simple process. Therefore, we should not generalize. Phenomenology is difficult to be applied in scientific research. In literature, phenomenology is useful; however sometimes scientific approach also helps. A mixed approach keeping the demand of the text should be applied.

### **Ancient Indian Research Methodology:**

It is highly interesting to delve into ancient Indian research methodology, especially in relation to the study of modern literature. We as Professors of English in Indian Universities study current novels, poems and also explain them to our students. We know the research model of the West and follow it. Our ancient Indian methods make it additionally rich in analysis and inference. It is like equipping ourselves better.

The first premise to be understood and imbibed is that literature in ancient India was science. Based on “pramana” (proof) and “ukti” (exact reference), the creation and study of literature was scientific study. That is why it is called sahitya shastra. The use of the word shastra signifies its stature as science. Our sages took things seriously. Even “pramada” (fun, frolic) was studied in all its aspects and details.

Before starting the research project, four things are to be considered consciously - vishaya (subject), adhikari (suitable researcher), sambandh (relation of the researcher to the topic) and prayojana (purpose of the study). It is an extremely scientific and fulfilling beginning to the research project. We have to choose the topic after careful consideration. The researcher must be able, wise and well versed in shastras (scientific treatises). It must be stated clearly as to what is the relation of the researcher to the topic. For example, if a Dalit is studying Dalit rights, it becomes an entirely different thing to a non-Dalit studying it. An NRI studying voting rights in India is entirely different from a native Indian doing so. Nothing is banned. But statement is necessary. The researcher must articulate her/his position. Then comes the declaration of the purpose of the study. It is so relevant today where, for example, pharmaceutical companies commission research with a purpose to prove the potency of their drugs. Intention is important.

In ancient India, the researcher/seeker had two choices, either s/he approached the guru/institution or pursued profound questioning of existing systems. Questioning the existing systems has been a serious method.

It is amazing that with the help of accurate methodology, such systematic Vedic indices were created that even to this day, no tinkering is possible. The meter, exact number of hymns are intact. No interpolation or deletion can be done.

The research procedure can be outlined as Vishaya (subject matter) ~ samasya (doubt) ~ poorv paksha (objections) ~ siddhant (thesis) ~ samanvaya (review and conclusion).

Once the topic is decided, the researcher expresses her/his doubts, problems, what led her/him to research the topic. How her/his interest is awakened in a given area. Then the researcher describes the previously held view which could be different from her/his hypothesis. What the earlier treatises say on the subject. Then comes the main portion of the research where the researcher discusses, explains and proves her/his view as convincingly as possible.

Finally, comes samanvaya. The earlier views and the new perspectives are coordinated. A conclusion is achieved. This is unique to our system. We usually reach a consensus. Unanswered questions are not left to be swimming into the air. Doubts are cleared. A conclusion is reached. In this sense we can

say that Indian methodology is logo centric. It believes in meaning and purpose. “Tantrayukti” is a set of exclusive technical devices used in research related to literature. “Tan” means manifestation. It signifies the ability to spread and expand. Yukti means to unite, to make a cohesive unit. Basically, research is about elaboration first and then cohesion. First, we go deep and wide into a subject and then bring it back in an organized unit. All Indian methodologies put emphasis on word analysis. The etymology of the words used, their sandhi vichchedda (division within words), arrangement of related/unrelated words and sentences, and interpretation of intricate meaning of words - these things are important. We go to the sublime later, first we keenly look at the word itself. That is the style.

Indian methodology also emphasizes on “relatedness” of all branches of knowledge. Charak, for example was a doctor. But he was equally good at words and aphorisms. This brings us to aphorisms. Indian treatises are master collection of aphorisms. We as Professors of English always discuss aphoristic style of Bacon. We should also know that Ashtadhyayi by grammarian Panini is a book of 4000 aphorisms. The art of saying much in less, aesthetically arranged words is a much sought-after quality. We look up to aphoristic style of writing.

To come to Tantrayukti, it has eight components - Reeti (way of writing), Guna (quality of the word and meaning), Alankar (literary embellishment), Vakraukti (equivocation), Rasa (resultant emotion), Dhvani (suggestion), Anuman (inference) and Auchitya (propriety). This is the modus operandi of research methodology.

We have to focus on style first. How words have been used. That is the first thing. Then we have to go to the quality of words and also the quality of meaning. Manana (thinking) is important. We have to drown ourselves in the text.

Then comes the stage of noticing and noting all the literary devices used, figures of speech and all possible embellishments.

The stage of focusing on Vakraukti is so important for a researcher of literature. The meaning is hidden. Sometimes, the reader/listener conceives a different meaning from what is intended by the writer/speaker. What the West calls reader response theory. This is India some five thousand years ago. Here we may also note that there is no permanent or fixed meaning. The meaning changes as per vyakti (individual), desh (place), kaal (time/age) and paristhiti (circumstances). The same person can interpret a text in more than one way, given the other variants.

Then we come to the much celebrated Rasa. Rasa is taste, just like the sweet taste of sugar on our tongue or the bitter taste of chilly. When we read a text, or watch a play, we experience the nine rasas, namely, Rati (love),



Hasya (mirth), Shoka (sorrow), Krodha (anger), Utsaha (energy), Bhaya (fear), Vibhatsa (disgust), Vismaya (astonishment) and Shanta (peace).

The detailed study of Rasa theory also covers the theory of emotion as it is studied in modern Psychology.

The researcher of a literary text is expected to experience Rasa and also explain them.

Then comes Dhvani, the beautiful, tickling concept of suggestion through sound waves and words.

Suggestion is the main appeal of poetry and literature at large. Every utterance means more than it says.

The subtleties of language are to be explored and explained. Vaak (speech) written or spoken plays games. Sometimes it suggests something, yet at other times it suggests something else.

Just as chaff is winnowed from grain, the researcher has to dig deep into meaning, references, inferences and suggestions.

Reading literature is art. Great texts are not only written by great minds, they are equally created by great readers.

The ancient texts give many examples like “singho vatuh” (the student is lion), “yaastikaam bhojaya” (feed the stick) and “annampraanaah” (food is life). Obviously, a student is not a lion, we cannot feed a stick or food is food and not life. In all these sentences, we have to draw inferences and understand. The true student, the ideal student has or should have qualities of a lion like bravery, fearlessness, initiative, physical strength etc. Similarly, we should feed those who need stick for walking and support. We should feed the old, the needy, the weak etc.

Similarly, food is the basis of all life, sustenance of life. Therefore, it is equivalent to life and must be respected etc.

Dhvani is an endless mine. It is so rich that many lectures are needed to grasp its depth and vastness.

Then we come to Anuman.

It is about the experience of a text, what we call “feel good” factor of a book or the just opposite of it. Whether the text is elevating, inspiring, thought provoking or depressing, shocking, disturbing etc.

The feel of the text is to be experienced and explained.

The last tool of Tantrayukti in literature is Auchitya (propriety). Indian methodology lays special emphasis on propriety of words, meaning and message. Everything is designed for the upliftment of the individual and society as a whole. Positivity marks the approach.

Research methodology can be used to prove a point or a thesis or

hypothesis by using previously mentioned methods. It can be applied as a tool of reasoning, analysis, argument, debate and finally resolution. We intend to resolve issues through research. A meeting point should be reached. It can be used for connecting the dots and unifying similar approaches. It can be used for mimamsa which means revered thought. Mimamsa implies exact meaning, inferred meaning also knowing the aim of the author. We can go by vaak yojana (arrangement of words) or arth yojana (deeper meaning, information flow, logic and message). Our methodology moves from the science of inquiry to the science of soul. It is a highly developed mechanism in which the quality of the researcher, her/his dedication, and perseverance matter the most.

Theoretical knowledge and practical application cannot be separated. They are like two wheels of a vehicle. Both must move otherwise the vehicle does not move. Tantrayukti oils and smoothens the coordination between the wheels, works as an enabler of the journey, makes it pleasant and helps in reaching the destination. Each science, music, dance, painting, drawing, rhetoric, theatre and poetry have to be understood with separate set of rules. Yet there is similarity amongst all. Dictionary meaning cannot be applied exactly. Indu (exact definition) has to be supported by arundattah (context). The context is vast and varied and it changes. The methodology, methods and doctrines are to be chosen by the researcher which are spread over mimamsa, yoga, purana, vyakarana and Smriti. Each research project needs its unique tools. Thus, Tantrayukti is application of scientific rules according to context and the purpose is to reach a consensus.

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## Blue Green Algae as an Enhancer for Ascorbic Acid Content in Paddy Plants

\* Anup Kumar Mishra

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**Abstract-** *The blue green algae as biofertilizers are quite useful in enhancing soil fertility and fulfilling plant nutrient requirement through micro organism. Biofertilizers do not contain any such chemical which is harmful to living soil. Biofertilizers such as rhizobium, Azotobacter, and blue green algae have been in use since long time. The blue green algae are one of the major components of the nitrogen fixing biomass in crop plant and provides a potential source of nitrogen fixation. The Paddy (Oryza sativa, L.var. SAKET) plants were taken in experiment. These plants were raised in soil-pot culture conditions. The different Supply levels of blue green algae, nil (control), 50, 100, 150, 200 and 250g bga/kg soil were applied to plants. The increase in ascorbic acid content was found to be highly significant ( $P=0.01$ ) at each level of bga supply upto 250 g bga/kg soil level in tops of both 30 and 90 days old plants as compared to control.*

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**Key Words-** Paddy, bga, BNF, controlled condition, FM

**Introduction:** The human civilization started agriculture practices in an organized manner around 8000 B.C. Very soon, they learned that the same land cannot support the growth of plants endlessly and this led them to think about ways to improve the fertility of soil. The earliest records indicate that Romans and Aryans had many manuals for farmers to improve the cultivation of crops. For instance, Columella's treatise *Husbandry* written about 60 A.D. Contains descriptions of several agricultural practices which were in use in the Roman Empire for many generations. In 18<sup>th</sup> century farming practices such as those of 'Jethro Tull' and the Norfolk 'four- course' system developed in Holland by years of experience based on crop rotations.

The nitrogen's chemical fixation was known only several years after our understanding of the implications of biological nitrogen fixation. Fritz Haber, a German chemist, successfully synthesized nitrogen and hydrogen into ammonia during the early years of the World War I. No discovery leading to soil fertility has ever equalled that of Haber. Infact, the Haber-Bosch Process of ammonia synthesis requiring temperature up to 800°F, a catalyst, and high pressure above atmospheric pressure has remained, till today, the sole method for the production of nitrogenous fertilizers in the world. Strangely, this very

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\* Assistant Professor, Department of Botany, D.A.V. (PG) College, Dehradun, Uttarakhand

combination of nitrogen and hydrogen could also be accomplished by nitrogen - fixing microorganisms in soil and within the nodular tissues of certain plants at ordinary pressures and temperature mediated by an enzyme 'nitrogenase'. The human population, food production and fertilizer consumption have increased gradually. To guarantee enough food for all, either the population growth has to be stemmed or more fertilizer has to be found to meet the ever increasing demand for protein. The demand for chemically fixed nitrogen is bound to be on the increase and the nitrogen gap is widening up. Such a gap would be difficult to bridge in the wake of the energy crisis. Furthermore, in the area of chemical fixation, no major break-through is yet visible to minimize the energy requirements of the conventional Haber–Bosch process for the production of ammonia.

The use of latest innovations in agriculture arena has resulted in significant increase in productivity. There is a however, a growing concern about the adverse effects of indiscriminate use of chemical fertilizers on soil productivity and environmental quality. Blue green algae offer an economically attractive and ecologically sound alternative to chemical fertilizer for realizing the ultimate goal of increased productivity, especially in rice cultivation.

The blue green algae have inhabited much of the surface of the earth for billions of years and today they are responsible for a significant amount of biological nitrogen fixation (BNF). The tropic independence of blue green algae made them suitable for use as biofertilizers. Blue green algae are widely distributed organisms all over the world and can be found in extreme habitats, from hot springs to arctic regions. Among the ecosystems in which they can be found, wet soils provide an ideal environment for blue green algae to grow. Blue green algae represent a small taxonomic group of photosynthetic prokaryotes which some of them are able to nitrogen fixation and also possess a tremendous potential for producing a wide range of secondary metabolites. Blue green algae have drawn much attention as prospective and rich sources of biologically active constituents and have been identified as one of the most promising groups of organisms capable of producing bioactive compounds (fish & codd 1994, schlegel et al...1999). De (1939) attributed the natural fertility of flooded rice field soil and its maintenance to the process of biological nitrogen fixation by blue green algae.

The biofertilizers contains beneficial microorganisms Which improve plant growth and protect plants from pests and diseases (El-yazeid et al, 2007). The role of soil microorganisms in sustainable development of agriculture has been reviewed (Lee and Pankhurst, 1992, Wani et.al.1995). Biofertilizers are important components of integrated nutrients management. These potential biological fertilizers would play key role in productivity and sustainability of soil and also protect the environment as eco-friendly and cost effective inputs for the farmers. They are cost effective, eco-friendly and renewable source of

plant nutrients to supplement chemical fertilizers in sustainable agricultural system.

In developing countries like India where there is immediate need to rely increasingly organic fertilization of soil these bio-fertilizer play a role in minimising dependence on inorganic nitrogenous fertilizers. The bio-fertilizers, otherwise called microbial inoculants are preparations containing live or latent cells of efficient strains of nitrogen fixing micro-organisms used for seed or soil application. The main objective of applying inoculants is to increase the number of such microorganisms in soils or rhizosphere and consequently improve the extent of micro-biologically fixed nitrogen to plant growth. Application of bio-fertilizers in combination with organic nitrogenous fertilizers has a key role to play in the economic management of nitrogen needs of crops.

In India, considerable progress has been made in the development of blue green algae based bio-fertilizer technology. It has also been demonstrated that this technology can be a powerful means of enriching the soil fertility and improving rice crop yields.

#### **Material and Method:**

Experimental plants were raised in soil culture under pot culture conditions in the laboratory. Plants were raised in 8" clay flower pots with a central drainage hole. The inner surface of the pots along with top 3" of outer rim was lined with acid washed polythene provided with a central hole superimposed on the drainage hole of the pot. Normal water was used during culture work. All the plants were raised in the soil, 1.5 cm deep holes were made with glass rod of 3mm diameter and seeds were put in these holes, carefully, covered loosely with soil of the same pot. After the seeds emergence, plants were thinned to a uniform number in each pot. Subsequent thinning was done whenever needed.

For the experiment, there were six pots. The pots were arranged in 3 blocks A, B and C. In each block there were two pots, one pot was meant for control treatment and other one with BGA treatment. In each block the treatments were completely randomized. The experimental pots were arranged in north- south direction and were kept raised from the ground at a height of one feet avoiding any surface contact of the drainage holes with the ground to eliminate any contamination.

For studies, the Paddy (*Oryza sativa*, L.var. SAKET) plants were raised in soil pot culture. Soil samples were collected in a clean polythene bags after surface scrapping and brought to the laboratory. Calculated amounts of normal water were applied daily to pots to provide as for as possible uniform soil moisture conditions. Sampling was generally started at 8:30A.M. and completed in an hour. All samples were drawn at the same time and placed in the shade. The 3 blocks a, b and c was sampled at the same time.

Soil was separately mixed with required amount of blue green algae. There after it was air dried thoroughly grounded and mixed. For through mixing required amount of BGA were mixed with small amounts of soil, divided and mixed again and again. Then these amended soils were mixed with bigger amounts of soil similarly, and finally these soils were mixed with bigger lots of calculated soils required for experiments. Soil mixing was done on separate clean chart to avoid any contaminations. Mixed soils were filled in pots.

Ascorbic acid content was estimated titrimetrically by the method of Harris and Roy. For ascorbic acid determinations, fresh matter was extracted with 5% metaphosphoric acid and titrated with 0.025% standardised 2,6-dichlorophenol indophenols dye. The tissue concentration of ascorbic acid has been expressed in mg/100 g FM.

#### Result:

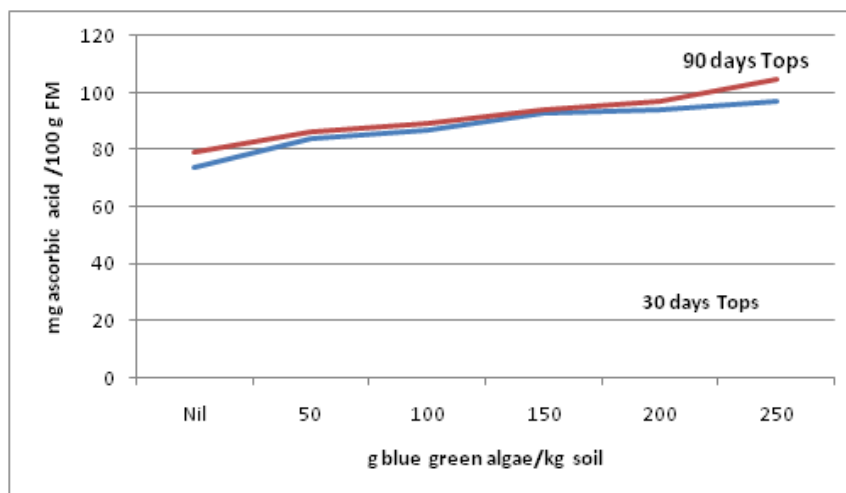
Increase in ascorbic acid content was found to be significant ( $P=0.05$ ) at 100 g bga/kg soil over 50 g bga/kg soil in tops of both 30 and 90 days old plants, at 250 g bga/kg soil over 200 g bga/kg soil in tops of 30 days old plants and at 200 g bga/kg soil over 150 g bga/kg soil in tops of 90 days old plants. At 150 g bga/kg soil over 100 g bga/kg soil in tops of both 30 and 90 days old plants and 250 g bga/kg soil over 200 g bga/kg soil in tops of 90 days old plants, highly significant ( $P=0.01$ ) increase in ascorbic acid content was observed. However 200 g bga/kg soil over 150 g bga/kg soil fails to show any significant increase in ascorbic acid content in tops of 30 days old plants.

Maximum ascorbic acid content was observed at 250 g bga/kg soil supply level in tops of both 30 and 90 days old paddy plants.

#### Effect of the blue green algae as biofertilizers on ascorbic acid content of Paddy (*Oryza sativa*, L.var. SAKET) plants

Plant		g blue green algae/kg soil					
Age (days)	Part	Nil	50	100	150	200	250
mg ascorbic acid /100 g FM							
30	Tops	75	84	87	93	94	97
90	Tops	79	86	89	94	97	105

#### Effect of blue green algae as biofertilizers on ascorbic acid content of Paddy (*Oryza sativa*, L.var. SAKET) plants



### Discussion :

Nineteen seventies was the decade that witnessed the escalating petroleum crisis, thereby enormously increasing the organic fertilizer prices. To mitigate the problem, biologist came out with biological substitutes to organic fertilizers – the so called ‘BIOFERTILIZERS’

In 1977 Verghese stated that the demand for chemically fixed nitrogen is bound to be on increase and the nitrogen gap is likely to double in India by 1984, which would be difficult to bridge in the wake of the energy crisis.

Blue green algae dominate a wide range of diverse environments characterized by extremes of temperature, desiccation, pH, salinity, light intensity and nutrients (Whitton, 2000). Many blue algae tolerate high levels of ultraviolet irradiation (Sinha et al, 1999), permitting them to survive at the soil surface. In conformity with the results of the present study, Rai et. al., (2000) reported that blue green algae are good colonizers of the nitrogen poor soils, and that through their nitrogen input into the environment they may help to create habitats suitable for other species. Many blue green algae have the capacity to manufacture nitrogenase. Because the enzyme complex is anaerobic, significant fixation by unicellular, colonial and some filamentous species occurs only in the absence of air. Therefore, only heterocystous species are valuable as biofertilizers. Blue green algae i.e. biofertilizers have several advantages over chemical fertilizers. They are non- polluting, inexpensive, utilize renewable resources. In addition to their ability of using free available solar energy, atmospheric nitrogen and water. Besides supplying  $N_2$  to crops, they also supply other nutrients such as vitamins and growth substances (Wagner, 1997). *Anabaena* and *Nostoc* have been recorded among the common nitrogen fixing blue green algae in rice fields.

The use of blue green algae as nitrogen based biofertilizers is reported in many rice growing countries of the world. This was because of the increased



cost of chemical fertilizers, that cause soil and water pollution, changes soil structure and produce microflora. In comparison, blue green algae is a cheap source of N, which does not cause pollution. It improves the organic matter status and water holding capacity. Venkataraman (1981) reported that open air soil culture is simple, less expensive and easily adaptable by farmers. As mentioned earlier, blue green algae had minimum growth requirements of sunlight, simple inorganic nutrients and moisture.

In agreement with the present results were the findings of Jacq and Roger (1977), Roger and Kulasooriya (1980) and Omar (2001) who reported blue green algal cultures or extracts enhanced germination, promoted growth of roots and shoots and increased protein content of the grain. The effect of nitrogen fixing blue green algae that were isolated from saline soils on growth and yield of rice grown in the green house and field were studied by Anonda et al. (1990). Under green house conditions, the N<sub>2</sub> content in straw, grain yield and protein content of rice were significantly increased.

The current study was performed to assess the effect of nitrogen fixing blue green algae to improve the natural poor sandy soil. The data presented revealed the beneficial use of blue green algae in comparison with the controlled (untreated soil) without any consideration to other treatments employed in this study. The aim of the present study was to design a soil system supported with microalgae and other soil conditioners that change the physical and chemical properties of that system in order to improve the surrounding environment of crop plants. It is evident from the present results that the inoculation of the different microalgal species to the investigated soil caused a significant enhancement of both physical and chemical properties of soil.

The adaptation of organic manure as compared to nitrogen fertilizer would be very less expensive, besides being quite safer as compared to the chemical fertilizers.

To conclude, blue green algae as bio-fertilizers may prove efficient tool for boosting green revolution and to overcome food shortage all over the world.

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## **The effect of chemicals on human beings, animals and environment**

**\* Deepti Yadav**

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**Abstract-** *The study examined effects of chemicals on animals, human beings and environment in general. Data and preferred statistics were collected and analyzed. Effects, causes, uses and alternative measures were studied. We predicted chemicals such as volatile organic compound, benzene, sulphur and other chemicals are the major pollutants affecting living creature. Further research included alternative measures to minimize the use of these harmful chemicals.*

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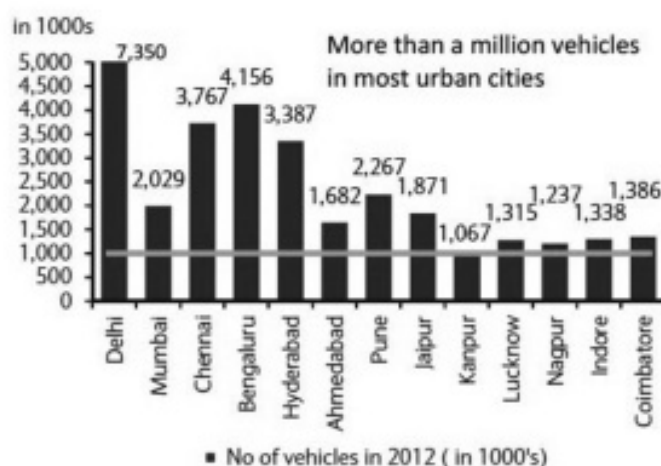
**Key Words- Human beings, Animals, Environment**

**Introduction:** The purpose of this research is to identify the major causes polluting the environment and study the results based on it. An immense case in Delhi which is gasping in air quality down at severe level. With past related analysis that the industries were at the utmost level polluting landforms, water bodies and the associated flora and fauna. The cause of these high pollution readings was the waste incineration taking place near industries and discharging waste without proper treatment. Another major factor was the vehicles contributing 28% to the poor quality air. It is not just our health which is being affected by smog and pollution. The severe air quality causes damage to skin, hair, breathing problems such as nausea and asthma especially in old age people and young children.

Area of study includes post Diwali impacts that involves the contribution of crackers extensively affecting air quality in general and its causes. Increase in pollution as compared to earlier and the effects and the various ways to minimize it. I hypothesized that Volatile organic compounds, chlorofluorocarbons, carbon monoxide, cadmium, lead, mercury, magnesium and sulphur affects our environment. General analysis on going data, graphs and detecting the tests on chemicals in order to study its effects was the major methods used. Identifying the major causes and further eliminating them with a alternative way will effectively help in a best way to minimize pollution.

**Methods:** The type of research that will be used in this study is qualitative research and quantitative research. On the basis of newspaper and analytical I found that over the past years it was the vehicles and industries polluting

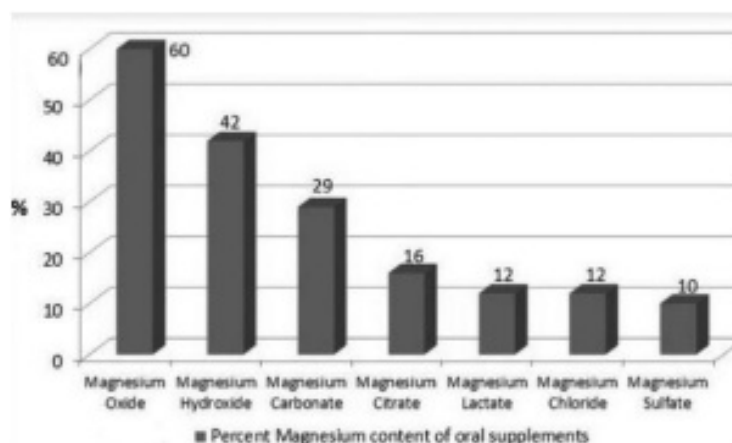
our environment.



Source: MORTH, Barclays Research

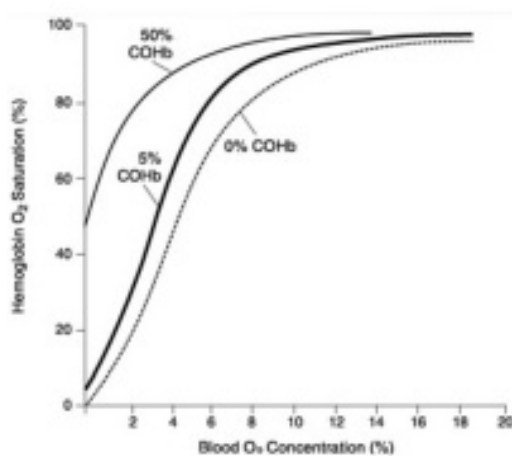
Figure1 show vehicles contribution towards the developed cities in India

Magnesium oxide contributes around 60% of air pollution, Hence overuse of magnesium is hazardous. Refer to the figure 2.

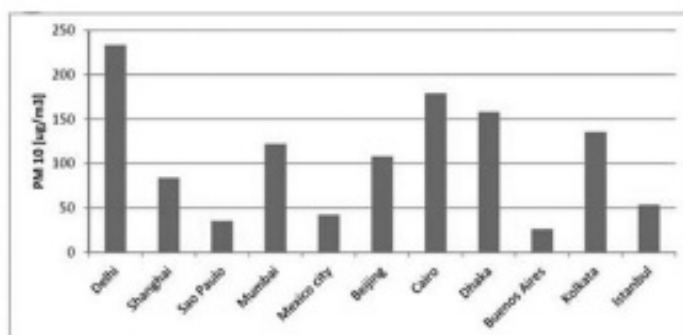


When carbon monoxide is inhaled it rapidly crosses the alveolar epithelium to reach the blood where it binds to hemoglobin to form carboxy hemoglobin which is useful marker for predicting health effects of carbon monoxide.

Refer to figure 3

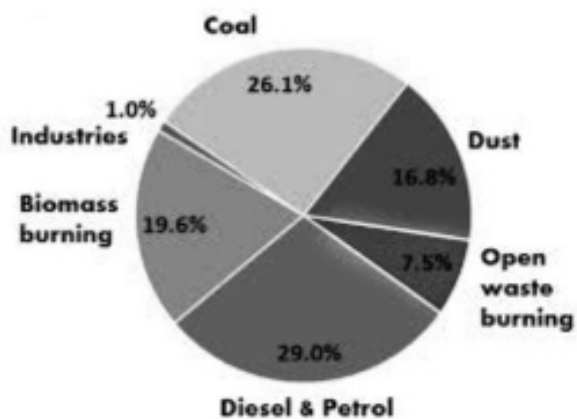


Carbon monoxide has enormously increased from 2014-2018. Refer to figure 4.



Source: WHO's Urban Ambient Air Pollution database - Update 2016

Figure 5 shows monoxide uses in different fields

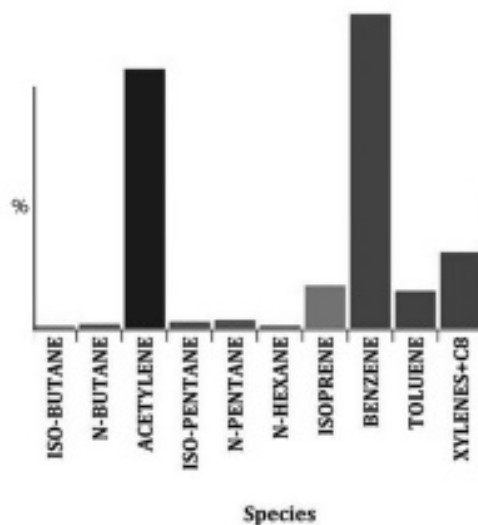


Volatile organic compounds (VOCs) are emitted as gases from certain solids or liquids. VOCs include a variety of chemicals, some of which may



have short and long-term adverse health effects. Concentrations of many VOCs are consistently higher indoors (up to ten times higher) than outdoors.

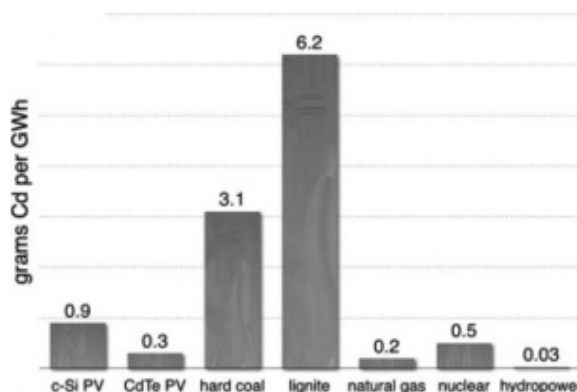
Figure 6 shows average volatile organic compounds source contribution to the ambient air.



The most recent studies shows emissions of cadmium estimated the total to be around 3000tons. Cadmium poisoning can also cause softening of the bones and kidney failure.

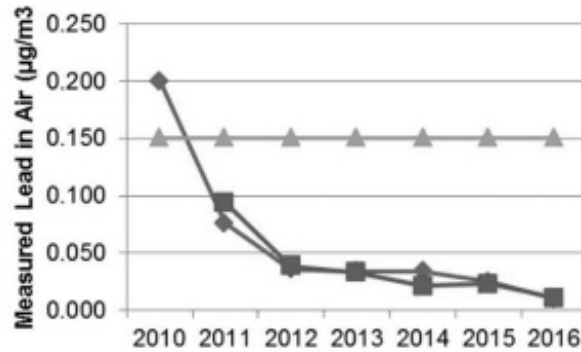
The cadmium was released into rivers by mining companies in the mountains, which were successfully sued for the damage.

Figure 7 shows life cycle of camium from different energy.



Sources of lead emissions vary from one area to another. At the national level, major sources of lead in the air are ore and metals processing and piston-engine aircraft operating on leaded aviation fuel. Other sources are waste incinerators, utilities, and lead-acid battery manufacturers. The highest air concentrations of lead are usually found near lead smelters.

Refer to figure 8 that shows lead emission.



Outdoor investigation involved visit to Mundka which showed that an industrial zone was left behind. Every stretch there had at least one location where waste is dumped in the open or burnt. Figure 9 shows AQI levels in Mundka.



Public health which has to be safeguarded by installing the recovery devices.



**Results:** Preservance data from the survey and conduct shows that Delhi has undergone many changes in terms of the levels of pollutants and controls measures taken to reduce them. Recent study shows that the average life due to these chemicals is reduced by 10 years. Figure 11 shows Delhi's average life reduced by 10 years.





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