

Volume 3, Issue 10(2), October 2014
**International Journal of Multidisciplinary
Educational Research**

Published by

Sucharitha Publications

Visakhapatnam – 530 017

Andhra Pradesh – India

Email: victorphilosophy@gmail.com

Website: www.ijmer.in

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ISSN: 2277-7881; Impact Factor -2.735

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH

Visakhapatnam -530 003, Andhra Pradesh – India, www.ijmer.in

Editorial

Provoking fresh thinking is certainly becoming the prime purpose of International Journal of Multidisciplinary Educational Research (IJMER). The new world era we have entered with enormous contradictions is demanding a unique understanding to face challenges. IJMER's contents are overwhelmingly contributor, distinctive and are creating the right balance for its readers with its varied knowledge.

We are happy to inform you that IJMER got the high Impact Factor 2.972, Index Copernicus Value 5.16 and IJMER is listed and indexed in 34 popular indexed organizations in the world. This academic achievement of IJMER is only author's contribution in the past issues. I hope this journey of IJMER more benefit to future academic world.

In the present issue, we have taken up details of multidisciplinary issues discussed in academic circles. There are well written articles covering a wide range of issues that are thought provoking as well as significant in the contemporary research world.

My thanks to the Members of the Editorial Board, to the readers, and in particular I sincerely recognize the efforts of the subscribers of articles. The journal thus receives its recognition from the rich contribution of assorted research papers presented by the experienced scholars and the implied commitment is generating the vision envisaged and that is spreading knowledge. I am happy to note that the readers are benefited.

My personal thanks to one and all.

(Dr. Victor Babu Koppula)



REVISITING AND RE-INTERPRETING RELIGION: RE-INVENTING RITUALS FOR SUSTAINABLE DEVELOPMENT

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INTRODUCTION

Sustainable Development

Sustainable Development has become a universal term and its connotations change from culture to culture, from person to person.

But in essence it is the “development that meets the needs and aspirations of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987).

Religion

What is religion? Is Religion an illusion, is it science, or is it a personal experience? How to define it when we have such variety of religions?

What common traits, if any, might be said to exist not only between the ‘Abrahamic’ traditions of Judaism, Christianity and Islam, but also between these and Hinduism, Buddhism, Confucianism, Taoism, Sikhism, Shinto and tribal or aboriginal religions (Thiselton, 2006)?

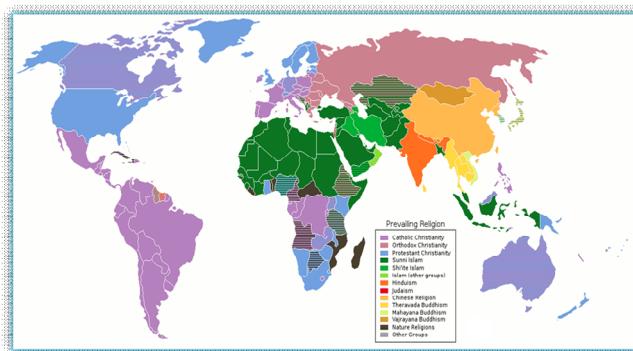
There does not seem to be an easy answer but that does not stop us from speaking about religion.

Religion is man’s involvement in the meaning of existence, and the depth of one’s involvement is the depth of his religion. It is participation in life in a special way for a special purpose (Christian, 1973).

Quoting John Dewey we may define religion as “any activity pursued in behalf of an ideal and against obstacles and in spite of threats of personal loss because of conviction of its general and enduring value is religious in quality.”

The world map depicting major seats of prevailing world religions (Figure 1; source: Wikimedia) presents a rainbow of religions – the metaphor is drawn purposely to imply that just as all colours of rainbow originate from one light and again submerge in the same light, so do all religions talk of one God but in different languages.

Figure 1: Prevailing World Religions



Since all Religions basically talk about humanity and often prescribe the right way of living and conduct, therefore, religion can be instrumental in teaching people to live more responsibly and contribute towards sustainable development and ‘reinstating’ (sounds too optimistic) environment. To do so we need to re-visit religions with a new curiosity and re-interpret them from fresh perspectives.

Rituals

Each religion has its own special ways of offering prayers and pleasing God – in other words, each religion has its own unique set of rituals (no value judgement attached please). Though rituals have often been



ascribed as 'dogmatic', but we need to relook into the origin and working of rituals before conferring any such title.

Those who speak against rituals may not be aware that they themselves practice small, personal rituals as they go about their daily activities. The truth is that rituals have their integral place in the human psyche. We can say that it is *the way of human beings* to have rituals. Rituals are an inextricable part of the human experience (Lin, 2011).

Across the globe people practice rituals which they consider as their religion. Every person performs rituals (few or many, small or elaborate) as an expression of practicing religion – in the spirit of performing his/her duty. But unfortunately, for majority, religion has become bonsai and rituals have taken deep roots. We religiously follow the rituals forgoing the essence of religion.

In the words of Rabindranath Tagore, ". . . . for the current of our spiritual life creeds, rituals and channels that may thwart or help, according to their fixity or openness. When a symbol or spiritual idea becomes rigidly elaborate in its construction, it supplants the idea which it should support."

Why this happens? It's not that we intend to do so, but mainly because of our ignorance. A short Zen story - '*Ritual Cat*' - beautifully explains this:

When the spiritual teacher and his disciples began their evening meditation, the cat that lived in the monastery made such noise that it distracted them. So the teacher ordered that the cat be tied up during the evening practice. Years later, when the teacher died, the cat continued to be tied up during the meditation session. And when the cat eventually died, another cat was brought to the monastery and tied up. Centuries later, learned descendants of the spiritual teacher wrote scholarly treatises



about the religious significance of tying up a cat for meditation practice.

Another reason why rituals at times may seem contradictory to the teachings of religion is that each individual has his/her personal interpretation of writings of the scriptures and significance of the rituals. G B Shaw rightly says, "No man ever believes that the Bible means what it says: He is always convinced that it says what he means". Personally, I don't see anything wrong in such individual interpretation so long as the interests of others are not compromised or put at stake.

Taking a cue from this, the need is to arrive at new interpretations which can help people take up pro-environment lifestyles. Therefore there is a great need to look afresh into the scriptures and accordingly re-invent rituals which are not only relevant and satisfying at the non-matter level (mind/spirit) but also at the matter level.

PICKING NUGGETS FROM DIFFERENT RELIGIONS

The scriptures of all religions are treasure troves of messages of love, peace, God knowledge and right conduct. Some bits and pieces are quoted here to give an idea of the abundant treasure waiting to be explored. Partly because it is not feasible to cover all religions and mainly because of my ignorance, many religions do not find a mention here, this should NOT be taken to mean that the author considers the teaching of these religions of any less value.

Hinduism

Hindu religion regards *Purush* (Super Being) and *Prakrti* (Nature) as parts of the organic unity as is the universe itself. Hindu religion in its emphasis on the unity of existence has evinced a deeper reverence for nature and its various objects. . . the survival of human races depends



upon the earth, and the earth is not meant for human races only but for the other creatures also.

The *Atharvaveda* says:

“Born of Thee, on Thee move mortal creatures
Thou bearest them – the biped and quadruped.
Thine, O Earth, are the five races of man, to whom
Mortals, Surya (Sun), as he rises, spreads with his rays
The light is immortal.”

In *Mahabharata* (an epic) is given the scheme of things that God designed:

“Brahman’s (The Creator’s) bones are mountains. Earth is His flesh. Sea is His blood. Sky is His abdomen. Air is His breath. *Agni* (fire) is His *Teja*. Rivers are His nerves. The sun and moon which are called *Agni* and *Soma* are His eyes. The upper part of the sky is His head, *Prthvi* is His feet and directions are his Hands.”

In *Vamanapurana*, it is written:

“Earth with the quality of smell (*Gandha*)
water with the quality of viscosity (*Sneha*)
fire with the quality of energy (*Teja*)
sky with the quality of sound (*Sabda*)
air with the quality of touch (*Sparsa*)
and all the *Mahatattvas* (great elements) –
let all these elements bless our mornings.”

(Dwivedi & Tiwari, 1987)

In *Ayurveda*, the human body has been analysed in terms of earth, water, fire, air, and ether – which in turn yield the three bodily humours (*dosas*): wind, bile, and phlegm. These then correspond to the



three qualities or temperaments (*gunas*) that pervade the universe (Britannica Encyclopedia of World Religions, 2006).

In nutshell, Hindu scriptures abound with nature and its elements and consistently reminds of the sensitive and fragile relation between these and human beings (body and mind). Interpreted this way, Hindu scriptures are full of citations that can be effectively used to teach – the believers as well as the non-believers – to maintain the ecological equilibrium as a way of pleasing God(s).

Buddhism

The ever-present, most distinct faint smile on the face of Lord Buddha reflects the peace and the eyes are full of boundless compassion. His four Noble Truths (viz. Noble truth of pain; Noble truth of the cause of pain; Noble truth of the cessation of pain; and Noble truth of the way that leads to the cessation of pain) continue to aspire hundreds of millions seeking Nirvana (Reader's Digest Great People of Faith and Wisdom, 1984).

Buddha's Eightfold Way that leads to the cessation of pain is/can be a guide to the green lifestyle. The eight steps involved are: right views; right intention; right speech; right action; right living; right effort; right mindfulness; and right concentration.

Christianity

The Ten Commandments are the basic lessons of right conduct . . . the one that particularly stands out in the context of sustainable development is the Commandment teaching us to love our neighbours. But most of us are short-sighted in our interpretation when we interpret 'neighbour' as people/families living next-door or in the neighbourhood. Wouldn't it be more appropriate to interpret 'neighbour' as our total surroundings – be it people, plants, rivers, mountains, birds, animals, air, sky and anything that is in our



surrounding? Interpreting it this way may help not just the billions of followers but the entire humanity to lead a lifestyle which truly will be in tune with sustainable development.

Islam

The Prophet's words to the Meccans is the message of Islam: ". . . life in this world should be productive of good. Leave good works behind that they may grow and bear fruit after you are gone. There is virtue in giving to the others, not in receiving from them. Learn to surrender that you may be nearer to your God. Practice self-denial for the sake of your fellow-men, that you may multiply your credit with God (Al-Baqara, 2008)."

In my interpretation this is a very appropriate message (and definition) – to the believers as well as non-believers – for sustainable development.

Jainism

The fundamental ethical virtue of Jainism is *Ahimsa* (non injury/ non violence) – *ahimsa* is the standard by which all actions are judged. For householders observing the small vows (*anuvrata*), the practice of *ahimsa* requires that they not kill any animal life, but for ascetics observing the great vows (*mahavrata*), *ahimsa* requires that no knowing or unknowing injury be inflicted on any living substance (Britannica Encyclopedia of World Religions, 2006).

To say that the fundamental virtue of *Ahimsa* is nothing but a lesson in a pro-environment life style would be a very valid interpretation.

A STUDY

Objective of the study

Going by the hypothesis that religion has great power over masses and that this power can be rightly directed to tackle the present day

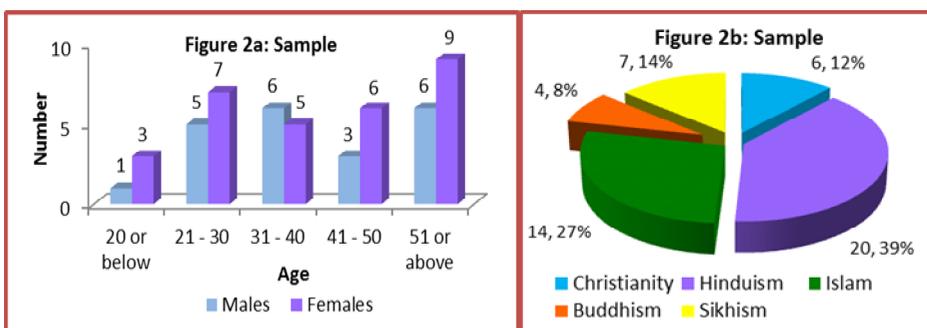
challenges, the author conducted a small sample study to look into how people interpret religion, what is the importance of rituals to them and how does their religion contribute towards a better and greener world.

Sample

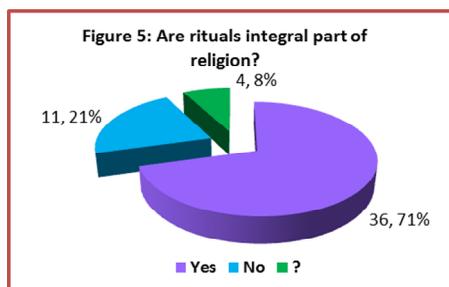
The questionnaire was distributed to about 125 (prospective) participants, however only 51 participants responded and returned the questionnaire (out of 51 respondents, 12 had not answered all the questions). Figures 2a and 2b give a brief description of the sample in terms of gender, age and religion.

Data Collection

A self prepared questionnaire, having 15 open-ended questions, was used to collect data.



As per the feedback of respondents, majority of them found it difficult to answer. The respondents were free to consult their family members for answering the questions relating to the rituals performed and the significance of those rituals.



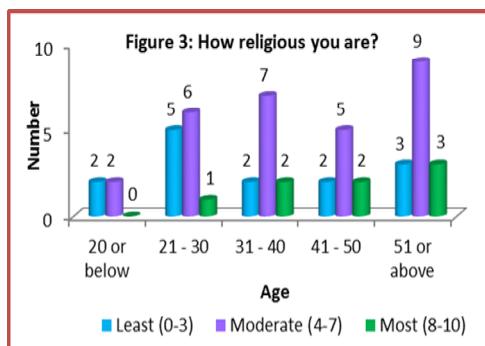
Findings

Majority of the respondents rated themselves as moderately religious (Figure 3). It is not the case that many don't think/believe they are not very religious but it seems more a case of underrating oneself – because many respondents provided the feedback that they are not as religious as they SHOULD be (conscience awakening?).

When it came to the question of knowledge and understanding of the religion and scriptures (Figure 4), most of the young people (especially in the age range 17 to 35) rated themselves as having little knowledge/understanding. The elderly people rated themselves as possessing moderate, functional knowledge and understanding of their religion / scriptures.

Very few respondents claimed to possess full/adequate knowledge of their religion/scriptures.

When asked whether they consider rituals as integral part of their religion, majority of the respondents gave their response in affirmative (Figure 5). It is surprising to note that though the majority of respondents confess their lack of adequate

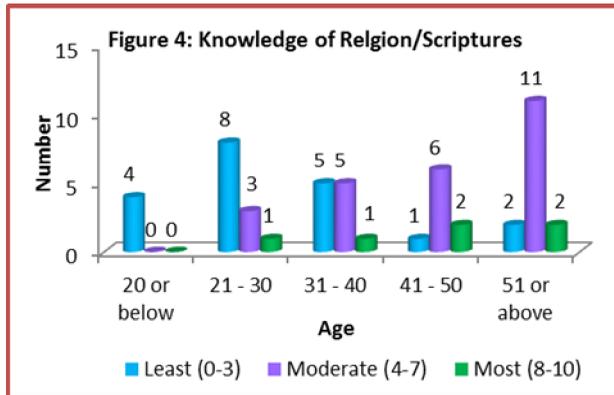


knowledge of religions/scriptures, still they seem to be adherents of rituals and consider these to be integral part of religion.

Respondents were asked to list a few rituals that they consider as pro-environment, to which very few were able to name any such rituals (viz. fasting, planting trees, worshiping trees, feeding or clothing the needy, etc) and majority reported their ignorance.

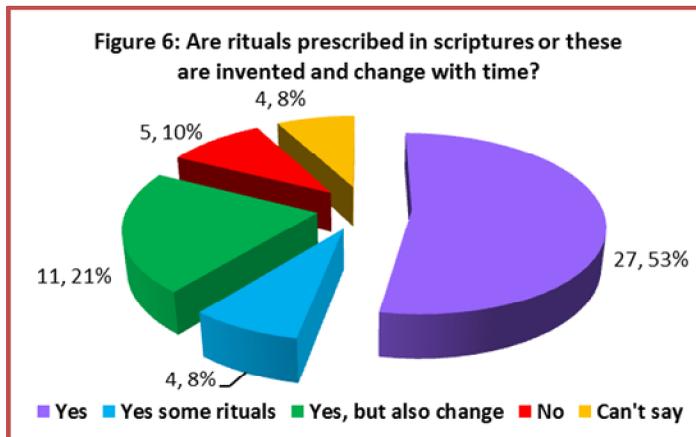


When asked to name the rituals which are detrimental to the health of Earth and its inhabitants, many reported candle or/and incense burning; *jalpravah* (a ritual of submerging the



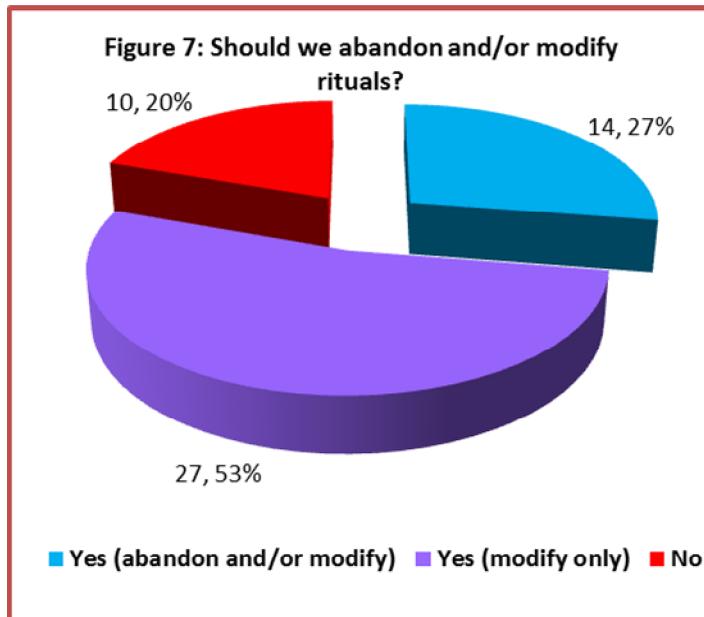
remains of the dead in flowing water); fireworks during festivals / celebration of days marked for deities, cremation, processions, etc.

Answering to the question – whether rituals have been prescribed in scriptures or these have been invented over a period of time? – the respondents gave mixed replies which could be broadly categorised as shown in Figure 6. Again, in contrast to their (confessed) inadequate knowledge of scriptures, 53% of respondents were certain that the rituals have been prescribed in the scriptures.



Coming to the relatively difficult question of should we abandon and / or modify the rituals which are detrimental to the health of Earth (Figure 7), 53% of respondents (heartily seemed to) agree to the idea of

abandoning and / or modifying the rituals which had harmful effects on environment. 27% respondents believe in continuing with their rituals irrespective of their consequences.



CONCLUSION

In the name of religion, most of us pay only lip service to the principle that life is sacred, but our conduct toward entities of various types (living as well as non-living) is a big failure – it may be because of our failure to truly capture the essence of religion.

Majority of the people misinterpret religion when they believe purely in Determinism (belief that every action is caused; there is antecedent to every action). Most of the religions preach right conduct, which has to be free, voluntary, responsible behaviour – Lord Krishna's *Gita-updesh* is all about *Karma*. It is therefore important to make people realise that all natural calamities are not merely caused by some Super Being, but that somehow, somewhere man is responsible for that.



Since religion is a big influence, it thus necessitates that we re-look into and re-interpret religion so as to come up with more appropriate rituals which inculcate among masses the right life-styles. To do so we must pick from the scriptures the arguments in favour of sustainable development – but this may not suffice. We should see to it that the proposition / argument is not only logical but also appealing.

The need of the hour is to team up and work in unison with the priests /religious leaders and identify the parts of scriptures which specifically teach us to live and behave responsibly. And then, the next step will be to chalk out such activities / rituals which are not merely symbolic, but are pragmatic, easy to adhere to and are sustainable in nature.

To sum-up, we need the R's of religion and rituals (viz. re-visiting, re-interpreting and re-inventing) for sustainable development just as we need the other R's (viz. Reduce, Recycle, Repair, and Reuse).

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IMPACT OF GLOBALISATION ON INDIAN CINEMA

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INTRODUCTION

This work discusses the impact of globalization on Indian cinema in order to get a deeper understanding of the development of Indian cinema. It entails a detailed discussion of two different phases in the development of Indian cinema, viz; The Pre-globalization Era and Post-globalization Era. During the pre-globalization era Indian cinema was virtually denied recognition due to lack of financial support both from the government as well as from the film fraternity. This was mainly because the Indian government didn't recognize cinema as an industry. This in effect meant despite speedy economic acceleration it failed to draw the attention of the government and necessary support much needed during the initial years. Moreover, there were no guidelines framed for international cooperation in film making in the country even as late as the early 21st century. No wonder then, Indian films suffered from low quality in the absence of proficient technical crew members. 'Underworld' elements like say, landlords were investing their black money and untaxed money in film making. Producers had to bear the burden alone since they had very few ways of cultivating sources for investment for producing movies by sale of area right to buyers. Small film makers suffered due to the absence of a market and could get financial support only after preview of the first copy to the buyers. Indian film makers also had a choice to expand their market by distributing the films, but it was not possible due to



lack of technical support largely because the analogue system didn't support making large number of prints for distributing across the world. During the pre-globalization period there was no cooperation between Hollywood and Indian film studios, even among the technical crew and the actors. There were no official agreements between the nations for shooting films abroad. During this period, only a handful of studio owners could make films. Filmmakers having limited source to market their movies used to raise money by selling rights to market the audio and video cassettes. Moreover, prior to the pre globalization period there was no star system in India.

In the post-globalization era, the industry has changed immensely; overcoming all financial and technical hurdles, as the government has recognized film making as an independent Industry. Remarkable developments such as allowing Foreign Development Investments in the industry, and financial support from the government, have led to the rapid evolution of the industry. Co-productions with National Film Development Corporation (NFDC) added fuel to the growth of Indian cinema over the years. From the beginning of silent movies era, Indian cinema has been influenced by global trends. Visionaries of Indian cinema were inspired by world cinema and acquired the requisite skills to make classic movies. For instance, the father of the Indian cinema, D.G. Phalke, made India's first silent movie Raja Harishchandra in 1913 after watching "Life of Christ". Exactly a century later, in 2012, Shah Rukh Khan's sci-fi Ra.One was released in 2D, 3D formats across the globe. It was also premiered in Dubai, London, New York and Toronto. These two historical happenings proved how the Indian cinema has been inspired by global trends in film making. By studying Indian cinema, one could discern that globalization has made a huge impact on Indian Cinema. The entire process of film making was greatly benefited by adhering to international standards in film making, capturing of world market by



worldwide distribution, and box-office collections by exhibiting in digital format. According to Desai, J. (2004), Globalization means located at national or sub-national levels, involves transnational formations. Like the statement global cinema and Indian cinema are interconnected for their mutual development. In 1896, the exhibition of feature films, by followers of Lumiere brothers at Watson hotel on 7th July, has inspired a handful of film makers to develop Indian cinema simultaneously in both Hindi and regional languages. Initially, Indian film makers had tied up with foreign productions. In 1925, Himanshu Rai made the first internationally co-produced the movie 'The Light of Asia', as an Indo-German joint venture. Another movie 'Karma' (Fate) was premiered in London in May 1933. This was made by an Anglo-Indian co-production. Later, the Western film makers started adaptation of Indian themes for their movies - Coconut Fair (1897), Our Indian empire (1897), A Panorama of Indian Scenes and Procession (1898), and Poona Races '98' (1898). In the 21st Century, Daniel Boyle bagged Academy awards for 'Slumdog Millionaire' (2010), a story based of lives of people living in India's biggest slum in Mumbai. A.R. Rahman received two Oscar awards in the category of original score, best song composer, and Rasool Pokutty won another Oscar award in the sound design category. Another Indian theme Hollywood movie Director Ang Lee's 'Life of Pi' also impressed the audience at the Academy awards. The runaway success has been scripted with co-production agreements among domestic and international production companies. Earlier, Lumiere Brothers' efforts on filmmaking drew the attention of the Indian film buffs. It is pertinent to mention that foreign influence on Indian cinema is more evident in 1950s. Oscar lifetime achievement Awardee and Bengali filmmaker, Satyajit Ray made his first film 'Pather Panchali' (1955), inspired by Italian filmmaker Vittorio De Sica's 'Bicycle Thieves' (1948), and French filmmaker Jean Renoir's 'The River' (1951). Ray's



efforts on Pather Panchali won the movie eleven international prizes, including Best Human Documentary at the Cannes film festival. In 1982, Richard Attenborough's Gandhi, an India-UK co-production, won eight Academy awards. In 1990, the then government of India had liberalized economic policies, inviting 100 per cent foreign investments in film industry, and facilitated foreign firms to produce movies independently or opt for co-production agreements with Indian production houses (Sardana. M.M.K). This policy has enabled the Indian film industry to become a global player and it emerged as the largest film production country in the world, with more than 1000 films being produced every year in over 20 languages (Ernst & Young, 2011). With 3.3 billion tickets being sold annually, it meant the highest number of movie goers to theaters. The Indian film market earns almost 90% of its revenue from Hindi cinema followed by South Indian and other regional language films. The Comptroller Audit General (CAG) Reports estimated that projected growth of Indian film industry is likely to touch US\$ 5 billion by 2014. In which 14.1% growth is expected from the expansion of multiplexes in smaller cities. Presently, India has over 13,000 theaters in which more than ten per cent were digitalized with multiplex screens. Within the next few years, 100 per cent screens would be equipped with digital technology. India's Business Today study estimates that the international box office would account for 25% of Bollywood revenue in 2015 in comparison to 18% in 2009 (J. P. Singh, 2010). Now Indian movies are being watched in over 100 countries and it is the best time for Indian cinema to reach every corner of the world (Chandrajit Banerjee, 2012). Indian movies have been released in Hindi, Indian regional languages and dubbed in to foreign languages, with English subtitles. According to Mark Lorenzen (2009) Bollywood had enjoyed small and stable exports to India's trade partners like Russia and Middle East, cultural neighbors like Pakistan, Bangladesh, and Afghanistan and among



Indian Diaspora in countries like Australia, South Africa, Nepal, Burma and Sri Lanka. Before the introduction of the liberalization policy, Indian films were limited to export to the Gulf region, USSR, Indonesia, Morocco, Jordan, and Fiji, UK/Ireland, USA (NFDC 2007). The biggest regional film industry like Tamil industry (popularly known as Kollywood) has large audience share in Sri Lanka, Malaysia and Singapore. The reigning Tamil super star Rajinikanth's movies are very much popular even in Japan. According to Geoffrey J Ones et al. (2008), film industry consists of three main functions such as production, distribution and exhibition. Subtle changes were now evident in these stages in film industry. Pre-production, postproduction standards have touched international standards (i.e. Hollywood). In the year 2000, the Government of India granted industry recognized to the film industry. The following is the detailed discussion on corporatization, Co-production agreements between Indian film production houses and Hollywood companies, International star casting in Indian films, tourism and film shooting agreements between Indian and western countries etc.

IMPACT OF GLOBALISATION ON FILM PRODUCTION:

Indian Cinema is the world's biggest film industry in terms of producing number of movies in a year. It consists of films produced across the India, including regional industries of Andhra Pradesh, Tamil Nadu, Karnataka, Kerala, Mumbai, Gujarat, West Bengal, Punjab and Assam etc. Being the most popular means of entertainment, around 1,000 films in Hindi and in 20 other regional languages are being produced every year in the country. It is estimated that above 15 million people watch the films in India every day, including 13,000 audiences in the theaters, satellite broadcasting and online. The expansion and reach of the movie to audiences in diversified channels came with globalization of the film industry, though the impact of globalization can be clearly witnessed since the



20th century. The relation between Indian cinema and western cinema was established during the time when D.G. Phalke made Raja Harishchandra after being inspired after watching Life of Christ at Mehta's American cinema. Before that, the first Indian fiction film was 'Pundalik' (1912), directed by an English man Tourney and Rapines along with Nanabhai Govind Chitre, Ram Chandra Gopal (Yves Thoraval-2000; M.M.K. Sardana, 2010). The film 'Pundalik' could not be considered as the first Indian film as it was directed by an English man. Another international co-production 'The light of Asia' by Himanshu Rai was an Indo-German Joint venture in 1925 (Rajesh K. Pillania, 2008). After talkies were introduced in India, rapid changes began to take place in the film industry; 1940s-1960s were regarded as the golden age of Indian cinema and Indian cinema started adopting commercial concepts like star system, market expansions and so on. In 1950s and 1960s, Hindi cinema hosted several Indian international film festivals (IIFF) such as the Cannes, Berlin, and The Venice Film Festival, winning major prizes for its artistic values and realist themes and modes of production (Calvin Li Chyang Chen, 2012). While the new wave continued till the 1980s, the entry or international multiplexes with the liberalization of the economy in the 1990s not only helped regional cinema but also parallel cinema. In 1982, a biopic on 'Gandhi' was produced by Indo-British films limited (i.e. Gold Crest Films International and National Film Development Corporation-NFDC). The movie won eight Academy Awards. In 1990s, Indian movies have drawn the attention of audience across the globe, with Bollywood producers making films with NRI themes and shooting them in England, Europe locations. In 1995 Yash Chopra productions backed 'Dilwale Dulhania Le Jayenge' (DDLJ), a story of an NRI pair, who fell in love when they met on their Europe trip. The first half of the movie was shot in beautiful locations of Europe and hero, heroines brought up in western milieus. The second



half of the film was completely shot in India. In the climax, the hero, and heroines won their parents' hearts and they remained together, with the consent of both parents. This film grabbed the overseas market with NRI themes. DDLJ is being regarded as a classic example for the Bollywood NRI films (Neelam Sridhar Wright, 2009). The film has broken several records for being the longest Hindi movie. The other successful movies with NRI themes are: Dil Toh Pagal Hai (DTPH, 1997) and Karan Johar's Kuch Kuch Hota Hai (KKHH, 1998), and Subhash Ghai's Taal (1998) (Ashish Rajadhyaksha, 2003). Kabhi Khushi Kabhi Gum (K3G), and the more recent Shah Rukh Khan starrer 'My name is Khan' (2010). All these movies succeeded at the box office and remained unprecedented commercial successes in cinematic history in overseas market, apart from becoming role models for Indian traditional and cultural values. Another major development witnessed by the Indian film industry was co-production between the Bollywood and Hollywood production companies. The Indian film industry has a strong base in film production, with over 400 production houses in the country. Of them, at least 30 corporate houses are involved in the film production business including three leading studios in India- Eros, UTV, Productions and Yash Raj Films which released as many as 138 films in 2010 --more than three times, the four leading Hollywood studios released during the same period. In real terms, they accounted for around 50 films in 2010, forcing Hollywood production houses to realize the potential for co-production with Bollywood companies; Walt Disney has co-production with Yash Raj Films and UTV. The Twentieth Century Fox has produced with Bollywood production houses: Sony Pictures (Saawariya) and Warner Brothers (Chandni Chowk to China), (Neelam Sridhar Wright, (2009). Walt Disney has co-production in collaboration with the Yash Raj Films produced their first movie 'Roadside Romeo'. And also Disney bought a 15 percent stake in Bollywood production company UTV in



2006. Columbia Tristars co-sponsored "Saawariya" in 2007. Fox Star Studios co-produced "Dum Maro Dum" with Ramesh Sippy Entertainment in 2008. Warner Brother's studio too signed a co-production agreement with Ramesh Sippy Productions and Orion Pictures to make 'Made in China' starring Akshay Kumar and Deepika Padukone. This was the first film shot in China. The estimated \$12 million film is entirely financed by the Warner Brothers (Andrew Hassan and Makarand Paranjpe 2010). Disney also entered into co-production with regional production houses: Tamil and Telugu (Sayuj Banerjee, 2010). Disney World Cinema co-produced a Telugu film 'Anaganaga oh Dheerudu' with Telugu film director, K. Raghavendra Rao home banner Bellyful of Dreams. Liberalization policies have largely attracted the investment to the Indian film industry. Our production houses have also begun investing in Hollywood. Indian business house Anil Ambani's Reliance Entertainment invests \$ 500 millions in Dream Works Pictures. It currently owns more than 200 cinemas in North America (Mark Lorenzen, 2009). Now Bollywood has challenged its global reputation as third world cinema and emerged as international stage with annual growth rate estimated at 13 per cent i.e. compared to ten times higher than the Hollywood. (J. P. Singh, 2010). Reliance entertainment also signs projects with Hollywood stars, Brad Pitt, Jim Carrey, Nicholas Cage, Tom Hanks and George Clooney as well as Directors, Jay Roach and Chris Columbus. Reliance Entertainment owns overseas screens for screening of their films. Another Indian business giant, Sahara One tied up with Hollywood production houses like Michael Douglas Production Company and Donald Rosen field. Simultaneously Bollywood production houses investing in Hollywood, are interestingly south Indian based film production and distribution houses, Pyramid Saimira was established outside India as well. Pyramid Saimira owns over 900 movie theatres in USA, Malaysia, Singapore and China. Globalization has facilitated



the Indian film companies, Eros, Adlabs and UTV, are listed in the London Stock Exchange, and paving an easy way for its co-production projects in Bollywood. Another notable global trend is that Bollywood and Hollywood are joining forces (Jonathan Matusitz, Pam Payano 2012). Now-a-days, international star casting and technicians are working for Indian films. Hollywood stars too now prefer special appearances in Bollywood movies and regional films, too. Simultaneously, Indian stars and technicians are contributing their might in Hollywood success, too. Indian studios proved its capability by winning the Academy Awards. British actor, Rachel Shelly played a lead role in Aamir Khan's Lagan, which was officially nominated for Oscars Awards from India in 2005. Giselli Monteiro in 'Love Aaj Kal', Barbari Mori in 'Kite' and Chris Patten in 'Rang De Basanti'. Australian singer, Kylie Minogue, made her first Bollywood appearance in 'Blue' (2009), and she sung two songs in it. Sylvester Stallone with Akshay Kumar had appeared in the movie 'Kambakth Ishq' in 2009. Another international singer Akon was roped in to lend his voice to the song in Shah Rukh Khan's film Ra.One titled 'Want to be my Chamak Chalho.' It helped popularize the movie worldwide. International co-production business not only has been limited to Bollywood, but it also helped the South Indian film industries for its overall growth. In 2010, Tamil superstar Rajinikanth's movie 'Indhiraan' (English-Robot; Telugu-Robo) was the most expensive film ever produced in the Telugu Industry. International technicians were coopted in for the Kung fu fight scenes choreographed by Hong Kong legend Yuen Wooping, Special effects done by Stan Winston Studio (Terminator, Jurassic park fame) and costume design by Mary E. Vogt (Matrix, Men in Black fame). Another Tamil cinema, Seventh Sense, was also produced by a collective work done by International fight masters. Telugu Industry also adopted the global trends of film making. Some of popular production houses have tied up for co-



production with international film companies. A versatile director, Purijagannath has tried to introduce a new element in his movies. He introduced Hong Kong fight master Kitcha in his latest film 'Iddarammailatho in 2012'. Kitcha had choreographed the fight scenes with Hong Kong fighters in the movie. Indian stars also played different key roles Hollywood productions. Actress like Aishwarya Rai Bachhan played a lead role in 'Bride and Prejudice' (2004), Mallika Sherawat in Jackie Chan's film, 'The Myth' and Anil Kapoor in 'Mission Impossible'. Another Indian technician like Rusool Pukutti won the Academy award in the sound design category. Recently another Hollywood movie, Life of Pi, received critical acclaim for its best Visual Effects (VFX). Life of Pi (2012) has proved Indian standards in Visual effects, bagging the Academy award in the Visual effects category. Major visual effects work (40 per cent) was done in studios in Hyderabad, and Malaysia. The Indian cinema can influence world cinema in terms of its style, treatment structure, content etc. particularly, emotional styles like, Romance, love, drama, action, songs, dance. Best examples are that Titanic (1999), Slumdog Millionaire (2010), and Life of Pi (2012). Not only did Hollywood directors like the Indian style of film making, but NRI directors got international acclaim with Indian theme based films. Gurinder Chadda made 'Bride and Prejudice', a movie in the best dance and songs tradition of Indian cinema. Despite stark resemblance to a Bollywood film it was an English movie. Another NRI Director, Mira Nair came up with 'Monsoon Wedding'. Chadha and Nair both are of Indian origin and made their names in western independent films (Deepa Gehlot, Pg, 15). Similarly Indo-Canadian film-maker Deepa Mehta produced 'Fire', 'Earth', and 'Water'. Non-Indian directors also tasted International success based on Indian themes like James Ivory-Ismael Merchant, Richard Attenborough-Gandhi, David Lean-Passage to Indian, Roland Joffe-City of Love and James Bond Movie



'Octopussy' (1983), in which most scenes were shot in India and veteran Tennis star Vijay Amrithraj essayed a role in the movie. Octopussy showed the way how Indian festivals are celebrated and traditions are followed. The efforts put in by these directors, Indian festivals, traditions, culture have been acknowledged worldwide. The globalization effect on Indian cinema has resulted in the domination of lingua franca (Shakuntala Rao, 2007). International language English being used in dialogues and songs in most of the films. It has become common in Bollywood and other Indian film industries as of date. Most of the film directors and writers prefer the usage of the English language in their scripts. Westernized themes, foreign locations, international star casting are became the box office collection mantras. These western concepts are being made easy to attract the youth in the domestic market and Indian origin audience in overseas market. Western standards change the face of Indian cinema collections. All the top heroes' movies in Bollywood and South Indian film industry are rewriting the script by making huge collections at the box office. Within a week or ten days of its release, collections are crossing the INR one billion mark. Aamir Khan's film Dhoom-3 (2014) created history in Indian box office collections, collecting Rs 500 crores across the world. This trend was started in 2008. Tollywood production house, Geeta arts remake south Indian super hit movie Ghajini with Aamir Khan in Hindi, which was first movie that collected INR one billion. Salman Khan produced another one billion collection movie: Dabang (2010), Bodyguard (2011), Ek Tha Tiger (2012), Dabang-2 (2013), which proved the craze of the audience for Indian movies. Shah Rukh Khan, Ajay Devgan, Hrithik Roshan, Akshay Kumar, Ranbir Kapoor, and so on. Regional films in Telugu and Tamil also scaled the INR one billion mark. Tollywood young hero Ramcharan Teja's Magadheera has got a collection of above one billion (Screen Magazine, 2013). Director Rajamouli's Science fiction movie Eega,



Pawankalyan's 'Gabbar Singh', 'Attarintiki Daaredi' also made impressive collections at the box office and Tamil films like, Indiran, 'Tupaki' entered the INR One billion club. But by Improving global market Indian cinema has been collecting INR 300 crore collections worldwide. Amir Khan's '3 idiots' created all time industry record after its collections were pegged at INR 392 crores in 2009. Later, Salman Khan joined the club, with his latest movie 'Ek Tha Tiger' with a collection of INR 325 crore in 2012. This year Bollywood Super Star Shah Rukh Khan had rewritten previous records. His latest movie 'Chennai Express' grossed INR 328 crore in the first two weeks of its release. The increase in the number of Multiplexes in the country have made it easy to release a movie worldwide, that leads to cross the INR 300 collection club (Eenadu Newspaper, 2013). Globalisation policies led to spurt in revenue generation to Indian Cinema. Satellite development and online advancement make Indian cinema a heady new business prospect. Satellite broadcasting became a boon to the film industry. Top heroes' movies satellite rights are being sold at record prices. Yash Raj films upcoming movie Dhoom-3 has sold its satellite rights for 75crores, which is almost equal to the movie budget. The Salman Khan starrer Dabangg-2's satellite rights were sold for Rs. 50 crores, Shah Rukh's latest film 'Chennai Express' rights were sold for 48 crores. Tollywood films have huge market on Satellite rights. Satellite rights of the movies of the top Young heroes are being sold out at the record prices in the market. (Eenadu Daily paper, 2013).

Table-I

List of Hindi movies in one billion Collections club

Year	Film
2008	Ghajini
2009	3 Idiots
2010	Dabangg
2010	Golmaal 3
2011	Ready
2011	Singham
2011	Bodyguard
2011	Ra. One
2011	Don 2
2012	Agneepath
2012	Housefull 2
2012	Rowdy Rathore
2012	Bol Bachchan
2012	Ek Tha Tiger
2012	Barfi !
2012	Son of Sardaar
2012	Jab Tak Hai Jaan
2013	Dhoom 3
2013	Krrish 3
2013	Yeh Jawaani Hai Deewani
2013	Chennai Express
2013	Ram-Leela
2013	Bhaag Milkha Bhaag
2014	Jai Ho
2014	Singham Returns

Source: Sakshi Daily news paper, 3rd April, 2013

IMPACT OF GLOBALISATION ON FILM DISTRIBUTION:

Indian film industry is one of the fastest growing markets in the world (Annual report, PWC, 2012). By 2016, it is expected that the Indian market will be the fifth largest market. The distribution of domestic box office is estimated to continue its upward trend and grow from the



current size of 68.0 billion INR in 2011 to 112.0 billion INR in 2016, and overseas collections are expected to see further growth - from 8.5 billion INR in 2011 to 13.8 billion INR by 2016. The cinema has contributed a great deal in globalization which has proved very beneficial to the Indian Film Industry. Indian films have gone beyond the geographical boundaries. In 1920s, 80 per cent of the American pictures were screened in India, but today 80 percent of Indian films are being released worldwide. Diasporic audiences are playing a major role in expansion of the Indian film market. Indian immigrants have settled across the world. According to Ministry of External Affairs (2002), Indian Diaspora is spread around the globe in more than 70 countries. The number is above 10,000 in 48 countries and cross the half million mark in 11 countries. Because of these diverse audiences, overseas market became the major source of income for Indian cinema. Overseas market has been divided into 13 territories, 10 in Asia and Middle East and Three which cover Britain and Europe, North America and Australia. Occasional Success in places like Israel, Japan, and South America is also adding to internationalization of the Indian film Industry. Non-Resident Indians working as directors in western film industry make films closer to the Indian films and present it to Western audiences. For instance, the films of US based Mira Nair, Canada-based Deepa Mehta and UK based Gurinder Chadda have frequently been made into Bollywood movies. Major gains of globalization are investments, and therefore, new entries to the film industries are Sahara One; the main Hindi TV Channel, UTV, India's biggest TV program producer, Percept, India's biggest PR company, and Reliance, India's biggest telecom company that have ventured into film production and distribution on a major scale (Mark Lorenzen, 2009). All these corporate companies have entered Bollywood, with focus on expanding the film market through distribution of the films outside the country, leading to strengthening the Indian film market. The end of



the 20th century has been witness to new trends in film distribution. Hollywood production companies like Twentieth Century Fox, Columbia TriStar began to distribute Bollywood films in Western countries such as 'Satya', 'Company', 'Bend it like Beckham', 'Monsoon Wedding' and 16 Dreams have made huge box office collections overseas (Nasreen Taher, Swapna Gopalan, 2007). Bollywood companies are also establishing distribution offices outside the country. Eros International and Yash Raj Films, both have offices in London. Other distributors include Film India Company and UTV Communications, Adlabs films and Artificial Eye (Shehina Fazal, 2008). Subsequently Bollywood companies are buying up cinema chains abroad. Reliance Entertainment, one of the biggest Bollywood companies, which owns more than 200 cinemas in 28 cities of North America. Dil se (1997), K3G (2001), Kal Ho Na Hoo (2004) and Veer Zaara (2005) in North America Market, are often ranked in the top ten based on Box-office records (Film fare, 2013). Subhash Ghai's 'Taal' (1998) has proved that there was demand for Indian film in Western market. *Taal* was released with 125 prints, meant for foreign market. Hindi films have a significant market in the US, Canada, UK and Middle East (Ashish Rajadhyaksha, 2003). Sharukh Khan's latest movie, Chennai Express was the first Bollywood movie released in Israel. It was distributed worldwide and was specially screened in 195 theatres in North America, 175 theatres in Britain and also in Morocco, Germany, Switzerland, Austria, and France. Indian cinema is not only popular in western countries, but in Eastern countries too. Now Indian films stars too have their fan followings in countries like Japan, Hong Kong, South East Asia and Mauritius. Tamil Super Star Rajinikanth has a huge market in Japan. He also has fan clubs in South East Asian countries. Indian films are not just a part of a region but a part of the world cinema today. All big budget movies in Hindi and regional film industries are aiming to capture foreign markets. By distributing more



number of prints, releasing worldwide at one time, Indian movies can scale up box office collections.

IMPACT OF GLOBALISATION ON FILM EXHIBITION:

Indian film industry is witnessing rapid changes in film exhibition. Indian theatres see world class facilities, with all the major cities in India having IMAX theatres and multiplexes. Globalisation ushered in these technological changes in the field of film exhibition in India. Indian studios, productions houses have renovated single screen theatres into multi screens in collaboration with foreign studios. There are 13,000 screens in Indian, including around 1000 multiplex theatres. In India, the Multiplex phenomenon was started in 2002. Now it has spread to even two-tier cities. Initially Hollywood first began testing regional language market with dubbed versions of its English hits. The trend was started with 'Jurassic Park' in 1994. This was followed by 'Titanic' in 1998. The successes of these two films gave a fillip to the dubbing film market in India. These were followed by 'Spiderman' series, 'Godzilla', 'Anaconda', and 'Casino Royale', all of which reported multimillion dollar collections. Sony pictures was first to realise the importance of localization. It was the first to start dubbing Hollywood films into regional languages. Another Hollywood production house Viacom entered into a joint venture with the TV 18 to form Viacom18. These two companies started import of Hollywood films into the Indian market. Digitalization was another landscape change brought about by the globalization of the Indian film industry. It has changed Indian cinema in several ways like widespread release of movies across several screens simultaneously worldwide with different formats like 2D, 3D. Digitalization has made it possible to release the new movie at Mandal level theatres also. Sometimes Hollywood Production companies release their movies in Indian market even before release in their home turf i.e. Hollywood. Digitalization reduces the cost of prints and, lower storage and maintenance expenditure and release of small budget films in a



cost effective manner and curtailing of piracy are some advantages offered by this technology (PWC, 2011). Out of 13,000 screens in India, 70 per cent of the screens were already digitalized. The exhibition sector would become 100 per cent digitalized in coming two years. There are largest digital service providers like UFO, Real Image and Qube exhibiting the films in digital formats. Bobby Deol's Kismet was the first Bollywood movie digitally transmitted through a satellite to the theatres in and around Delhi in 2005. Recently Ra.One was exhibited in 2D, 3D formats. Dabang-2 was released on 3, 500 screens. New multiplexes and digitization stimulate the production of 3D culture which is on the rise in India. Significantly, a number of upcoming Bollywood and South Indian films are set to be released in 3D. Digital growth to take the revenues to the next level, Cinema halls advertising revenues are now critical. Digitalization, multiplex screens brings closer theatrical advertisements to the audiences. In all the big towns in India, multiplex audiences have exposure to theatrical advertisements. Globalizations not only makes foreign investment flows into the film industries, but also offer special packages for film shooting in many countries. This in turn promotes tourism in the world. Tourism boards of several counties are increasingly pitching in for locations to attract producers in India by offering subsidies, which can be as high as 40 per cent of the cost of a film. Most of the countries are offering more incentives such as tax rebates, free stays, visa facilitation, apart from sharing the cost of production, in a few projects. Depending upon the opportunity, Indian film makers are now trying to shoot films in exotic locations. Some of the countries like Fiji offer 47 per cent tax rebate to fully funded overseas films for shooting. Bollywood director Anubhav Sinha's 'Warning' has been recently filmed in Fiji. Lately, the German Federal Film Fund (DFFF) has allowed for 20 percent production subsidy on VFX (visual effects) work done in Germany. South Africa offers 30 percent and Australia gives



about 40 percent, Czech Republic offers 20 percent and Spain offers up to 20 percent rebate to filmmakers on their payments. Following the success of Bollywood film 'Zindagi Na Milegi Dobara' which was filmed partly in Spain, the influx of Indian tourists to Spain has increased tremendously. Apart from consistent positive impact of Globalisation on Indian film industry, it all set to pose a few challenges. One of the new key challenges is that availability of a movie in the market within or the same day of the release, in different formats, both off line and online. A few years ago, a film reached television and home video only after six months of its theatrical release. Pirates could take advantage of this delay. Currently the exhibition of television window gap has been reduced to less than 3 months. The TV premier of 'Ek Tha Tiger' happened barely 3 months after its theatrical release, while in Ajay Devagan movie 'Son of Sardar' was telecast only 2 months after. This has had some effect on the business of pirated DVDs. Also, with the shift in consumer preference to the Internet, the business of piracy has also transformed. The physical format (VCDs and DVDs) is disappearing and pirates are therefore shifting their focused target to online. However, piracy continues to plague the industry. Indeed, camera recording incidents in theatres have significantly increased in recent times. During January to September 2012, the Motion Pictures Association (MPA) had identified 53 forensic matches to cam cording incidents in India, a 77 percent increase as compared to 30 camera recording incidents for the same period in 2011. Motion Pictures Distributors Association (MPDA) India estimates that the loss due to piracy in 2012 was USD 1.1 billion, an increase of 15.79 percent from that in 2008. In this context, globalization policies facilitate collaboration and create efficient mechanisms for content protection. Andhra Pradesh Film Chamber of Commerce (APFCC) and MPDA have formed an alliance to promote content protection. The alliance is working on initiatives to tackle camera recording, content theft online



and on cable as well as promote public awareness on the importance of content protection. In June 2012, a joint operation conducted by the MPDA and APFCC has revealed two major organized criminal syndicates which cost INR 250 million revenue loss to the film industry. The Anti Video Piracy Cell (AVPC) of the APFCC has been designed, with a web application to detect and report online piracy. The application is compatible with all smart phones has educative information about content piracy (both online and pirated CDs). People coming across pirated material being sold on the streets or video libraries, can leverage this application to alert the AVPC instantly through their mobile phones. Such efforts will be recognized and rewarded by the industry.

CONCLUSIONS:

Indian Cinema became global cinema now. New technologies in every aspect of film making have brought several changes in India cinema and availability of technology is promising quality in production. Technology and new trends are taking the Indian cinema to newer heights, inching close to the world cinema. Even before globalization policies were introduced in India, our cinema has already co-produced with Hollywood film makers like Tourne and Rapines's Pundalik, Himanshu Rai's The Light of Asia, Richard Attenborough's Gandhi and Daniel Boyle 'Slumdog Millionaire'. However, globalization policies helped to reach it every corner of the world. It creates new film market in and outside of the country. Now overseas collections become the parameter to judge the film success. Digitalized, Corporatized Indian Film Industry leads to more professionalism in film production in India. All these features have placed the Indian Cinema in Global level.

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RELIGIOUS SPIRIT OF MAN IN RADHAKRISHNAN'S PHILOSOPHY

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Dr. Sarvapalli Radhakrishnan was not only an administrator, renowned professor but also a great human being with outstanding qualities which made him a spiritual teacher and a social philosopher. Every subsequent book from his pen has exalted religion as the most precious in life. According to him, "Religion is that knowledge of the essential nature of reality that insight or penetration which satisfies not only a more or less powerful intellectual impulse in us but that which gives to our very being the point of contact which it needs for its vital power, for the realisation its true dignity, for its saving."¹ In his lectures 'In the West and in the East'; and as well as in his writings he focused on 'The Common Plight' and the 'Common Destiny' of man. This paper will be an exposition of Radhakrishnan's thoughts regarding his recommendation of revival of living faith in spiritual values, his observation on religion as an 'Insight into Reality' and his thoughts on the 'Supreme aim of the Social Order'.

Radhakrishnan's Philosophy is fundamentally religious. But religion for him is not a matter of facts and pilgrimages, or mumbling of prayers or worship in temples. The religion of the truly religious.... has for its practical expression the maxim: "He that does good is of God."² Consistent with this dictum he suffuses his religious philosophy

¹ Sarvapalli Radhakrishnan, My Search for Truth "Religion in Transition" Edited by Vergilius Ferm, New York, Macmillan & co., Indian Edition, 1946. Page 21.

² Sarvapalli Radhakrishnan, Religion and Society, London, George Allen and Unwin Ltd., 1933. Page 47.



with a broad humanism in his very interesting autobiographical essay, entitled 'My Search for Truth'.

Radhakrishnan tells us that when the Upanishads speak of *jñānā*, when the Buddha speaks of *bodhi*, when Jesus speaks of the truth that will make us free, they refer to the mode direct spiritual apprehension of the Supreme, in which the gap between truth and being is closed. Their religion rests in the testimony of the Holy Spirit and on personal experience. From the affirmation of spiritual experience, we find that it is possible to reconcile the conclusions of logical understanding with the apprehension of the integral insight. There are different types of knowledge like perceptual, conceptual and intuitive and they are studied to different kinds of objects. Among them, sense perceptions are below us, logical reasoning is with us and spiritual apprehensions are above us. The last type of knowledge may be called integral insight for it brings into activity not merely a portion of our conscious being, sense or reason but the whole. "It also reveals to us not abstractions but the reality in its integrity".³

Radhakrishnan himself a follower of the Advaita Vedānta of Saṅkara, much influenced in early life of Tagore, and equally at home in the literature of Western thought, his outlook is catholic and his philosophy is universal. He offers to us in words which glow with colour and yet are suffused with a radiant gentleness a reinterpretation of the religion of spirit that seeks the deep truths of the universe within the individual soul.

India's traditional thought is that philosophy and religion were one and that both began at the very beginning, with the human

³ Sarvapalli Radhakrishnan, The Religion of the Spirit and the World's Need "Fragments of a confession" The Philosophy of Sarvapalli Radhakrishnan Edited by Paul Arthur Schilpp, Tudor Publishing Company, 1952. Page 60.



consciousness, and prescribed continuous though not frantic discipline for the mind and even for the body. In the introduction to his great work on "Indian Philosophy" Radhakrishnan quotes with approval the conditions demanded by Saṃkara in all who would devote themselves to philosophy. "The Philosopher" he says, is a naturalist who should follow the movement of things without exaggerating the good or belittling the evil on behalf of some prejudice of his. He must stand outside of life and look on it..... Only then he can stake his all on clear thinking and honest judgement and develop an impersonal cosmic outlook with devotedness to fact.

"The student is enjoined to acquire tranquillity, self-restraint, renunciation, patience, peace of mind and faith. Only a trained mind which utterly controls the body can meditate and inquire endlessly so long as life remains, never for a moment letting it be obscured by any terrestrial temptation..... so is he required to undergo hard discipline, spurn pleasure, suffer sorrow and contempt."⁴ Again and again in pursuing the history of Indian Philosophy Radhakrishnan brings us back to these primary things of the Upanishads he writes.

"The mind of a man who does not know his own self goes hither and thither like the water pouring down the crags in every direction. But when his mind is purified, he becomes one with the great ocean of life which dwells behind all mortal forms. The outward mind, if allowed free scope, gets dispersed in the desert sands. The seeker must draw it in ward; hold it still to obtain the treasure."⁵

The lesson of the Bhāgvat Gītā is the same:

*“Ābṛtam meten jñānameten jñānino nitya bairiṇā |
Kāmrupeṇ kountey duṣpureṇānalena ca | [39, 3]
Indriāṇi mano buddhirasyasadhīsthānmucate |*

⁴ Sarvapalli Radhakrishnan, Indian Philosophy, Volume 1. Published in the library of Philosophy, London, George Allen and Unwin, First Edition, 1923. Page 45.

⁵ Ibid, Page 262.

Etaribimohatyē jñānājnamabṛitya dehinam // [40, 3]
Indriāni parāṅhurindriyabhy parā manaḥ |
Manasastu parā buddhīryo budhdheḥ paratastu saḥ " // [42, 3]⁶

What hides the truth from our vision is not merely the fault of intellect, but also the passion of selfishness. Ajñānā is not intellectual error but spiritual blindness. To remove it we must cleanse the soul of the defilement of the body and the senses, and kindle the spiritual vision which looks at things from a new angle. "The fire of passion and the tumult of desire must be suppressed. The mind, inconstant and unstable, must be steadied into an unruffled lake, that it might mirror the wisdom from above. Buddhi, or the power of understanding and discrimination, needs to be trained. The way in which this power operates depends on our past habits. We should so train it as to bring it into agreement with the spiritual view of the universe."⁷

This is in fact the Yogic basis of all the orthodox systems of Hindu Philosophy and Radhakrishnan adopts it in essentials as the necessary foundation for all progress in the spiritual life. Speaking of the general characteristics of the six Hindu systems, he says, "All the systems have for their ideal complete mental poise and freedom from the discourse and uncertainties, sorrows and sufferings of life, a repose that ever is the same, which no doubts disturb and no rebirths break into....Philosophy carries us to the greats of the Promised Land, but cannot let us in; for that insight or realisation is necessary. We are like children stranded in the darkness of *Sansara*, with no idea of our true nature, and inclined to imagine fears and to cling to hopes in the gloom that surrounds us. Hence, arise the need for light, which will free us from the domination of passions and show us the real which we unwittingly are, and the unreal in which we ignorantly live."⁸

⁶ Bhagwat Gita tritya adhay, Gita press Gorakhpur, 2006. Page- 56.

⁷ Sarvapalli Radhakrishnan, Indian Philosophy, Volume 1. Published in the library of Philosophy, London, George Allen and Unwin, First Edition, 1923. Page 536.

⁸ Ibid volume II, Page-26



This is not to say that Radhakrishnan thinks spiritual insight impossible without recourse to a whole programme of physical exercise; it is rather that he preserves for us and advocates with all his expressiveness the principle behind Yoga, namely, that we should practice withdrawal of the spirit and the discipline our thoughts to quietness. The withdrawal of the soul is equally possible and equally necessary to the workman and the scholar. When it is practiced, we find the immense riches of our inner consciousness.

The world-spirit gathers up all stages from the lowest to the highest, so that all arbitrary divisions which stop short of the mystic experience and all attempts to sunder matter and spirit do wrong to man's inner nature. Intuitional truth is higher than that of the intellect, and in the state of *Ananda* man becomes conscious that there is but one Absolute within him and without. The Vedanta becomes the *Advaita Vedānta*. This is the view of life expressed by Radhakrishnan in 1920 and it is substantially his view today. "This infinite spirit, which though it transcends the self is yet revealed at its fullest in the self, in that deep well of being that remains in dreamless sleep when all distinction of subject and object vanishes and the immortal principle and substratum of Being alone remains, is to Radhakrishnan the object of all faith and worship, the source of all joy and the ground of all morality."⁹

To Radhakrishnan's mind, religious intuition is not only an autonomous form of experience, but a form of experience which informs and validates all spheres of life and experience. Philosophical, artistic, and ethical values of truth, beauty, and goodness are not known through the senses or by reason. Rather, "they are apprehended by

⁹ A. N. Malloy, *Spiritual Religion and the Philosophy of Radhakrishnan*, Edited by Paul Arthur Schilpp, Tudor Publishing Company, 1952. Page 333-366.



intuition or faith..."¹⁰For Radhakrishnan, religious intuition informs, conjoins, and transcends an otherwise fragmentary consciousness.

Informing Radhakrishnan's interpretation of religious intuition is his affirmation of the identity of the self and ultimate reality. Throughout his life, Radhakrishnan interpreted the *Upaniṣadic Māhavākya, Tat Tvam Asi*, as a declaration of the non-duality (*advaita*) of Atman and Brahman. His non-dualistic interpretation allows him to affirm the ineffability of the truth behind the formula. Radhakrishnan readily appropriates his acceptance of the non-dual experience to his interpretation of religious intuition. Radhakrishnan not only claimed to find support for his views in the *Upaniṣads*, but believed that, correctly understood, the ancient sages expounded his interpretation of religious intuition. Any attempt at interpretation of the intuition could only approximate the truth of the experience itself. As the ultimate realization, religious intuition must not only account for and bring together all other forms of experience, but must overcome the distinctions between them. Radhakrishnan goes so far as to claim that intuition of this sort is the essence of religion. All religions are informed by it, though all fail to varying degrees to interpret it. "Here we find the essence of religion, which is a synthetic realization of life. The religious man has the knowledge that everything is significant, the feeling that there is harmony underneath the conflicts and the power to realize the significance and the harmony".¹¹

In spite of technological and scientific developments, the world is facing a number of problems like communalism, various kinds of discrimination and prejudices till this century. According to Radhakrishnan, in the last few decades science has advanced much and it has brought immense changes in our external social life. But

¹⁰ Sarvapalli Radhakrishnan, *The Idealistic View of Life*, being the Hibbert Lectures for 1929. Page 199-200.

¹¹ *Ibid*, page 201



experimentation of the physical science has not been able to bring any minor positive changes in the elevation of human soul. For the elevation of the human soul, it needs a proper methodological meditative advance. In modern days, the stand of moral scale has gone downward both socially and spiritually. In the same time significantly a mechanical and formal life style has been arisen due to lack of ethical and spiritual influence in life.

We have to try our heart and soul for the establishment of economical equality in the society, there is no doubt. But it is not the totality of humanism. For the realization of humanism, we need to develop the practice of forgiveness and wellness of mind. We also need the love, devotion and selfless service for the up-liftment of mind and insightment of soul. Being a statesman, his views regarding the spirit of man and the ultimate destination of man as *Sarvamukti* that is not individual redemption but universal redemption may play an important role to solve some of the discrimination at present ages in India, which are based on cast, gender and communities. Education and only spiritual upliftment are the most important means through which we can hope to bring peace and harmony in society.



TECHNOLOGY MEDIATED COMMUNICATION: EVOLUTIONARY AND CONTEMPORARY PERSPECTIVE

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Introduction

Relation between technology and human being has been as old as the existence of the human kind. One way or the other human beings have been using the technology to make their life easier and to solve the various problems of life. But sometimes it also happens that means also works differently and influences the life without making any noise. In other words, we cannot imagine all the consequences of conveniences without using it in real life. In the cycle of technological development time also came when people started showing need of machines which could make their life easier. In this extension technologies like writing, telegraph, telephone, radio, and internet also came.

Dozens of scholarly books were written, studying the ways in which the new technology was reshaping the structure of family, the literacy of children, and ability of people to think critically and express themselves.

Writing:

It is easy way to forget that writing opposed to oral communication, is a technology (Ong 1986). Not only that, but it is relatively new technology as far as human development is concerned. Although human communication is dated at about 50,000 years, the development of writing and alphabet is only around 5,000 years old. In Phaedrus, Plato argues that writing is in human and artificial, that it destroys memory and weakens the mind (Ong, 1982).



Until medieval times, writing was very much a minority pursuit. Documents were hand written on expensive parchment. It might take a copyist (usually a monk) a year to make a copy of religious text (Burke, 1991). The vast majority of information was transmitted orally. By travelling poets or a network of messenger employed by the church or a royal house. to the illiterate writing held little value unless a document had an official seal , there was no counting on its authenticity (and they were often faked). In laws, it was the oral that counted the court 'heard' evidence against charges read aloud to the defendant (a practice that continues to this days) . Unlike today, writing was expected to be read aloud, and most in well to do households different people would occupy the role of the reader and writer of letters.

A number of developments led to the rapid spread of literacy and writing the reinvention of moveable type printing press by Gutenberg around 1450 removed the need for laborious coping by hand. The invention of printing press in 1450, 'destroyed' the oral society and its effect were to be felt in every area of human activity (Burke, 1991). According to Ong (1986), 'writing' restructures consciousness, it separates the knower from the known and creates distance between the author and the reader. Writing cannot answer questions and forever static (one of the Plato concerns). Ong (1986) even argues that writing may have a neuropsychological effect encouraging left hemisphere activity in readers of alphabetic scripts. There is an educational movement, writing across the curriculum, that has since the early 1970s attempted to use writing as an aid for student learning (Hilgers et al., 1999).

It is arguable that in one way computer technology has brought writing closer to its oral predecessor (Yetes, 1996). Computer technology and the internet have allowed us to type freely, without the need to carefully from sentences before we write. Plato complained that writing is always a facsimile of the mind. While the spoken words taps directly



into consciousness. As per (Collot and Belmore, 1996) it has been noted by linguists that the register of synchronous computer mediated communication shares many of the characteristics of verbal communications.

The internet has been an upsurge in written communication among groups who only ten years ago would have hardly written at all during a normal working day. This shift towards the written words, regardless of register (or grammatical and spelling mistakes) may in itself have large scale impact on people's psychological processes.

The telegraph:

While writing was perhaps the first form of technology mediated communication, the telegraph (which translates as 'far writers') was certainly the immediate ancestor of modern electronic communication, including the internet (Standage 1999). The ability to communicate quickly between two distant point offered commerce and the government a competitive advantage from the earliest stages of civilization. After getting instant information people could take decision earlier than their enemies in the battle field. This definitely put them on advantageous position. Also in the field of commerce and ups and downs of share market could be estimated earlier through the emerging technology like internet and telegraph.

By the time of industrial revolution in Europe, the need for the fast transmission of the commercial and government information became more pressing. the search for a communication technology intensified. In 1791, Claude Chappe demonstrated an optical system that allowed the communication of a complex message to a point ten miles distant. His system was quickly adopted by the French government and expanded by Napoleon in 1804. The importance of his invention was recognized across Europe and by the early part of the nineteenth century an optical telegraph covered much of the Europe.



It was 1841 before Morse could demonstrate his electric telegraph well enough to convince people of its value. By the end of nineteenth century the electric telegraph had revolutionaries the speed of communication and in turn the pace of life itself.

Along all this the cost and lack of privacy tended to inhibit personal communication between members of the telegraph. However for the telegraph operators the network provided on 'on line' 'community' encompassing thousands of people, very few of whom ever met face to face (Standage, 1999). These 'sense of community' amongst telegraph operators was heightened by their own norms and customs, vocabulary, the use of short (usually two or three letters) signatures or 'sign' and a sense of ownership of particular 'line'. According to Standage experienced operators could even recognize their online friends simply from their style of Morse code.

It was the popular use of telegraph which increases lively online interaction, swapping jokes, stories, and opinions among the telegraph operators. Which actually gave the sense of community which shown the informal use of telegraph. women formed a reasonably large proportion of this community (estimated at around a third), and were generally aged between 18 and 30 and unmarried, although these women operators were usually segregated from the men they were of course in contact with them daily on line. It was perhaps not surprising than that romances between telegraph operators were widespread.

The evidence of an online community of telegraph operators, alongside the romances between distant pairs, led Standage to conclude that 'despite the apparently impersonal nature of communicating by wire, it (the telegraph) was in fact an extremely subtle and intimate means of communication (Standage, 1999).



Radio communication:

Following the invention of radio by Marconi , most radio station were staffed by ex telegraph operators. As both the radio waves and telegraph used Morse code. It was not surprising that these new operators took with the linguistic short cuts used on the telegraph, and many of the social norms and etiquette.

After the invention of radio it became very good source of news and information communication. But as time passed radio proved a easier tool for interpersonal communication. Gradually voice of different popular face became their identity. Radio helped well known figures enter in to the heart of the people by their voce. Even people used to recognize their favorite actors and leaders by their voice only. It was the charismatic impact of the radio on people all over the world. Also radio became a cheap source of entertainment and social communication. Even today radio accounts for immediate source of entertainment, knowledge, spreading of information and policies of government.

Various kinds of songs kept people busy in their work. Sometimes a song keeps special significance for a person. This evokes different kinds of emotion in the individual. Also some songs evoke patriotic and philanthropic feelings in us.

By the end of the First World War relatively large numbers of amateur's radio enthusiasts had joined the airwaves. These amateurs were called 'hams' which also happened to be the name given by telegraph operators to particularly slow (and usually rural) operators on the wires. The use of radio waves by 'hams' gave numbers of public for the first time the experience of global community linked by mediated communication. Amateur radio gave many people on 'internet link' experience (and too many still does). According to one of the many radio FAQs, amateur radio is one of the most direct and personal



means of communication between citizen of different countries, races, culture and believing.

Ham radio, like the telegraph before it, also has its own customs and languages. For instance, there is a considerable emphasis paid on radio ham internet sites to establish proper behavior.

It has also been reported that the intimate relation also developed between radio hams. For instance, once web site says, a growing proportion of radio amateurs are women, and it is fairly common for OMs (male operators) on YLs (young lady operators) to meet to first over the air, than in person, get married and start raising their own future radio operators.

The amateurs radio Newslines (1998), does report on marriage of Erin Burck and Don LaFrenire, who courted on air. Although they used their own secret frequency Erin Says we land many interesting conversation on the air.

Telephone:

Before internet one another tool telephone which helped to fill the gap between two people. This gap was some way or the other related with the mental or psychosocial behavior of the people.

In 1876, Alexander Graham Bell's experiments develop on enhanced 'harmonic' telegraph led to the patenting what became known as the telephone. Initially the marketing of telephone stressed its business uses and the possibility of the telephone as a device for broadcasting rather than for one to one communication. At that time more attention was given on the practical use of telephone rather than its possible use for social interaction. Such 'practical' uses included the broadcasting of news, weather reports and sports results, for ordering goods and services and in emergencies. Fischer (1992) notes that telephone executive's bemoaned frivolous use of the telephone until the 1920s. for



instance , in 1909 a local manager in Seattle listened in to calls on a residential exchange, and found the 30 percent were 'purely idle gossip' his concern being how to reduce this 'unnecessary use' (Fisher,1992).

So the possible use of telephone as a social interaction was ignored. But gradually different companies like Canadian Dominion Telegraph Company in 1877 advertise their telephone services to use as a social interaction. So telephone as well as internet spread light on those gray areas of social interaction hence to which was ignored initially. This attempt gave a chance to individual to enhance their social interaction to one another. Which used to fulfill the social demands of the people to some extent supposed to be related with the well being of the society and people. By this way technology like telephone helped to attain the psychological well being of the people. But initially the social uses of telephone were ignored. Gossip other than business used to be considered as useless and steps were taken to minimize these talks on telephone. But gradually promotion started for having social or other than business purpose talk.

From 1920s onwards the telephone industry effectively discovered sociability and began marketing the telephone as a technology for socializing as well as for practical uses. Around this time adverts began to stress the use of telephone to keep in touch with family and friends in more 'intimate' manner than a letter. A typical advert around this time noted that it's a weekly affairs now, those found intimate talks. Distance rolls away and a few minutes every Thursday night the familiar voices tell the little family gossip that both are so eager to hear (Bell Canada,1921).

So, effectively for thirty years, the telephone industry was out of step with the actual uses of the telephone in residential households. The attempts by the companies to create uses for the telephone have echoes in early attempts to encourage households to purchase PCs to manage



their accounts or to plan their garden. It was not until the discovery of sociability in the form of internet that these efforts desisted.

A further parallel with the development and spread of computer technology in households is the early theorizing on the impact of telephone. Fisher (1992) also stressed on the fact that telephone would replace face to face encounters with something less real. McLuhan (1964) quotes from a 1906 copy of the New York telegram the use of word 'phony' meaning the lack of real substance inherent in telephone conversation. Also Berger (1979) claims to use the phone habitually also means to learn a specific style of dealing with others, a style marker by impersonality. These internal habits actually carry over into other areas of life such as non telephonic relations other person.

However, there is evidence that people use the telephone to develop relationships and that they feel close to those they talk regularly on the phone. A vast majority of telephone calls are directed to a relatively low number of people (typically five or six). Suggesting that those relationships are mainly aimed on telephone. According to Brown and Perry (2000), telephone are always designed to support the user, the absence of off switches on standard land line telephone has led to third party device (e.g., caller ID) to manage the interaction.

Internet:

Internet is a tool developed by the U.S defense department in mid 1960s to develop a distributed network of computers. As originally it was method for sharing data only. The original intention of the internet (at the time called Arpanet) was to provide links between computers rather than people.

With the advent of World Wide Wave in the early 1990s and the commercial release of web browsers in 1993-4 the internet began to expand rapidly. And to attract increasing numbers of commercial



organizations and private users. There are various domains of internet activity:

E-mail: Email is a medium of text based communication. It's like writing a letter to someone or sending text based information. But within a few seconds it reaches to the prescribed email address.

Chatting: Chatting is another tool for texted based communication. For chatting the World Wide Wave or dedicated software (e.g., IRC) is necessary. At present social networking sight like Face book, Twitter, Watsapp etc are the easier medium for chatting.

File sharing: file sharing was one the earliest activity on the internet. Initially there used to be remote server using for instance, file transfer protocol (FTP or Gopher) and uploading and downloading files. These days through various sites like Yahoo, Gmail, Hotmail we can share files.

Multi user dimension (MUDs): MUD is text based virtual environments that developed out of role playing games. They provide not only synchronous communication environments, but also description of environments and a series of commands for interaction with those environments and other participants.

Virtual world: virtual world are effectively 3D (MUDs) e.g., the place and where participants are represented graphically and interacts with environments and other users in the geographical 3D environment participants are represented by 'avatars' graphical representation of their character.

Video/ voice communication: with the help of internet people can upload and share various kinds of videos and pictures. It can be shared to one and many others at a time.

The World Wide Web: The World Wide Web accounts for much of the data transmitted on internet although it is still behind email as a most



popular use. However much is made of the WWW as a content delivery device it is the use of hyper text links between pages that are written using hypertext work up language (HTML). although the use of xml, Java script, cold fusion and other scripting languages and application allows for the design of dynamic web page.

The various different internet activities and tools outlined above provide users with range of benefits and shortcomings , many of which users are actively aware of , and with which users seek to advance their own goals (Mantovani, 1996). They also determine what a user can do, with whom, and to a degree, how that behavior will be enacted. It is this balances the aware user and the effect a media on behavior or psychological state that is the domain of the study of the psychology of internet.

Psychosocial consequences of mediated communication:

Studies had also been done to show the negative aspects of mediated communication. The term like internet addiction, cyber porn, antisocial behavior is also attached with use of new communication tools.

Internet Addiction Disorder (IAD) was first coined as a term (or alternatively, disorder) in 1991 by the psychiatrist Ivan Goldberg. According to him people could be addicted to, for instance shopping or sex (or both). One of the first empirical studies of internet addiction was conducted by Kimberly Young. According to Morahan- Mortin and Schumacher (2000), studied 277 students and found 8.1 percent of their sample pathological internet users who reported for more symptoms (12.2 percent male, 3.2 percent female).

Morgan- Martin and Schumacher also measured users 'attitudes to the internet. They found that pathological internet users scored higher on their measure of 'social confidence' and 'social behavior. Devis (2001) who has given the cognitive behavioral model of pathological internet use. The stress is the introduction of the internet into the person's life.



This experience might be immediately reinforcing (i.e., entering into a chat room lonely). Linked to this is 'maladaptive cognition' of the internet users. So perhaps they will ruminate about their internet use, they might hold negative self views that can be escaped online, or they might generalize their online and off line experiences (e.g. thinking that it's only on the internet that people treat me well). According to Devis, it is this maladaptive cognition that lead to either specific or generalized pathological internet use (2001). Devis (2001) emphasized that for a person lacking social support, internet use is a source of identity for them than a helpful tool. Obviously this approach would be problematic for those gaining a positive sense of self from internet use. In the end, Devis concludes that it is the individual that determines whether or not their internet use is adaptive or maladaptive. All the different modules of internet addiction are suggest that the internet provides an escape from everyday problems and that the anonymity on the internet makes it particularly attractive (or addictive).

Flaming and antisocial behavior are also connected to the pathological internet use. According to Selfe and Mayer (1991), 'heated', emotional, sometime anonymous, and venting is a common, if not universal, feature of computer based conferences.

Flaming is a behavior includes item such as profanity, 'typo graphic energy (e.g exclamation marks, name calling, swearing and general negative affect. When the focus of research moves from flaming to 'inhibited' communication the definition widens to include even non task based messages and conveying bad news.

Aiken and Waller (2000) suggest 'flames are probably due to the characteristics (such as gender, level of maturity, hostility, etc) of the individual writing them. Indeed Smolensky. et, al (1990) found that inhibited communication was related to an individual's level of extraversion as well as the level of familiarity within the group.



Deception and misrepresentation in online relationship are also prevalent. Absence of face to face interaction promotes the interacting individuals to show exaggerated self image and impression. A study conducted by Metts (1989) found that 92 percent of the people report lying to their romantic partner at least once. However, internet does provide the opportunity for greater levels of misrepresentation, particularly in the early stages of the relationship when commitment is low, and self presentation and enhancement agendas are paramount (Tice et.al,1995).

Mediated communication and well being:

Kraut and Kiesler (1998) found from their Home Net Project, greater use of internet was associated with small, but statistically significant declines in the social involvement and with increase in loneliness. Greater use of internet was also associated with increase in depression.

Kraut and his colleagues go on to suggest that the ties created between people on the internet might be generally weak, whereas ties built in real life tend to be strong. A strong tie is characterized by 'frequent contact, deep feelings of affection and obligation that generally buffer people from life's stresses and that lead to better social and psychological outcomes' (Kraut et. al 1999). Conversely, weak network ties are characterized by 'superficial and easily broken bonds, infrequent contacts and narrow focus. Thus although the main use of the internet in their sample was for impersonal communication, the ties that found these people communicating were weak, and so did not offer the same psychological support as a strong (i.e. face to face) tie.

But studies are also found that support the evidence that instruction on internet promotes the psychological and social well being of the internet user. Also some studies are revised support the above conclusion. First it has been argued that Kraut et. al.(1999) use correlation to infer causality (Shapiro, 1999). It is just reasonable that



people who were feeling depressed turned to the internet, rather than internet caused depression. Moody (2001) hypothesized that internet users might suffer increase in emotional loneliness, but would feel less socially lonely because of the time spent online in communities. LaRose et. al (2001) reformulated the link between internet use and depression to include users experience and self efficacy. The hypothesis of La Rose et.al (2001) proposes that novice internet users experience a number of problems (e.g. computer crashes) that can cause stress and perhaps depression.

Another attempt to map the impact of the internet on everyday life comes from the Pew Internet and American life project. The finding of the Pew project (e.g. Howard et. al. 2001) suggests that internet use enhances social contact, rather diminishes it.

So from the above description and studies we can conclude that internet influenced the life of the people positively along with some inhibitory impact. But this new technology made the life easier, not only we achieved mile stones in area of mediated communication, but on social aspects it helped people to bring together. With developing world its demand of the hour to get accomplished with the internet use. Perhaps there is no any part of life, from interpersonal interaction to sending satellite in space which are untouched by internet. Further research in the area is necessary so that other aspect could be known which are remained untouched. So in this sense, the internet is an enabling technology rather than replacing one.

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INTRUSION DETECTION SYSTEMS

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INTRODUCTION

The emerging technology of wireless networks created a new problem. Although traditional IDSs are able to protect the application and software components of TCP/IP networks against intrusion attempts, the physical and data link layers are vulnerable to intrusions specific to these communication layers. In addition to the vulnerabilities of wired networks, wireless networks are the subject of new types of attacks which range from the passive eavesdropping to more devastating attacks such as denial of service. These vulnerabilities are a result of the nature of the transmission media. Indeed, the absence of physical boundaries in the network to monitor, meaning that an attack can be perpetrated from anywhere, is a major threat that can be exploited to undermine the integrity and security of the network. It is, therefore, essential to take into account these considerations when designing and deploying an intrusion detection system.

Wireless network refers to any type of computer network that is wireless, and is commonly associated with a telecommunications network whose interconnections between nodes are implemented without the use of wires. Wireless telecommunications networks are generally implemented with some type of remote information transmission system that uses electromagnetic waves, such as radio waves, for the carrier and this implementation usually takes place at the physical level or "layer" of the network.



TYPES OF WIRELESS CONNECTIONS

- Wireless PAN
- Wireless LAN
- Wireless MAN
- Wireless WAN
- Mobile devices networks

WIRELESS PAN

Wireless Personal Area Networks (WPANs) interconnect devices within a relatively small area, generally within reach of a person. For example, Bluetooth provides a WPAN for interconnecting a headset to a laptop. ZigBee also supports WPAN applications.^[3] Wi-Fi PANs are also getting popular as vendors have started integrating Wi-Fi in variety of consumer electronic devices. Intel My WiFi and Windows 7 virtual Wi-Fi capabilities have made Wi-Fi PANs simpler and easier to set up and configure.^[4]

WIRELESS LOCAL AREA NETWORK (WLAN) :

Links two or more devices using a wireless distribution method (typically spread-spectrum or OFDM radio), and usually providing a connection through an access point to the wider internet. This gives users the mobility to move around within a local coverage area and still be connected to the network.

- Wi-Fi: Wi-Fi is increasingly used as a synonym for 802.11 WLANs, although it is technically a certification of interoperability between 802.11 devices.
- Fixed Wireless Data: This implements point to point links between computers or networks at two locations, often using dedicated microwave or laser beams over line of sight paths. It is often used in cities to connect networks in two or more buildings without physically wiring the buildings together.



WIRELESS MAN

Wireless Metropolitan area networks are a type of wireless network that connects several Wireless LANs.

- WiMAX is the term used to refer to wireless MANs and is covered in IEEE 802.16d/802.16e.

WIRELESS WAN

Wireless Wide Area Networks are wireless networks that typically cover large outdoor areas. These networks can be used to connect branch offices of business or as a public internet access system. They are usually deployed on the 2.4 GHz band. A typical system contains base station gateways, access points and wireless bridging relays. Other configurations are mesh systems where each access point acts as a relay also. When combined with renewable energy systems such as photo-voltaic solar panels or wind systems they can be stand alone systems.

MOBILE DEVICES NETWORKS

With the development of smart phones, cellular telephone networks routinely carry data in addition to telephone conversations:

- Global System for Mobile Communications (GSM): The GSM network is divided into three major systems: the switching system, the base station system, and the operation and support system. The cell phone connects to the base system station which then connects to the operation and support station; it then connects to the switching station where the call is transferred to where it needs to go. GSM is the most common standard and is used for a majority of cell phones.^[5]



- Personal Communications Service (PCS): PCS is a radio band that can be used by mobile phones in North America and South Asia. Sprint happened to be the first service to set up a PCS.
- D-AMPS: Digital Advanced Mobile Phone Service, an upgraded version of AMPS, is being phased out due to advancement in technology. The newer GSM networks are replacing the older system.

USES

An embedded RouterBoard 112 with U.FL-RSMA pigtail and R52 mini PCI Wi-Fi card widely used by wireless Internet service providers (WISPs) in the Czech Republic.

Wireless networks have had a significant impact on the world as far back as World War II. Through the use of wireless networks, information could be sent overseas or behind enemy lines easily, efficiently and more reliably. Since then, wireless networks have continued to develop and their uses have grown significantly. Cellular phones are part of huge wireless network systems. People use these phones daily to communicate with one another. Sending information overseas is possible through wireless network systems using satellites and other signals to communicate across the world. Emergency services such as the police department utilize wireless networks to communicate important information quickly. People and businesses use wireless networks to send and share data quickly whether it be in a small office building or across the world.

Another important use for wireless networks is as an inexpensive and rapid way to be connected to the Internet in countries and regions where the telecom infrastructure is poor or there is a lack of resources, as in most developing countries.



Compatibility issues also arise when dealing with wireless networks. Different components not made by the same company may not work together, or might require extra work to fix these issues. Wireless networks are typically slower than those that are directly connected through an Ethernet cable.

A wireless network is more vulnerable, because anyone can try to break into a network broadcasting a signal. Many networks offer WEP - Wired Equivalent Privacy - security systems which have been found to be vulnerable to intrusion. Though WEP does block some intruders, the security problems have caused some businesses to stick with wired networks until security can be improved. Another type of security for wireless networks is WPA - Wi-Fi Protected Access. WPA provides more security to wireless networks than a WEP security set up. The use of firewalls will help with security breaches which can help to fix security problems in some wireless networks that are more vulnerable

INTRUSION DETECTION:

Wireless has opened a new and exciting world for many of us. Its technology is advancing and changing every day and its popularity is increasing. The biggest concern with wireless, however, has been security. For some time wireless has had very poor, if any, security on a wide open medium. Along with improved encryption schemes, a new solution to help combat this problem is the Wireless Intrusion Detection System (WIDS). In the security and wireless world this has fast become a major part of securing a network. The next sections will cover details of what a WIDS is and can do, along with incident response, and creating a wireless policy.

WHAT IS AN INTRUSION DETECTION SYSTEM?

An Intrusion Detection System (IDS) is a software or hardware tool used to detect unauthorized access of a computer system or



network. (Wikipedia, 2005) A wireless IDS performs this task exclusively for the wireless network. These systems monitor traffic on your network looking for and logging threats and alerting personnel to respond. An IDS usually performs this task in one of two ways, with either signature-based or anomaly based detection. Almost every IDS today is at least in part signature-based. Attacks and their tools usually have a unique signature that can be detected and/or found. This means that known attacks can be detected by looking for these signatures. The downside to these is that they are easy to fool and can only detect attacks for which it has a signature.

The other approach is anomaly-based systems. These are not often implemented, mostly because of the high amount of false alarms. An anomaly-based system develops a baseline of what it considers normal traffic. Any time it detects traffic which deviates from what it considers normal an alert is generated. The advantage is that it can catch many attacks that are new or unknown and that would never be seen by a signature-based IDS. The drawbacks consist mainly of large amounts of time being spent to train and retrain the IDS system, as well as the large amount of false alerts that have to be examined.(Debar, n.d.a) As a note, hybrid systems have also been evolving that use both signature-based and anomaly-based techniques.

WHY USE A WIRELESS INTRUSION DETECTION SYSTEM?

The traditional wired IDS is a great system, but unfortunately it does little for the wireless world. The problem with wireless is that in addition to attacks that may be performed on a wired network, the medium itself has to be protected. To do this there are many measures which can be taken, however there are even more tools designed to break them. Due to the nature of wireless LANs (WLAN), it can be difficult to control the areas of access. Often the range of a wireless network reaches outside the physical boundaries of an organization.



This creates limited control because it means an attacker can now sit in a car a mile away while he attempts to penetrate your network. With such a problem with wireless security, developing and implementing WIDS systems is definitely a step in the right direction. If you have wireless and are concerned about attacks and intruders, a WIDS may be a great idea.

A large number of possible attacks can be detected by a WIDS. The following will list major attacks and events that can be detected with the help of a WIDS. Rogue devices, such as an employee plugging in an unauthorized wireless router, incorrect configurations, connectivity problems, jamming, man-in-the-middle attacks, wardrivers, scanning with programs like Netstumbler or Kismet, RF interference, MAC spoofing, DoS attacks, attempts of brute force to get pass 802.1x, strong RFI, or use of traffic injection tools. (Valdimirov, Gavrilenko, & Mikhailovsky, 2004) Wired Equivalent Privacy (WEP)-related events can indicate legacy or rogue devices.

This is because many organizations no longer allow WEP to be used and therefore by detecting WEP frames in use you can infer that either a legacy device is in use or someone has configured a rogue wireless device with WEP. (Valdimirov et al, 2004) Different WIDS devices and software have different capabilities in what can be detected. Make sure the WIDS you chose will fit your company's profile.

If detecting incidents is not enough, some WIDS systems now also incorporate the function of intrusion reaction. The process of intrusion reaction is simply that when an event occurs, the WIDS can automatically respond in a way that will stop the detected event from persisting. Examples of two such reactions are, weak key interference, and address rule matching. Weak key interference is designed to protect the weak keys in WEP that allow it to be easily cracked. The



Idea is that encrypted frames are generated using a false key and hence prevents authentic frames from revealing the real key.

Address rule matching is a way to determine if a fake MAC address is in use. If detected the address is redirected to a honeypot, quarantining the user from the production network.

INCIDENT RESPONSE

Let's say you've got your WIDS up and running. You receive a high alert; your wireless is under attack! By most this would be considered an "Incident." An incident can be defined as an assessed event of attempted entry, unauthorized entry, or an information attack. (Incident, 2005) It is now time to go into action, or as some would say perform an incident response. But before you do, you need a plan to keep things from getting out of hand. Having a plan allows you to follow a step-by-step approach and avoid chaos and confusion in the midst of an incident.

Provided are seven steps to follow for when such an event occurs. These seven steps are preparation, identification, initial response, formulate response strategy, investigate the incident, reporting, and resolution. Preparation involves setting up systems to detect threats, creating policies, and organizing a response team that can respond when needed. Setting up your WIDS would be part of this first step. Identification of an incident (a threat which poses a risk and requires action) can also be provided in part by aWIDS that logs and alerts to potential threats.

Often these alerts come from other sources as well, for example, staff members reporting unusual activity. Initial Response consist of recording what is taking place along with bringing in necessary staff or teams to start investigating and responding to the alert, as well as informing any higher authorities necessary. Formulating the response strategy is strait forward; determine the best plan of action, get



approval and proceed with plan. Investigating the incident includes collecting a complete record of what happened including any data involved, what was done and by whom, along with when it happened and how to prevent it. This may include gathering logs stored from the WIDS system, as well as determining any settings that may be modified to help prevent the threat in the future.

Reporting and documenting every step and action taken, down to any command entered and by whom, is perhaps one of the most important steps involved in an incident response. A dressed up version of the report is also usually made for upper staff, while a complete record like what was created in the previous investigation phase may be kept for in-depth analysis at a later time. Finally resolution involves trying to prevent this from happening again. Tightening up your firewall and servers and adding/changing signatures and settings on your IDS/WIDS systems are all typical changes during the resolution phase. It also involves looking over what happened and how it was handled so that you can improve the process. What tools, procedures, and people, did or didn't work as planned and how or what can be done to improve the process. (Mandia, Prosis, & Pepe, 2003) Choosing a Wireless Intrusion

DETECTION SYSTEM

Now that we have an idea of what can be detected and what to do during an incident, we need to decide which WIDS to implement and how. It is not within the depth of this paper to cover all vendors of WIDS systems; therefore, further research is suggested before choosing a WIDS. Here we'll discuss the architecture of a wireless IDS along with a general overview of Commercial WIDS systems vs. Open Source WIDS systems.

A wireless IDS can be deployed in one of two ways centralized or decentralized. In a decentralized environment each WIDS operates



independently, logging, and alerting on its own. In addition this also means each WIDS has to be administered independently.

In a large network this can quickly become overwhelming and inefficient, and therefore is not recommend for networks with more than one or two access points. The idea behind a centralized WIDS is that sensors are deployed that relate information back to one central point. This one point would send alerts and log events as well as serve as a single point of administration for all sensors. Another advantage to a centralized approach is that sensors can collaborate with one another in order to detect a wider range of events with more accuracy. (Yang, Xie, & Sun, 2004)

In this approach there are also three main ways in which sensors can be deployed. The first is by using existing access points (AP). Some access points on the market are able to simultaneously function as an AP and WIDS sensor. This option has the potential to be less expensive than the others however there is a downside. Using the AP for both functions will reduce the performance, potentially creating a "bottle neck" on the network. The second option is to deploy "dumb" sensors. These devices simply relay all information to the central server and rely on the server to detect all events. While inexpensive, all information is sent back to a central point causing an impact in the performance of the wired network and creating a single point of failure at the server. The third option is the use of intelligent sensors.

These devices actively monitor and analyze wireless traffic, identify attack patterns and rouge devices as well as look for deviations from the norm. They then report these events back to the central server and allow an administrator to invoke countermeasures. (Madge, 2005)

Wireless IDS systems are available either as a complete hardware/software solution or as a software only solution. An example



of one such commercial hardware device is Air Defense Guard (www.airdefense.net). Commercial systems are expensive so compare the capabilities of each, your budget, knowledge and needs and find one that works best for you.

2.3 WIRELESS POLICY:

By now you should have a good idea about what a WIDS is and what it can do. However before you go jumping in to set one up of your own, there is more you need to know. You need to ensure you create and have a wireless policy in place. Without one, you may violate privacy rights. You need to have a policy stating what will and will not be allowed on your wireless network. A policy establishes a set of guidelines that must be followed and often waves users rights to privacy.

Creating and enforcing a wireless policy is the most important aspect of wireless security. Without policy anything goes, within the boundaries of the law. Policies need to be read and understood by all employees and employees need to be constantly reminded of what the policy states. Either in your wireless policy or in another, an important issue that needs to be addressed is that of privacy.

The Electronic Communications Privacy Act and various wiretapping statutes prohibit the interception of private communications. An exception to this is allowed by gaining consent. While the extent to which such laws apply to employees is not black and white, if you plan to conduct network monitoring of traffic and data among other things, it is best to ensure your policy be written to give consent of such actions, or face the possibility of legal actions. Your policy should be written with help from individuals of different backgrounds. This should include management, technicians, and users to represent different viewpoints and concerns. Also you will want your policy to be reviewed by a lawyer to ensure it will hold up in a court of



law. A wireless policy will not prevent threats from occurring but with a well written Policy in place you can reduce the chances of such events taking place and ensure protection for when you are attacked.

Your wireless policy should include specific details concerning the following topics. Who is responsible for your wireless? Someone with knowledge of wireless and authority on your network needs to be listed in charge of wireless. Often when specifying such roles it is better to list a job title as opposed to a name. If you list specific names the policy must be changed each time that person leaves or changes roles. A risk assessment should be included that determines threats and vulnerabilities in relation to the WLAN.

This may be added as a separate section to the policy as risk assessments constantly change and should be updated often.

The policy should state whether the wireless is to be segmented from the remainder of the network. Depending on the needs of wireless users segmenting the WLAN can be beneficial. In the event the wireless segment was compromised, the wired LAN segment would still be protected. Your policy should include if you use authentication such as 802.1X. A big issue is confidentiality. This involves if and how communications are encrypted. The original standard for wireless encryption was Wired Equivalent Privacy (WEP). WEP has been found to have many flaws and can be easily cracked in a matter of minutes. Unless there are extenuating circumstances like the inability to update legacy equipment, WEP should never be used for encryption. If it can not be avoided it is better to use WEP over nothing as it does provide some layer of protection.

When possible, WPA or WPA2 (802.11i) should be implemented with the use of TKIP or AES. Your policy should state what methods of encryption can be used, along with specifics such as encryption strength and key lengths. Your policy should discuss logging and



accounting. This includes details such as what will be logged and where the logs are stored. How long the logs will be kept and how often they are reviewed. Devices such as a RADIUS server can provide useful accounting information when used with wireless. An often overlooked issue is physical security. Your policy should address how devices will be physically secured. Most wireless devices have a reset switch and console ports. An attacker may reset a router to defaults and be able to gain instant access to your network, or if they have access to an insecure console port they can reconfigure your device to allow them access. You should address client security as part of your policy. It is highly recommended that all users be required to have an up-to-date firewall and anti-virus software installed before accessing the network. You also want to address ad-hoc connections. Many client cards automatically accept ad-hoc connections.

This is a major security risk and it is recommended that this not be allowed with any nodes on the network. Your wireless technician may want to scan the area looking for rogue devices or RFI. Your policy should include what tools and frequencies may be used and by whom for this activity. A part of security that is often overlooked but never should be is education. When you educate your users, they get a better understanding of what is going on, what can happen, and what to be aware of. This makes everyone's life better. Your policy should include details about keeping users trained and aware of security issues. Your policy may also address issues such as static ARP, MAC and IP filters, SSID broadcast, and SSID naming schemes. If using a WIDS, then details of this need to be included as well. How it is to be deployed and maintained, along with details concerning storage and review of logs and alerts are all important to include. The last yet most important topic concerning policy is enforcement. For this to work upper management must support the policy. Exceptions can not be made, the policy can not be "bent," and it must be followed by everyone. Users



must read, understand, and agree to the policy and they must be reminded of the policy on a regular basis. (Farshchi, 2005) To see sample policies please visit the SANS website.

Wireless has and is opening many new possibilities for expanding networks. Its potential is amazing. As with most new technologies, wireless has several vulnerabilities. Luckily new developments like the Wireless IDS have come about that address many of these. Wireless IDS solutions are available from both the open-source and commercial markets and both have their advantages and disadvantages. In any network with or without wireless never forget the creation and enforcement of policy. Good luck and welcome to the world of wireless!

2.4 INFORMATION GAIN RATIO:

In information theory and machine learning, information gain is an alternative synonym for *Kullback–Leibler divergence*.

In particular, the information gain about a random variable X obtained from an observation that a random variable A takes the value $A=a$ is the Kullback-Leibler divergence $D_{KL}(p(x|a) || p(x|I))$ of the prior distribution $p(x|I)$ for x from the posterior distribution $p(x|a)$ for x given a .

The expected value of the information gain is the mutual information $I(X;A)$ of X and A i.e. the reduction in the entropy of X achieved by learning the state of the random variable A .

In machine learning this concept can be used to define a preferred sequence of attributes to investigate to most rapidly narrow down the state of X . Such a sequence (which depends on the outcome of the investigation of previous attributes at each stage) is called a decision tree. Usually an attribute with high information gain should be preferred to other attributes.



Constructing a decision tree using information gain

A decision tree can be constructed top-down using the information gain in the following way:

1. begin at the root node
2. determine the attribute with the highest information gain which is not already used as an ancestor node
3. add a child node for each possible value of that attribute
4. attach all examples to the child node where the attribute values of the examples are identical to the attribute value attached to the node
5. if all examples attached to the child node can be classified uniquely add that classification to that node and mark it as leaf node
6. go back to step two if there are unused attributes left, otherwise add the classification of most of the examples attached to the child node

FEATURE SELECTION:

Feature selection is an important issue in intrusion detection. Of the large number of features that can be monitored for intrusion detection purpose, which are truly useful, which are less significant, and which may be useless? The question is relevant because the elimination of useless features (the so-called audit trail reduction) enhances the accuracy of detection while speeding up the computation, thus improving the overall performance of an IDS. In cases where there are no useless features, by concentrating on the most important ones we may well improve the time performance of IDS without affecting the accuracy of detection in statistically significant ways.

The feature ranking and selection problem for intrusion detection is similar in nature to various engineering problems that are characterized by:

Having a large number of input variables $x = (x_1, x_2, \dots, x_n)$ of varying degrees of importance to the output y ; i.e., some elements of x



are essential, some are less important, some of them may not be mutually independent, and some may be useless or irrelevant (in determining the value of y)

- Lacking an analytical model that provides the basis for a mathematical formula that precisely describes the input output relationship, $y = F(x)$
- Having available a finite set of experimental data, based on which a model (e.g. neural networks) can be built for simulation and prediction purposes

Due to the lack of an analytical model, one can only seek to determine the relative importance of the input variables through empirical methods. A complete analysis would require examination of all possibilities, e.g., taking two variables at a time to analyze their dependence or correlation, then taking three at a time, etc. This, however, is both infeasible (requiring 2^n experiments!) and not infallible (since the available data may be of poor quality in sampling the whole input space). In the following, therefore, we apply the technique of deleting one feature at a time. To rank the input features and identify the most important ones for intrusion detection using SVMs.

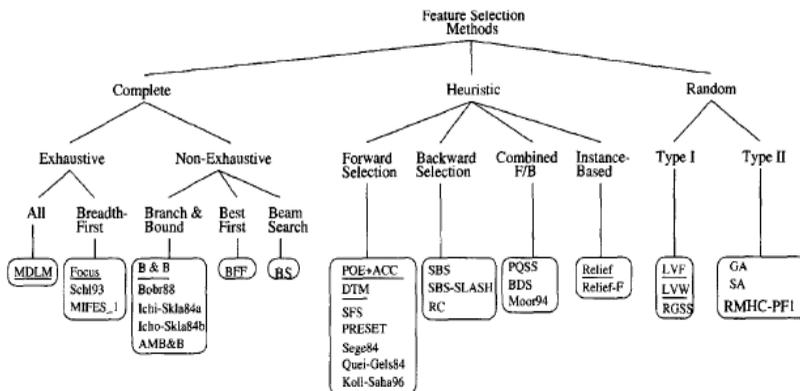


Fig: 2.1 Performance-Based Ranking Method (PBRM)

We first describe a general (i.e., independent of the modeling tools being used), performance-based input ranking methodology: One input feature is deleted from the data at a time; the resultant data set



is then used for the training and testing of the classifier. Then the classifier's performance is compared to that of the original classifier (based on all features) in terms of relevant performance criteria. Finally, the importance of the feature is ranked according to a set of rules based on the performance comparison.

The procedure is summarized as follows:

Compose the training set and the testing set; *for each feature do the following*

1. Delete the feature from the (training and testing) data.
2. Use the resultant data set to train the classifier.
3. Analyze the performance of the classifier using the test set, in terms of the selected performance criteria.
4. Rank the importance of the feature according to the rules.

3. SYSTEM ANALYSIS

3.1 EXISTING SYSTEM

- Although traditional IDSs are able to protect the application and software components of TCP/IP networks against intrusion attempts, the physical and data link layers are vulnerable to intrusions specific to these communication layers.
- In addition to the vulnerabilities of wired networks, wireless networks are the subject of new types of attacks which range from the passive eavesdropping to more devastating attacks such as denial of service

LIMITATIONS WITH EXISTING SYSTEM

- The intrusions are done in the application layer and the transport layer.
- So that the algorithms are proposed for the detection .
- The intruder cant able to use those two layers such as the application layer and the transport layer for the intrusion , since Intrusion detection mechanisms are good.

3.2 PROPOSED SYSTEM



- We will use the best set of MAC layer features that efficiently characterize normal traffic and distinguish it from abnormal traffic containing intrusions specific to wireless networks.
- In this approach, we are going to do the intrusion detection system mechanism using the best 8 features which is extracted from the 38 features from the MAC header.
- So that intrusion is going to detect , when the intruder is going to attack.

ADVANTAGES IN PROPOSED SYSTEM

- We were able to reduce the number of features from 38 to 8.
- The Feature reduction is going to be the best for the detection of intrusion.
- So that the resources used is limited to 8.
- The Intrusion mechanism is going to be protected in the MAC layer.

5. IMPLEMENTATION

Implementation is the stage of the project when the theoretical design is turned out into a working system. Thus it can be considered to be the most critical stage in achieving a successful new system and in giving the user, confidence that the new system will work and be effective.

The implementation stage involves careful planning, investigation of the existing system and it's constraints on implementation, designing of methods to achieve changeover and evaluation of changeover methods.

Implementation is the process of converting a new system design into operation. It is the phase that focuses on user training, site preparation and file conversion for installing a candidate system. The important factor that should be considered here is that the conversion should not disrupt the functioning of the organization.

MODULES:

1. User Interface Design.
-



2. Clients connecting the Access point.
3. Data Encryption.
4. Encrypted data send to the destination.
5. De-authentication Attack.
6. Intrusion Detection.

5.1 MODULE DESCRIPTION:

MODULE 1:

In this module, we are going to design for the modules which we are going to use. The modules such as the connecting the Access point , encryption , Deauthentication attack and the Intrusion detection.

MODULE 2:

In this module, the clients which are going to communicate in the wireless mode , first need to make connection with the access point, so that the communication is established between the clients and the access point.

MODULE 3:

In this module, the encryption of the data is done in the client side, so that the data which is send to the destination is send in the protected manner. The WEP protocol is going to be used for the Encryption mechanism.

MODULE 4:

In this module , after the encryption mechanism , the encrypted data is send to the destination client in a secured manner , so that the data will be transferred in a secured way through the access-point.

MODULE 5:

In this module , the de-authentication attack The attacker fakes a deauthentication frame as if it had originated from the base station (Access Point). Upon reception, the station disconnects and tries to



reconnect to the base station again. This process is repeated indefinitely to keep the station disconnected from the base station.

MODULE 6:

In this module , the intrusion which is happening due to the de-authentication attack is detected with the features which is said as the best features which is taken from the MAC Header. From the MAC header the features is extracted to detect the intrusion.

CONCLUSION:

We have presented a novel approach to select the best features for detecting intrusions in 802.11- based networks. Our approach is based on a hybrid approach which combines the filter and wrapper models for selecting relevant features. We were able to reduce the number of features from 38 to 8. We have also studied the impact of feature selection on the performance of different classifiers based on neural networks. Learning time of the classifiers is reduced to 33 percent with the reduced set of features, while the accuracy of detection is improved by 15 percent. In future work, we are planning to do a comparative study of the impact of the reduced feature set on the performance of classifiers-based ANNs, in comparison with other computational models such as the ones based on SVMs, MARSS, and LGPs.

FUTURE ENHANCEMENTS:

In future work, we are planning to do a comparative study of the impact of the reduced feature set on the performance of classifiers-based ANNs, In future work, we are planning to do a comparative study of the impact of the reduced feature set on the performance of classifiers-based ANNs, in comparison with other computational models such as the ones based on SVMs, MARSS, and LGPs.



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ADOPTION OF INFORMATION AND COMMUNICATION TECHNOLOGY IN THE BANKING SECTOR: SERVICES AUGMENTATION OF THE ATM MARKETPLACE AS A CUSTOMER CHANNEL IN KERALA

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Introduction

Modern banks use Information Communication Technologies (ICT) to store customer information and to integrate multi channel transaction of customers. With the onset of globalisation within this highly competitive banking environment, the role of information technology has metamorphosed into more of a driver of business than a mere facilitator. It has propelled in multi fold the capabilities of banks to acquire potential customers, retain and develop existing customers and increasing efficiency of banking processes. Information technology is seen adopted in banks in the form of electronic payments services, real time gross settlements, electronic fund transfers, electronic clearance services, automated teller machine, tele banking and point of sale terminals. The implications of these services include anytime, anywhere banking at the convenience of the customer with less effort and low risk.

Indian retail banks faced with cut throat competition and in a new phase of growth are daunted with an array of market, customer, regulatory, cost and operational challenges. To overcome these barriers and meet the new growth targets, they have to draw inspiration from some notably innovative retailing models. One of these models also called as the "Next Generation Banking" Models is the "Financial/Non Financial Digital Ecosystem" Bank. In this model Bank as a trust



centre has an extended proposition (financial and non financial) and it is implemented leveraging the power of mobile using M payment services. Likewise, banks can identify new ways of doing business like branch redesign, delivering out- of- hours banking for business customers to make end of day deposits, revolutionizing the use of banking channels like ATM. An additional point of interaction can be created that is relevant to the customer at potential touch points like ATM counters. The upside of this intervention is no additional investment but extended breadth of customer relationship.

According to the Reserve Bank of India, an ATM is defined as “a computerised machine computerized machine that provides the customers of banks the facility of accessing their account for dispensing cash and to carry out other financial & non-financial transactions without the need to actually visit their bank branch”.

Modern banking through ATMs has seen itself metamorphose from the very first Bankograph installed in the lobbies of New York’s First National City Bank (now Citibank) in 1960, the first ATM installed by Barclays Bank in 1967 and the first magstripe card for New York’s Chemical Bank in 1969 set up by Docutel, to the first on-line ATMs in 1974 and the voice-guided ATMs of today (Businessworld, 2013). India’s tryst with ATMs began in 1988 with HSBC in Mumbai. In June 2012, the Reserve Bank of India gave clearance to non-banking entities to set up ATMs. The WLATMs or White-Label ATMs are all set to expand the reach and subsequent opportunities of banking services especially in tier-III and tier-IV centres. Besides, they can replace the banks physical space and condense teller functions to the screen space of a few inches thereby reducing costs also. The growth of ATMs will predominately come from regulatory changes pertaining to financial inclusion, increased penetration and white-label ATMs (Celent, 2012).



According to the ATM statistics for January 2013, released by the Reserve Bank of India, there are a total of 107813 ATMs operating in the country. The number of transactions through ATMs using credit cards was 211453 and using debit cards was 476637271. The transactions using credit cards and debit cards through ATMs amounted to Rs. 1218.37 million and Rs. 1491838.3 million respectively (RBI, 2013). Nearly 65 per cent of the new ATMs will be deployed in tier II and tier III cities while tier I cities will show a growth rate of 20 per cent (Celent, 2012).

A recent report, 'Global ATM Market and Forecasts to 2017' by the strategic research and consulting firm RBR forecasts that India will have 400,000 ATMs by the year 2017. There are an estimated 74 ATMs per million in India as opposed to China's with a density of 300 ATMs per million. This figure is estimated to grow to 120 ATMs per million in India over the next 3 years compared with 400 ATMs per million in China (Business Standard, 2013). However, the Indian population is unique in the sense that they would still like to see their transactions take place compared to customers of other countries which have embraced online payments.

Review of Literature and Conceptual Background

Most of the conceptual skills of marketing adopted by banks have their origin in the consumer goods manufacturing industry but Indian banking is a very difficult industry (Shanker R., 2004). Traditionally banking involved channels that were independently functioning in silos and customers had exclusive experiences which were not synergised through integrations. Modern banks are drawing meaningful insights from the otherwise siloed customer interactions and experiences and gain a competitive edge over their competitors (Nagarajan N., 2013).

Banks confronted with a wide ambit of opportunities like automation of processes, digitalisation etc., has enabled customers to access banking



services at their convenience, over various channels like phone, internet and ATM (Kohli J. and Premrajan A., 2013). Banks benefit from providing value-added services through alternate and innovative delivery channels like ATMs by making the services simple, fast, secure, hence effectively acquiring new customers, retaining their existing customers, keeping customers highly satisfied with the services provided, lowering operational cost, lowering transaction processing cost, widening customer base irrespective of geographical barrier and increasing profits on bottom-line (Vijesh R et. al., 2011).

In this modern world where money plays an important role in survival, ATMs help people to obtain money whenever needed by them and also during emergency conditions (Pandian & Sharma, 2012). A previous research of Ulengin B. (1998) in Turkey and Almosawi (2001) in Bahrain concluded that ATM network in convenient locations was a dominant factor in bank selection decision making of consumers in those countries. Tuli, Khatri and Yadav (2012), in their study established that the key factor which influences the customer to use the ATM services is it's convenience in use and availability of machines.

Comparing the service quality dimensions of private and public sector banks, it is worth highlighting that cost effectiveness of ATM service, perception is approximately same for both kinds of banks (Kumbhar V. M., 2011). Interestingly, an earlier study on Customer Satisfaction in the Indian Banking Sector, reports on the different satisfaction levels of the customers that while private banks have been able to attract the younger customers with higher educational levels, who are comfortable with multi channel banking, the customers of the national bank are older and more satisfied with the traditional facilities, (Jham et. al. 2008). It is again, observed that the customers prefer ATM use over other e-banking services. Nearly 95% of respondents use ATM services, followed by internet banking, and phone banking (Shariq & Tondon 2012). Setting aside an 80s-era mentality of building big, banks today



are moving to a smarter, smaller, economically sustainable approach and advanced ATM technologies can condense teller functions that used to fill hundreds of square feet into a device with approximately the dimensions of a card table (NCR, 2013).

For the ATM industry, India is a huge market with vast potential. It's a country of 1.2 billion people, 40 percent of them unbanked, according to the Reserve Bank of India (RBI). And Visa estimates that 91 percent of consumer purchases, by banked and unbanked Indians alike, are made with cash. And to provide the day-to-day, 24/7 services needed for true financial inclusion, RBI is pushing other programs to bring banking to the masses. And one major program is its initiative to increase the number of ATMs available to villagers in rural areas (Cluckey S., 2012). Hence the banks are inching closer to the period when across channels banks have to exploit and take advantage of opportunities to interact with potential customers. If banks can understand and approach their customers in the most preferred channel, it will prove to be a catalyst in generating greater ROIs (Nagarajan N., 2013).

The Flower of Service model captures eight clusters (represented by eight petals of a flower) of tangible and intangible supplementary services that embellish the core service. These eight petals include the areas of information, consultation, order taking, hospitality, safe keeping, exceptions, billing and payment.

Supplementary services may actually drive customer decisions because when two or more companies are competing in the same market for similar basic services, the only thing that distinguishes them is the supplementary services they offer. Customers look for organizations that offer the most supplementary services with the same price or a reasonable price, or they are willing to pay a premium to get additional supplementary services (Lovelock, 2001). In this study, only six supplementary services are used in the proposed model; Information,



Consultation, Order Taking, Exceptions, Billing and Payment. We have excluded hospitality and safe keeping because the ATM channel cannot be used to provide these supplementary services. An elaboration on the six supplementary services used in this study is provided below.

Information: about how or where to buy or use a product, or reminders, documents and manuals.

Consultation: adding advice and customization around customer needs can add value.

Order-taking: recording orders and giving information on availability and delivery.

Exception: allowing for flexibility, when things go wrong or in exception circumstances adds value.

Billing: customers want bills that are accurate and easy to understand and contact details if they have queries.

Payment: offering payment options, such as annual, monthly or weekly payments and cash, credit card or direct bank payments may reduce the 'pain' of paying for something.

A timeline of the various services that have been provided by ATMs have been displayed in Table 1. (Kumar et al., 2011) showcases how ATM services have shifted from simple deposit and withdrawal transactions to include non banking transactions as well.

Sufficient Number of ATMs, Secure locations, User-friendly System, Convenient Locations and ATM Functions are some of the variables considered important in the context of ATMs in various studies (Joseph and Stone, 2003; Buttle and Alldigan, 2002; Bahia and Nantel, 2000 and Jabnoun and Al-Tamimi, 2003).



Table 1. Timeline of ATM Services provided by Banks

Period	Features/Functionalities
1988-1994 (the Initial Period)	Deposit of Cash Withdrawal of Cash
1995-1999 (Early Developments)	Mini Statement Balance Inquiry
2000-2001 (First Extension)	Coupon Dispensing
2002-2004 (Extended Functionalities)	Fulfilling Requests from Customers (e.g. Check Book) Account Transfers Touch Screen Menus/Facilities
2004-2006 (non-banking services)	Ticket Booking-Railway and Airlines Bill Payments Mobile Recharges
Future (2007 onwards)	Check Deposit with Scanning Customized ATMs Ubiquitous Multifunction ATMs Biometric ATMs

A summary of ATM based services offered by the private and public sector banks that were sampled is presented in table2. It is evident that the services provided are very limited with a vast majority being banking related services and only a handful of value-added services. There is little difference in the type of services being offered by private and public sector banks. In this regard neither private sector nor public sector banks have differentiated their ATM related services beyond extra features such as personalized cash withdrawals.



Table 2. ATM Services offered by Private sector and Public sector banks

Private sector banks	Public sector banks
Personalised cash withdrawals	Withdraw cash
View account balances and mini-statements	Make payments for purchases
Change ATM PIN	Recharge pre-paid mobile phones
Order a cheque book or account statement	Pay utility bills
Credit Card Payment	Payment of Credit Card bills
Deposit cash or cheques	Payment of insurance premium
Transfer funds between accounts	Pay fees of select colleges
Refill your Prepaid mobile	Registration of Mobile Banking and SMS Alerts
Pay your utility bills	Donate to Temple Trusts
Cheque Status Enquiry	Donate to Relief Funds
NetBanking password request:	
Registration for Mobile Banking	
Pay your Taxes	

Research Methodology

This study was based on primary data collected through a structured questionnaire from the customers of private and public sector banks in two stages. Stratified random sampling was employed to identify the banks in the first stage. In the second stage, bank customers using ATMs in and around Kochi City were sampled on the basis of convenience. The sampling frame for the study was the list of all private bank and public sector banks compiled by a leading business and finance vortal, moneycontrol.com. Three private and public sector were chosen at random and the ATM usage patterns and perceptions of these bank customers were studied. The sample included ICICI Bank, HDFC Bank, Axis Bank, State Bank of India, Punjab National Bank and Union Bank of India. The sampling unit for the study are ATM users in Kochi. The inclusion criterion was those bank customers from

in and around Kochi who used ATMs. The exclusion criterion was customers of banks who did not use ATMs.

Data Analysis and Findings

Nearly all the respondents were used ATMs twice or more in a week. Figure 1 shows that ATMs are a relatively popular channel for banking services. This is a promising sign for banks which are considering adding to the bouquet of services that they already offer.

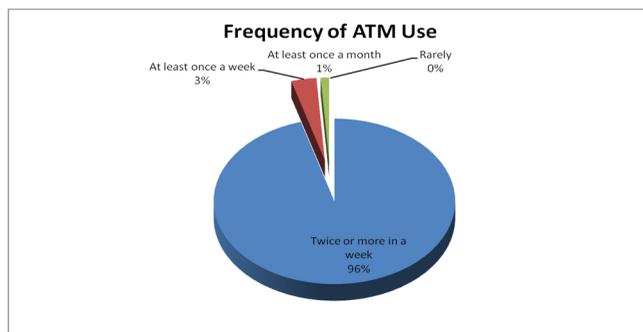


Figure 1. Frequency of Use of ATMs

Figure 2 displays the variety of services and the regularity with which customers use ATM services. Cash Withdrawal, Balance Enquiry, Mini Statement and Utility Bill Payment are the most frequently used ATM services. There is a visible inertia exhibited by the customers when it comes to the use of various services at ATMs.

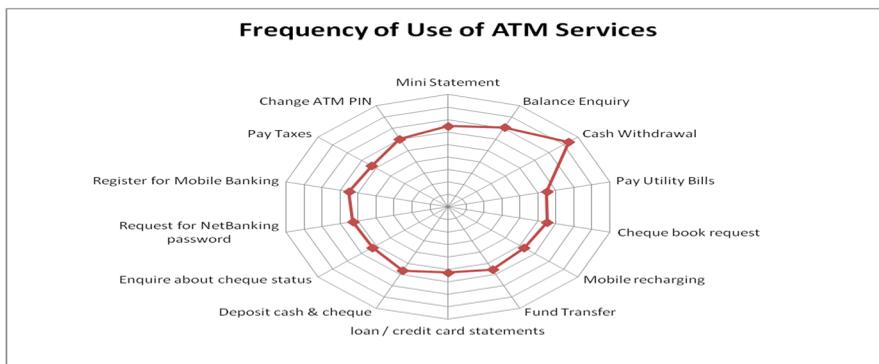


Figure 2. Frequency of Use of ATM Services

The diverse issues that bank customers perceive while using ATMs is shown in figure 3. The statistics show that ATMs are not perceived to be secure with a majority of respondents mentioning that there is a chance for fraudulent transactions. Most of the customers had to wait in long queues, faced technical issues and experienced long waiting times to finalise the transactions while interacting with ATMs.

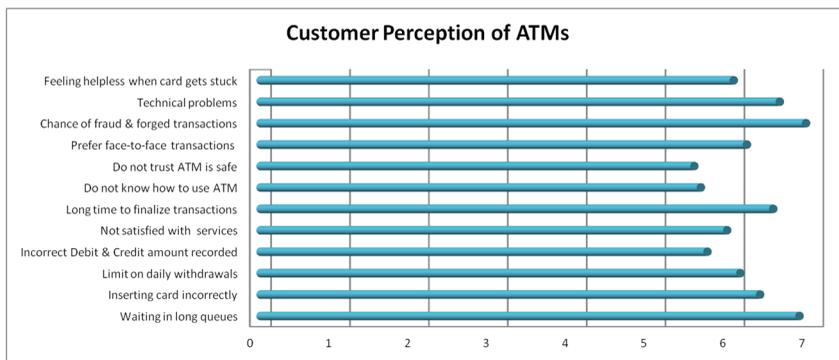


Figure 3. Perception of Customers towards ATMs

The study tried to identify whether the customers would be receptive to a variety of supplementary non-banking services. Figure 4 shows that the respondents are willing to use a whole range of supplementary services through the ATM network. The most preferred supplementary services were Reminders, Service Usage Instructions, Receipts and Tickets, Notification of Changes in Services Offered and Loyalty-related Offers. The figures show that there is a lot of interest among customers to see new services being offered in the ATM channel.

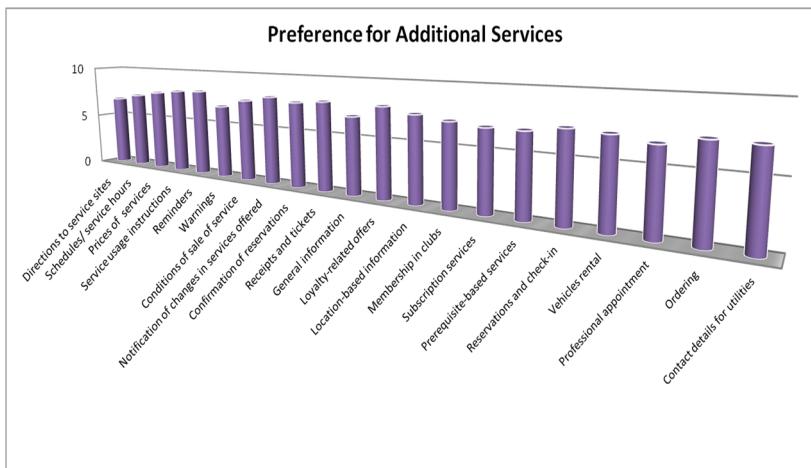


Figure 4. Customer Preference for Additional Services through ATMs

Discussion of Results

The majority of respondents are regular users of ATMs but they have confined themselves to using only the basic banking services being offered through the ATMs. As with every banking channel, there are some hindrances to the effective working of this mode of banking. Respondents have specified technical issues and long waiting times both outside and during ATM operations as roadblocks in their experience with ATMs. The customers were however amenable to experiencing new non-banking services such as Reminders, Service Usage Instructions, Receipts and Tickets, Notification of Changes in Services Offered and Loyalty-related Offers.

We have developed an Augmented ATM Services Model (AATMS Model) shown in figure 5, which is based on the Flower of Services Model (Lovelock, 2001). There have been limited studies which focus on the efficient use of ATMs to deliver value-added services to customers especially in the Indian context. This model attempts to provide a solution to banks to make the ATM channel more feature rich and cost effective.

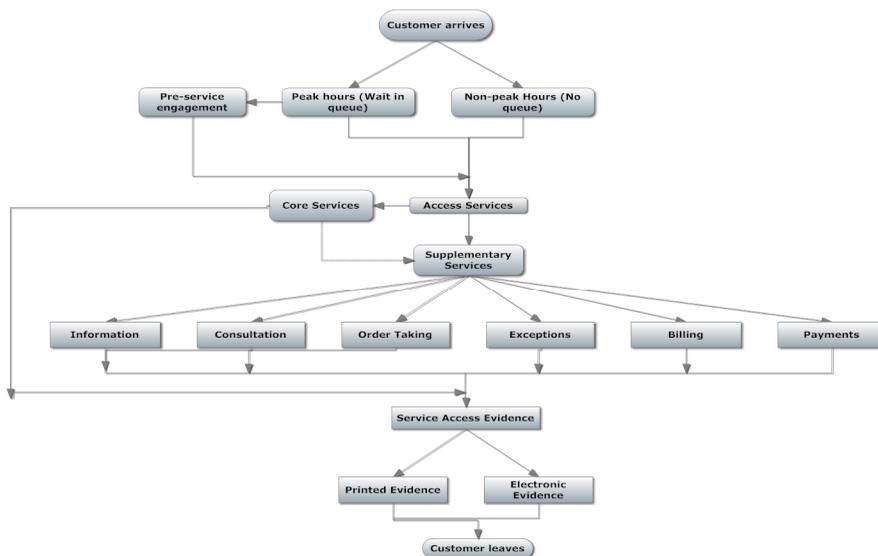


Marketers agree that if a marketing message is delivered to a customer while they are in the process of thinking about the subject, the marketing effort is more likely to meet with success. If banks can take a lead from this principle and leverage their ATM networks to deliver targeted messages, it could enhance the revenue generation capabilities of an otherwise under-utilised banking channel. Further, banks could expand their ATM network and subsequently the points of interaction with customers to offer a larger assortment of services.

The Augmented ATM Services Model in figure 5 shows the various services that can be provided to bank customers through the existing ATM channel. The customer arrives at the ATM either during peak or non-peak hours. This waiting period is experienced by customers especially in cases where the number of ATMs rendering services is low. The waiting time in queues has been cited by a large proportion of respondents as a major problem they face at ATMs. The AATMS Model aims to rectify this problem through Pre-service engagement of customer during this particular waiting period.

The customer can access both core and supplementary services through the proposed system. Customers require a sufficient number of ATMs and these ATMs need to have a variety functions (Joseph and Stone, 2003; Buttle and Aildigan, 2002; Bahia and Nantel, 2000 and Jabnoun and Al-Tamimi, 2003). The AATMS Model has six services; Information, Consultation, Order Taking, Exceptions, Billing and Payment which are based on the Flower of Services Model and the study has shown that bank customers are very receptive to these services being provided through ATMs. The information on services which the customer uses can be used as inputs by the bank to provide customized services throughout the ATM network.

Figure 5. AUGMENTED ATM SERVICES MODEL



Conclusion

A pertinent revelation of the study is that even though there are a lot of banking services being offered through the ATM channel, the customers do not use most of these very regularly. However, the number of supplementary services being offered is very limited but the statistics indicate that there is a lot of interest in these new non-banking services with the most preferred supplementary services being Reminders, Service Usage Instructions, Receipts and Tickets, Notification of Changes in Services Offered and Loyalty-related Offers.

The literature indicates that there is going to be a massive expansion in the number of ATMs being deployed by both private sector and public sector banks in India. This optimistic increase is going to be bolstered by the fact that the Reserve Bank of India has given the go ahead for white-label ATMs in India.

It is imperative that banks differentiate themselves through ATMs, one of the most prominent channels of banking in addition to the other



channels. Although the ATM channel has been in existence for a very long time in the country, it is one of the most under-utilized channels of banking. Banks should streamline their investment measures and respond positively to the long term value that technological applications and innovative service delivery processes provide to the businesses. Banking is ardently competitive these days and it is competitive because traditional advantages like scale, location, access to needs, distribution have disappeared and have been replaced with digital, dynamic, competitive and yet a highly personalised milieu. This calls for a different kind of banking, one that takes full advantage of self service concept like ATMs. The objective should be to harness the power of customer relationships ensuring the maximisation of sales potential of each transaction, providing personalised marketing messages and offer value added services to the discriminating customer.

There is limited knowledge on ATMs and supplementary services being offered through this channel in the Indian context. Banks in a large number of countries have used their ATM networks to offer a plethora of non-banking services and have met with success. A future research task would be to study the further applications of this model in other contexts. Consequently a more comprehensive range of strategies will emerge that can be employed by the banking industry.

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PRODISC- A STANDALONE TOOL TO PREDICT THE INTER ATOMIC DISTANCE OF PROTEIN

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Introduction

The Protein Data Bank (PDB) is a repository for the 3-D structural data of large biological molecules, such as proteins and nucleic acids[1] Protein Data Bank (PDB) is an internationally referred protein structure database, it comprises of the atomic coordinates of the three dimensional (3D) structure of proteins. Amino acid sequence, and atom positions are organized systematically in the PDB file enabling machine learning [2]. The information pertaining to the fold class at the tertiary level and the arrangement of secondary structural elements (motifs) at the lower levels in the structural hierarchy could directly be inferred from the 3D structure. However, information that is embedded in the PDB file such as the atomic information is significant interest to the scientific community [3]. The knowledge on inter-atomic distances in proteins is a valuable source of information for protein structural analysis and for structure determination. The protein inter-atomic distances may be detected by using physical experiments such as nuclear magnetic resonance spectroscopy (NMR) [4]. They can only be estimated approximately in certain ranges instead of exact values as well because of the inevitable estimation errors. Therefore, obtaining additional distance information beyond the current theoretical and experimental limitations is always important, yet challenging for the further development of distance-based protein modeling [5].



Here, we present the ProDisC (**P**rotein **I**nter **A**tomio **D**istance **C**alculator) standalone tool to predict the inter atomic distance of known protein structures deposited in the Protein Data Bank or protein structure modeled by computational method. The tool is user friendly and requires input file in PDB format for its calculation.

Materials Used

PERL

Perl is an acronym, for *Practical Extraction and Report Language*. It was designed by Larry Wall as a tool for writing programs in the UNIX environment. Perl has the power and flexibility of a high-level programming language such as C.

Like shell script languages, Perl does not require a special compiler and linker to turn the programs you write into working code. This means that Perl is ideal for producing quick solutions to small programming problems, or for creating prototypes to test potential solutions to larger problems. Perl provides all the features of the script languages sed and awk, plus features not found in either of these two languages. Perl also supports a sed-to-Perl translator and an awk-to-Perl translator [6]

PERL / TK

Tk is an open source, cross-platform widget toolkit, that is, a library of basic elements for building a graphical user interface (GUI) [7]. The Perl/Tk module, also known as pTk or ptk, is a Perl module designed to create widgets and other commonly used graphical objects to form a graphical user interface (GUI). Using the module to create a GUI enhances the look of a program and helps the end user navigate through the program and its functions. One major advantage of using the Perl/Tk module is that the resulting application can be cross-platform, meaning the same GUI application can be used on UNIX®,



Linux®, Macintosh, Microsoft® Windows®, or any other operating system that has Perl and the Perl/Tk module installed.(8)

PERL DEV KIT (PDK)

Perl Dev Kit (PDK) provides essential tools for building and deploying Perl applications. PDK features cross-platform wrapping and application builders for Windows, Mac OS X, Linux, HP-UX*, Solaris*, and AIX*, plus a suite of tools to speed development and improve code quality across teams. The comprehensive feature set includes PerlApp, PerlCtrl, PerIMSI, PerINET, PerISvc, PerITray, Coverage Analyzer, Filter Builder, Graphical Debugger, PerlCritic and VBScript Converter. PDK 9.2 supports Perl and ActivePerl 5.8, 5.10, 5.12, 5.14 and 5.16 [9]

Methodology

ProDisC was developed using Practical Extraction and Report Language (PERL) and Tool kit (Tk). PERL is used for scripting and Tk for designing graphical user interface (GUI). When the user select a PDB file via the browse button , summary of a protein like PDB ID , Header, Source, Release Date, Experiment, Number of Chains, Number of Atoms, Number of heterogen atoms, Number of C-alpha Atoms, Number of Helices and Number of Sheets will be displayed. It have the option to predict the inter- atomic distance of user defined atoms or for the all atoms of the protein. (Figure-1).

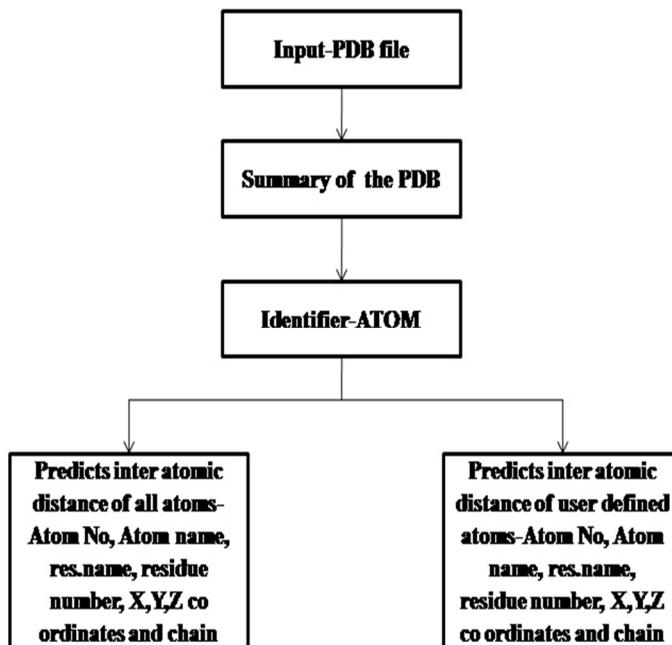


Figure 1: Flow chart illustrating the ProDisC working process

Results and Discussions

ProDisC will give the summary of uploaded pdb file. (Figure -2). This has the option for predicting the atomic distances for all atoms and user defined two atoms. (Figure -3, 4).

The output is displayed as information on first and second atom which includes atom number, atom name, residue name, residue number, chain and atomic coordinates followed by distance between two atoms in angstroms. (Table-1)



Atom No	Atom Name	resname	Residue Number	X	Y	Z	Chain
1	N	SER	2	-1.329	22.256	12.141	A
2	CA	SER	2	-1.329	22.256	12.141	A
Distance: 1.4760067750522							
3	C	SER	2	-2.387	22.081	13.222	A
1	N	SER	2	-0.669	23.566	12.305	A
Distance: 2.44900755409206							
4	O	SER	2	-2.199	22.459	14.389	A
1	N	SER	2	-0.669	23.566	12.305	A
Distance: 2.81236644127326							

Table-1: Sample output format of ProDisC

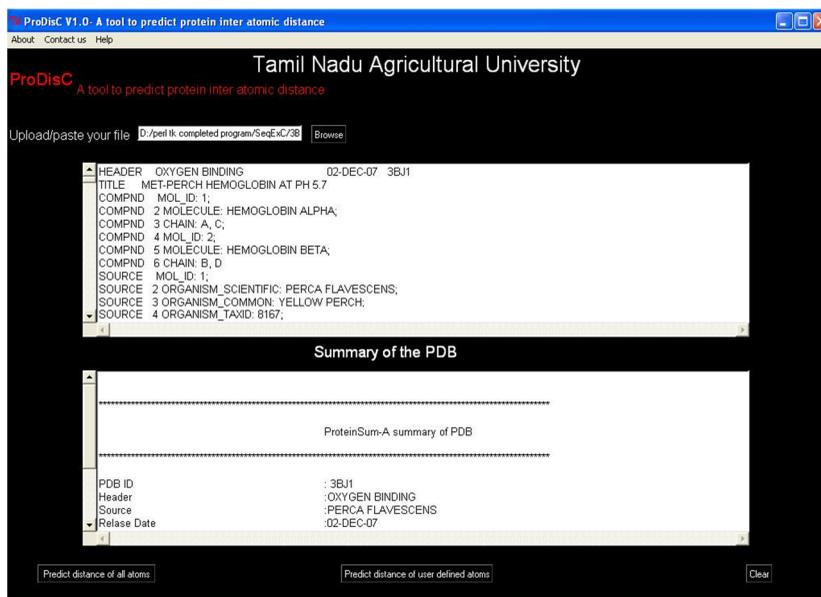


Figure 2-Sample screen shot of ProDisC home page with corresponding PDB summary.

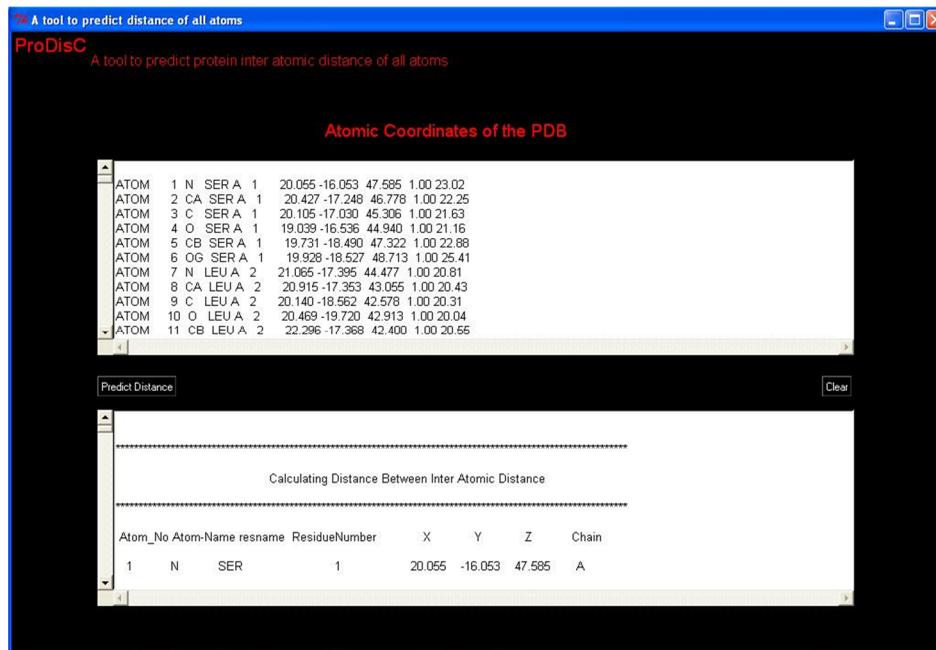


Figure 3-ProDisC output shows distance between all atoms.

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EGALITARIAN SOCIETY: AMBEDKAR AND MARXISM

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Introduction

I shall begin by locating Ambedkar in a historical context to understand his plight for the downtrodden people and his struggle for social justice. What were the material conditions which forced Ambedkar to take fight for marginalized section to the forefront? and made Ambedkar a messiah of the outcaste people of the society. Furthering the aim of my paper, Ambedkar's vision and strategies for realizing just society will be put in order to examine their relevance and validity vis a vis Marxist understanding of class struggle against hierarchal society and its class state. What is pious and impious in Ambedkar's analysis of 'Buddhist Dhamma' and Marxist class struggle to bring down all the citadels of unjust society – deeply ridden with inequality will be examined? For the purpose of this paper, the utmost important is to see whether the appeal of 'Buddhist Dhamma' and the class struggle for the same pious goal are poised against each other or they may happen to make society free from all injustices and inequalities, given the order of time.

I

During the period of India's struggle for independence from the British rule which was humiliating for the elite and upper caste people of this country, Congress and national leaders were busy in mobilizing the people and intensifying the movement to put an end to the rule of outsider. Ambedkar belongs to that period when country was churning out from the social and political struggle against the British imperialist force. Ambedkar was born in the untouchable family, became the



victim and the bare witness of harsh, unfair and humiliating treatment of the Hindu caste system. While studying from the West, earning degree in law, he became a man of high capacity of knowledge and acumen but that could not spare him from such atrocious treatment. He continually received the same treatment and ineluctably met the same fate as other untouchable.

Ambedkar, imbued with strong feeling for the millions of people who were degraded and rendered to inhuman treatment, took a challenge to completely remove the Hindu caste system and he threw himself in the service of untouchable who necessarily constitute the part of nation, bringing them on par with equal status of human being, so that nation can pride itself for bestowing one cast on all. Ambedkar ably read the shyness and hesitancy to remove the caste system in the attitude of national leaders and the aspiration and direction of movement led by them. Ambedkar observed that a national movement in its outlook is a keep up with the aspirations of elite and upper caste people and directed to thrash the humiliating conditions of white rule but has no vision and aspirations to bring down the humiliating conditions of untouchable trickling down from upper to lower stratum of the society wedded in the Hindu caste system. In spite of fighting caste system, Gandhi justified Varna system with its functional view; however he was sympathetic to their inhuman treatment within caste system. Gandhi attempted, without attacking the structure of caste system which is inherently pernicious, to restore human equality and equal treatment via appealing the change of heart of upper caste people towards lower caste people.

II

Ambedkar at great dismay with leaders of national movement of India's independence, he himself took up this issue and started uniting and mobilizing untouchable by creating awareness among them. He



succeeded in bringing the issue of untouchable up at the national level and integrated it with national freedom movement with the help of great uprising against the caste system and for equitable society. He demanded that merely freedom from the British rule will not amount to the freedom for all in the territory of Indian region until the shackles of caste are removed that is the only way to ensure the freedom for all and bearing the real fruits of national freedom movement.

Now the question comes what kind of strategies he has in mind seeking annihilation of caste and egalitarian society, what kind of social and political programme he has to break down the huge and monstrous edifice of caste system and the practice of untouchability against humanity. Ambedkar sought to establish a casteless and classless society basing it on the ideals derived from French revolution – Equality, Fraternity and Liberty! According to Marxist understanding to establish classless society a total revolution is needed – we have to wage a struggle against a state which is a protective of class interests that is opposed to the interests of proletariats. History is witness, no social transformation has been sought without paying a heavy cost for it that in a bourgeois state the interests of two classes are such antagonistically poised that violence becomes inevitable against the will of either. Ambedkar seems to be unwilling to seek a social transformation which results in violence for that society will not be lasting.

Ambedkar offers a solution based on religion seizing all the possibility of violence in the process of social transformation. Given the history of religions one may think that Ambedkar's idea of religion immature. But Ambedkar redefines the religion according 'Buddhist Dhamma' which is not based on God and pure metaphysical speculations rather man centric and morality is of utmost importance. He shares a great affinity with communism and appreciates that all social and economic malaise are brought out due to private ownership of property leading



inequality and eventually permanent rift of antagonized interests¹. But what deters Ambedkar from class struggle is an inevitable violence rooted in the process of revolution.

For Ambedkar to bring out social change is to appeal what Buddha says through the change the heart of people since that will make the people voluntarily follow the socially just path. If what Ambedkar says we just appeal to the elite and upper caste people to recognize the basic human rights of their own people who have been thrashed in humiliating conditions through centuries, they are never are going to grant them. It is historically proven that any evil, injustice or wrong practice of society goes down to the generations through thousand years it becomes banal and loses its character of being inherently wrong. People who are in the upper hand of the society and inflicting pain on the people at the receiving end through wrong and unfair practices not because they have consciously created them but because they are born in that culture. It is only conscious and organized movement against the oppressor, not necessarily violent, will provide opportunity to the oppressor to recognize his practices to be wrong. It is not the appeal of moral values rather a hostile condition against oppressor make him realize the inherent injustice of caste system.

Ambedkar's belief that in communism the dictatorship of proletariat revert the gain of revolution, he fears that it would be another oppressive system by state to crush people's rights. Ambedkar's fear about the violence in class struggle and permanent dictatorship in post revolution is not based on correct understanding of Marxism and superfluous. As I above said the violence becomes inevitable irrespective of the either class because their interests are so antagonized. Marx nowhere posits that post revolution dictatorship is a permanent dictatorship rather is held for a time being to consolidate

¹ Ambedkar, Writings and Speech, vol. 3, P. 442.



the gains of revolution. It is held until the material conditions are such created that state machinery loses its role relevance and people voluntarily follow their role in society, which is inevitable, through collective consciousness. New means and apparatus will evolve to control social and individual life. In a classless society state will run short of its legitimacy to exist and eventually wither away.

If we analyze the Indian state today the relevance of Marxist class struggle gets strongly proven. Across all over country number of peaceful people's movement are going on for their livelihood, land and fundamental human rights, but they are met with brutal end by state. Today in the highly capitalist state profit is the sole principle to govern the society and the life of the people. From Chhattisgarh, Jharkhand, Orissa to Kashmir and North East states, people are thrown out from their land to languish in the road for their livelihood and life, fundamental rights are being violated in the name of terrorism and every protest is brutally crushed by state. People are left with no other option but to resort violence to save their lives. Today in the capital concentrated society life is becoming more complicated, Buddhist Dhamma' gets no place. Only united and organized people's movement may bring the change in society.

III

To conclude this paper I would like to subscribe the idea what Ambedkar says, "Buddhism as an ultimate aid to sustain communism when force is withdrawn."² B. Krishna Murthy also elaborates the same point, "The Buddhist Dhamma can be a part of this post revolutionary process of ideological restructuring of the human attitudes on the lines of collective consciousness so that the personal interests are subordinated to the social, collective needs – the latter principle being

² Ambedkar, Writings and Speech, vol. 3, P. 461.



very characteristic of the Buddhist thought"³. And the failure of Communists revolution wherever is sought is not the failure of Marxism but wrongly implemented, in the USSR post revolution dictatorship of proletariat became the dictatorship of the few people and that is not what Marx said. They failed to sustain the revolution because they fail to collectivize the consciousness of society by invoking social and moral values. What Murthy says that Buddhist Dhamma could be fruitful to sustain the revolution's gains seems plausible enough. But to bring the social transformation through Dhamma could not be operative rather it would be a weapon in the hands of oppressor to mutilate the process of social transformation. It is important to understand the normativity of a mode of protest, it is a state or oppressor that wants to decide in what way people can stage their protest which is suitable for them to control or subvert the process of social transformation. It seems that Ambedkar has never distanced himself from the affinity of communism and has deeply admired and appreciated communism.

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³ Shashi, S. S (ed.), Ambedkar and Social Justice, vol. II, p. 117.



A STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING MODULE ON KNOWLEDGE AND ATTITUDE ABOUT FOOD SAFETY AMONG COLLEGE STUDENTS IN PUDUCHERRY

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INTRODUCTION

Food safety is defined as the degree of confidence that food will not cause sickness or harm to the consumer when it is prepared, served and eaten according to its intended use (FAO/WHO, 2003). Food is a product that is rich in nutrients required by microorganisms and may be exposed to contamination with the major sources from water, air, dust, equipment, sewage, insects, rodents and employees. Due to the changes in food production, handling and preparation techniques as well as eating habits, the fact remains that food is the source for microorganisms that can cause illness.

In the report of WHO (2000) states that about 70% of the 2 million deaths of the world per year due to diarrhoea in developing countries are related to contaminated food. Each day thousands of people die from preventable food borne diseases. In developing countries, 1.8 million children under the age of five die from diarrheal illness each year, and up to 70% of these cases are linked to infections associated with food borne pathogens. More than 200 diseases were spreading through contaminated food and 76 million cases, 350,000 hospitalizations and 5000 deaths in each year are due to food borne illnesses. Also in various industrialized countries, the statistics shows that about 60% of food borne illnesses is caused by poor food handling



technique and by contaminated food served in food service establishments (Mead, 1999).

In Indian scenario, approximately 3 million children below the age of five die of diarrhoea every year and about 70% of these deaths in the country are said to be of food-borne origin . College students are one of the most at-risk population groups due to risky food safety behaviors. Food safety is of particular concern in university settings because many college students are preparing meals for themselves and others for the first time in life (Morrone, 2003). Diarrhea is a major symptom of foodborne illness, however diarrhea in college students may also be attributed to other things such as stress, anxiety, antibiotic use, and the other use of food additives (centres for Disease Control and Prevention(1997) &Unklesbay (1998).

Undergraduate students engage in behaviors that place them at risk, including risky food handling and food consumption and that college students are at a higher risk for foodborne diseases than the general population (Morrone, 2003). A cross-sectional online food safety survey found that young adults engage in risky eating behaviors like eating raw or undercooked foods of animal origin and other less than optimal safe food handling practices. Due to the challenges of obtaining a college education, many students eat whatever is convenient (Byrd-Bredbenner, 2007). Male respondents consumed more risky foods compared with female respondents. Authors concluded that food safety educational efforts should focus on increasing knowledge particularly in males (Abbot, 2008).

In developing societies food safety encompasses much more than just handling, preparation, and storage of food in ways that prevent foodborne illness. It embrace also concepts like knowledge and attitudes toward environment (organic farming, vegetarian or vegan lifestyle), regulation or deregulation of governmental food safety



institutions, race, gender and other determinants. Although there have been several studies published on the many aspects of food safety among college students it is not clear what are the underlying factors associated with knowledge and attitude towards food safety.

The aim of this study is to assess the effectiveness of structured teaching module on Knowledge and Attitude about food safety among college students in Puducherry. Associations with demographic variables are also investigated.

OBJECTIVES

- 1) To assess the pre-interventional knowledge and attitude about food safety among college students.
- 2) To assess the effectiveness of Structured Teaching Module on students' knowledge and attitude about food safety.
- 3) To find out the correlation between knowledge and attitude score about food safety.
- 4) To associate the knowledge and attitude about food safety with selected demographic variables

HYPOTHESES

- 1) There will be a significant difference between pre-test and post-test knowledge score of students regarding food safety.
- 2) There will be a significant difference between pre-test and post-test attitude score of students regarding food safety.
- 3) There will be a positive correlation between knowledge and attitude score about food safety.
- 4) There will be a significant association between pre-test knowledge scores of students regarding food safety with demographic variables

METHODOLOGY

Research approach and Design: Quantitative approach with one group pre and post-test only design

Population: College students, Puducherry.

Sampling technique: simple random sampling

Sample Size: Hundred eight (30 per cent of the student population)

Tool: Questionnaire was used to assess knowledge and 5 point Likert scale was used for assessment of attitude.

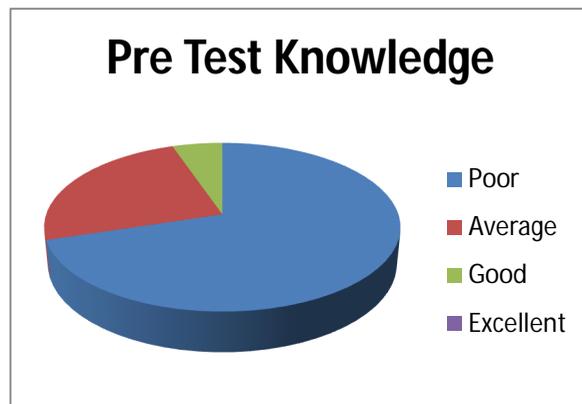
Statistical Test: Descriptive and Inferential Statistics

RESULTS

The data were analyzed using both descriptive and inferential statistics using Statistical Package for Social Science Version 17 (SPSS 17).

The study results reveals that majority of the samples belongs to the age group of 15-20 years (83.3%) whereas 16.7% were in the age group of 20-25. Most of the samples were (90.7%) females and all the students (100%) are higher secondary qualified. Most of the samples (53.7%) monthly income is below 5000 and they were living in nuclear family system (60.2%). Highest number of samples 93.5% belongs to Hindu religion and 56.5% were residing in rural areas.

Figure 1: Assessment of knowledge about food safety among college students.



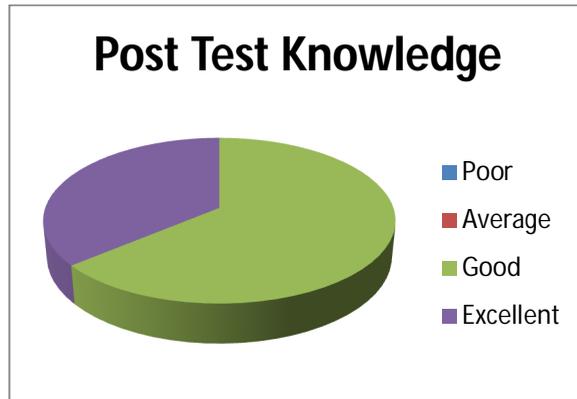


Figure 1 depicts that during the pretest (n=108) 74.1% of students had poor knowledge about food safety and 25.9 % of students had average knowledge. After intervention of structured teaching module the posttest knowledge scores of students were good (82.02%) and excellent (17.98%) regarding food safety.

Figure 2: Assessment of attitude towards food safety among college students.

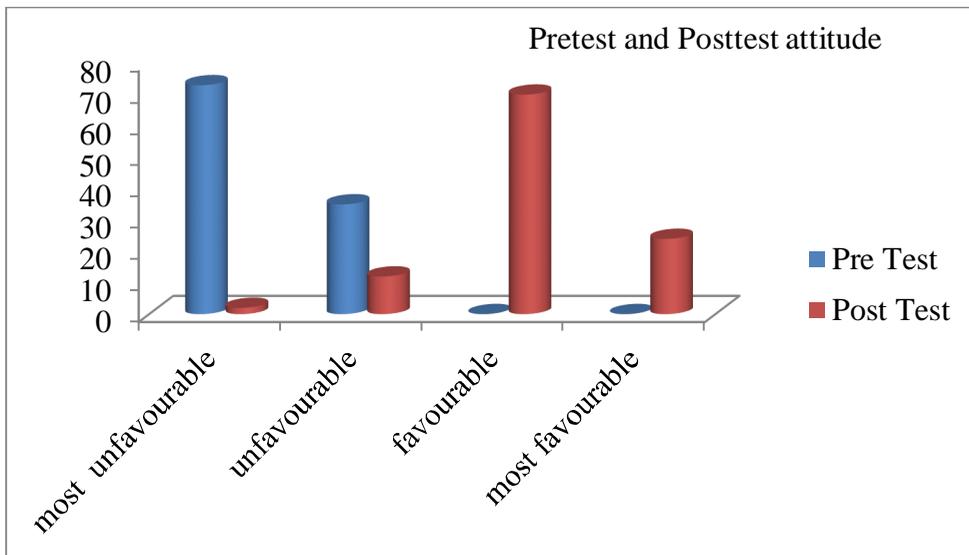




Figure 2 indicates that majority of the sample during pretest (78.84%) had most unfavourable attitude and 21.16% had unfavourable attitude towards food safety. After STM the posttest result shows that 74.2% of the samples had favourable attitude, 20.2% had most favourable attitude and only 5.6% samples had unfavourable attitude during posttest assessment.

Table 2: Correlation between mean score of knowledge and attitude of food safety

Variables	Mean	SD	r value	p Value
Knowledge	1.37	0.59	0.450	0.001**
Attitude	3.36	0.48		

****Correlation is significant at 0.01 levels**

Table 2 shows the relationship between the knowledge and attitude on food safety and the data were analyzed and computed using Karl Pearson Correlation Coefficient. The r value showed a weak positive relationship between knowledge and attitude on food safety ($r = 0.450$, $p = 0.001$)

Table 3: Mean pretest and posttest and 't' test value on knowledge and attitude regarding food safety

Sl: No	Variab les	Pretest Mean± S.D	Posttest Mean ±S.D	't' value	Degrees of freedom	P Value
1.	Knowled ge	1.37 ± 0.590	3.36 ± 0.483	29.264*	107	0.001*
2.	Attitude	1.06± 0.342	2.63 ± 0.52	18.939*	107	

*Paired't' test, Significant at 0.05 level.

Table 3 illustrates the changes in mean and standard deviation value in pretest and posttest knowledge and attitude respectively which was significant at 0.05 level.



Table 4: Association between Knowledge pretest score with demographic variables:

Sl:No	Demographic variables	Degrees of freedom	Table value	Knowledge
1.	Age	2	5.99	0.686
2.	Sex	2	5.99	1.325
3.	Income	6	12.59	13.895*
4.	Type of family	4	9.49	15.699*
5.	Religion	2	5.99	0.445
6.	Residency	2	5.99	2.520

Table 4 reveals that only income and type of the family had association with knowledge pretest score.

DISCUSSION

The present study findings reveals that students were aware of food safety although there were also many gaps in their knowledge and attitude that may leads to wrong perception about food safety and it can also encompasses with food borne illness. Sample does not have good knowledge about food safety and all the samples had either poor (74.1) % or average (25.9%) knowledge. This was supported by the study conducted by Diana *et al*, 2013. Majority of the samples attitude towards food safety had most unfavourable attitude (78.84%) and 21.16% had unfavourable attitude, a similar study supporting the findings was conducted by Siow and Norrakiah, 2011. It also revealed that Structured Teaching programme was effective in improving knowledge and attitude on food safety among students. The study revealed that after STM the knowledge about food safety among college students had were good (82.02%) and excellent (17.98%) also attitude among students was 74.2% had favourable attitude, 20.2% had most favourable attitude and only 5.6% samples had unfavourable attitude during posttest assessment. The result was par with Sung, Tong-kyung and Chang, 2010.



CONCLUSION

Food hygiene and safety requires special attention to rigorous preventive measures to minimize the hazard of food-borne disease. Providing tailored scientifically sound and updated knowledge could contribute to generate positive attitude and motivate behavior change in a definite setting could help to minimize food-borne illnesses.

RECOMMENDATIONS

More specific training courses should be planned for the students by professional educators about food safety for them to get adequate nutrition. Food safety which is one of the important steps of adequate nutrition from family to society, by which many food-borne illnesses and health problems can be prevented.

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EXPERIMENTAL VERIFICATION & THERMAL ANALYSIS OF FOUR STROKE SINGLE CYLINDER SI ENGINE

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I INTRODUCTION

Due to inadequate heat transfer through the engine cylinder block, the engine cylinder gets overheated, which leads to knocking or some times it results severe piston seizure. This also causes an increase in the thermal stresses in the cylinder wall which ultimately affects the strength of wall. It is necessary to design of proper outside heat transfer area of engine cylinder block so that the heat that to be transferred through the walls of the combustion chamber could effectively and continuously removed to the environment.

Due to the prevailing high temperatures in the cylinder could cause deterioration of lubricating oil. This causes increase in wear and problems like sticking of the piston rings and scoring of cylinder walls or seizure of the piston. Excessive cylinder-wall temperatures will therefore cause the rise in the operating temperature of piston head. This in turn will affect the strength of piston seriously. Inside surface temperature of the cylinder walls should kept in a range (200°C TO 400°C), which will ensure correct clearances between parts, promote vaporization of fuel in the mixture, keep the oil at its best viscosity and prevent the condensation of harmful vapours. Heat transfer from an engine cylinder fins in case of natural air cooled SI engine is mostly by convection and slightly by radiation. Heat transfer due to convection is given by,



$$Q = h \cdot A \cdot T$$

Increasing h to the maximum possible value is either insufficient to obtain the desired heat transfer rate or the associated costs are prohibitive. Such costs are related to the blower power requirements needed to increase h through increased air motion. Moreover, the second option of reducing air temperature is often impractical. However, there exists a third option. That is, the heat transfer rate may be increased by increasing the surface area across which the convection occurs. This may be done by increasing area and efficiency of the fins that extend from wall in to the surrounding fluid. As the auto-ignition temperature of the gasoline is 415°C . Therefore, to avoid auto-ignition inside engine cylinder, the highest temperature of the engine cylinder wall is to be maintaining below auto-ignition temperature

II EXPERIMENTAL SET UP

- Dynamometer

The dynamometer is perhaps the most important item in the test cell and it is used to measure the power output of the engine.

- Fuel consumption measurement flow meter

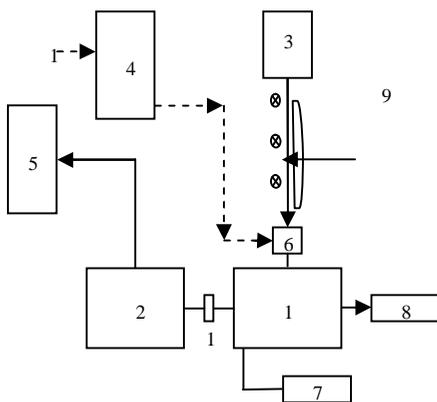
A common measurement system for fuel consumption is to time the consumption of a fixed volume. This has to be converted to a gravimetric consumption by using the density.

- Air flow rate measurement

A simple system to measure the air flow rate is obtained by connecting the air intake to a large rigid box with an orifice at its inlet.

- Thermocouples
Used for measuring the temperature at various positions. Thermocouples attached to the engine cylinder block as shown in figure 4.2.
- Modelling software
For drawing a 3D model of engine cylinder block.
- Analysis software

For thermal analysis of engine cylinder block model



----- Air Flow

Fig. 1.Experimental setup

- | | |
|----------------------|-------------------|
| 1-SI Engine | 6-Carburetor |
| 2-Engine Dynamometer | 7- Thermocouple |
| 3-Fuel Tank | 8-Exhaust |
| 4-Air Box | 9-Fuel Flow Meter |
| 5-Control Panel | 10-Air Intake |
| 11-Coupling | |

TABLE 1 HEAT BALANCE SHEET

Components of heat balance	Q (kJ/s)	Q (%)
Heat Equivalent to effective work	5.12	18.83
Heat carried away by exhaust gases	10.65	39.16
Heat transferred to oil	2.064	7.57
Heat loss due to chemically incomplete combustion of fuel.	0.8927	3.28
Unaccounted loss	2.5	9.19
Total heat input	27.19	100

Thermal analysis

The procedure for doing a thermal analysis has three main tasks:

- Build the engine cylinder model.
- Apply thermal loads and obtain the solution.
- Review the results.

The first stage in the process is the geometry definition. This can be through engineering drawings, 3D CAD files. Many highly developed graphical pre-processing packages are now available for mesh generation. These pre-processors can use the outline geometry from a drawing or CAD model to form the starting point for the mesh.

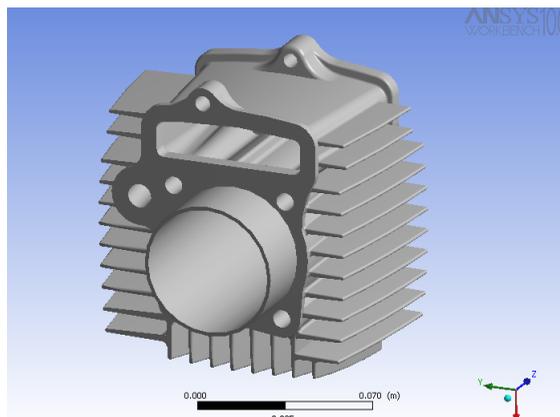


Figure 1 Engine Cylinder Block Model

Mesh generation:

First mesh the areas with element solid 42. SOLID42 has a 3-D thermal conduction capability. The element has eight nodes with a single degree of freedom, temperature, at each node. The element is applicable to a 3-D, steady state or transient thermal analysis.. The element has eight nodes with a single degree of freedom, temperature, at each node. The element is applicable to a 3-D, steady-state or transient thermal analysis.

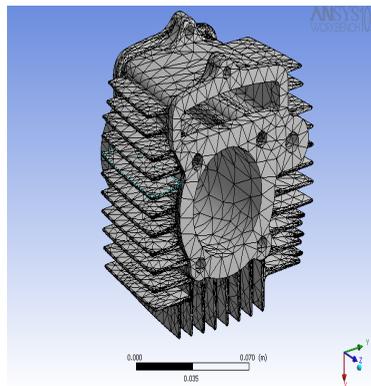


Figure 2 Meshed Model of Engine Cylinder Block

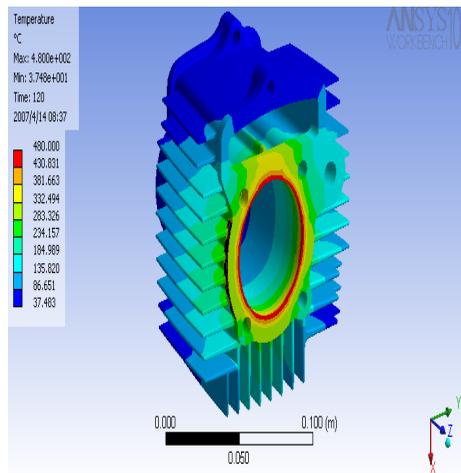


Figure 3 Temperature distribution of unmodified engine cylinder block

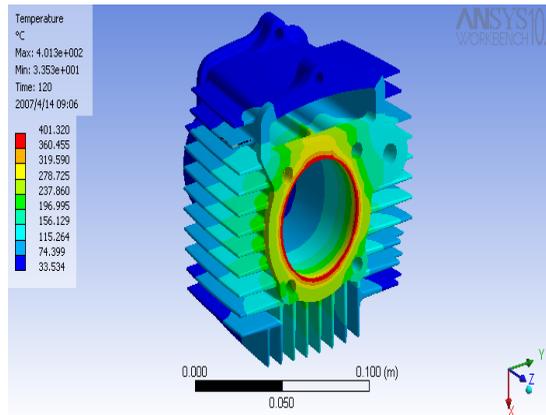


Figure 4 Temperature Distribution of Modified Cylinder Block

Increase in outside heat transfer area of engine cylinder block
 [

Heat transfer area = (Base area) + (Effective fin area).

Heat transfer area = (Base area) + (Fin efficiency) × (Actual fin area)

Fin Efficiency

$$= \frac{\mu_0}{2K2bc} \frac{[K1(\mu_e) I1(\mu_0) - I1(\mu_e) K1(\mu_0)]}{[I_0(\mu_0) K1(\mu_e) + I_1(\mu_e) Ke(\mu_0)]}$$

RESULT AND DISSCISSION

To overcome the problem of engine cylinder overheating, increase in the heat transfer through the engine cylinder block is necessary. This has been achieved by increasing outside effective heat transfer area of engine cylinder block i.e. by increasing the length of the fins.

TABLE 2 RESULT TABLE

Sr.No	Description	Before modification	After modification
1	Maximum engine cylinder block temperature	480	401



2	Outside heat transfer area of engine cylinder block	0.111878	0.128605
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CONCLUSION

Carried out a Finite element analyses (FEA) of engine cylinder block model to predict temperature distribution across the cylinder block. This analysis is validated by comparing analytical temperature distribution with the experimental temperature distribution results of the engine cylinder block. Finally it has been concluded that maximum temperature of the engine cylinder block has observed to be lower as 400°C , as compared to unmodified cylinder block as 480°C . This is due to increase in heat transfer area. This increase in heat transfer is achieved by increasing the outside heat transfer area of engine cylinder block by 14% with extending the fins height.

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ANJANAM: AN INDIGENOUS METHOD PRACTICED TO DETECT HIDDEN OR MISSING THINGS

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INTRODUCTION

India is a store house of various traditional systems, mythological texts, diverse cultures, arts and crafts. The people of India have been utilizing the nature both scientific and traditional forms in kind of medical, magico-religious, food and economic purposes. Such like natural resource utilization process, people have developed an indigenous practice locally known *Anjanam*. It is an age old practice as well as a magical ointment (collerium) which is prepared with herbs, minerals and also some naturally available materials and then operated as magico-religious practice for the purpose of discovering anything that is concealed. The meaning of *Anjanam* in Telugu dictionary is the tantric collerium/eyesalve used as tantric vision for discovering anything that is concealed. *Anjanam* has two other meanings i.e. women used *Anjanam* as eye salve for decorate her eyes. The traditional healers used a type of *Anjanam* as ointment for external therapeutics for pain relief. The present discussing *Anjanam* is a kind of magic ointment which is traditionally practicing in India for discovering hidden things since time immemorial. The belief on this practice is mostly observable in rural areas as well as a little bit in an urban setting. Sometimes in the rural areas, if a person lost his articles or ornaments or any stolen things in his house; or if a person lost their materials, pets/animals or their kin, such person approached traditional practicer, locally known *anjanakadu* for seeing via *Anjanam* to know how and what the actual things happened.



The person who practices *Anjanam* is locally known as *anjanakadu* it means he is a conjurer and he finds that which is concealed by putting the magic ointment locally called *Anjanam* on his hand; or on his eye lashes; or on the betel leaf; or on lemon fruit; or on the thumb nail of the hand for search hidden or missing things. According to the traditional healers, in the past, the *Rajavaidyas* (traditional medicine men for kings), *Bhutavaidyas* (magico-religious practicers) and *Natuvadyas* (witch doctors) used *Anjanam* to know about the disease and its healing remedies when they were not able to diagnose the disease of ill person. The treasure hunters are also used *Anjanam* to find hidden treasure underneath the earth or in the caves. It is also noticed that in the previous days the people were used *Anjanam* to predict ground water before dug the wells.

Similar practice like *Anjanam* is not only found in India, the textual evidences suggests that some other countries are also practicing some psychic prediction methods such as mirror, crystal stone, pendulum, tarot card reading etc., for find robberies or find hidden or missing things and other mysterious things. The textual evidences also suggesting that the Srilankan Astrologers used *Anjanam* for knowing the present, past and future destiny of a person. An article in one of the Telugu newspapers suggests that certain critical situations, even the police also approaching the practicers of psychic methods like *Anjanam*, pendulum, tarot card readers to chase mysterious crime cases.

***Anjanam* in ancient Indian literature**

The mythological texts suggests that the people of India practicing this method since 6000 years, when Mahabharatha battle was held. There is a discussion on *Anjanam* in '*Dhrowpadhi Swayamavaram*' of Vedavyasa's '*Mahabharatham*', at the discourse between the king 'Druphadha' and his *purohit*. The king Druphadha



was in the grief at the event of *Dhrowpadhi Swayamvaram* due to un-attendance of Arjuna within the predefined time for the event of '*Dhrowpadhi Swayamvaram*'. In that time, *purohit* to the king Dhrowpadha said that 'I was seen through *nupasrithi (Anjanam)*, the *pandavas* are safe; Arjuna must attend to this *Swayamvaram*, so you should announce for opening the event of *Swayamvaram*. There was also indicated about *Anjanam* in Mahabharatha in the canto namely '*Kurukchetra*'. The subordinate Sanjaya was revealed the live battle to the king Dhruvtharashtra through seeing via *Anjanam*. According to historians, the epic Mahabharatha was written in 4000 B.C ago. Based on the evidences mentioned above the practice of *Anjanam* has been using in India since 6000 years. In the epic Bhakthivedhantha Vedhabyasha's '*Srimadhbhagavatham*' also cited about *Anjanam* in one of the verse as follows:

*asathah Srimadhandhasya
daridryam param **Anjanam**
athmou pamyena bhuthani
daridraha param ekshathe*

In the treatise '*Bhojaprabhandham*' written by Ballaladeva was also cited about *Anjanam* in between the conversations of two thieves when they are planning to stole the treasure in bhoja's kingdom with the help of *Anjanam*. The king Bhoja belongs to 11th Century.

The emperor Sri Krushnadeva Raya was also mentioned about *Anjanam* in his treatise "*Amuktamalyada*" when the discourse between Srirama Mishrudu and the king Yamunacharyudu. The king Sri Krishnadeva Raya ruled Vijayanagara kingdom in between 1509 and 1529 A.D.

Yogi Vemana, a well-known Telugu poet has written several poems in Telugu language. He stated about *Anjanam* in some of his hymns. Some examples are given below:

Athmaloni Sommu nAnjanamuna Juchi



*Yanti Thirugunatti Yathadu Yogi
Punju Guta nundi prodheringeyi kuyu
Viswadhabhi Rama Vinura Vema.*

The meaning of the above poem is 'a yogi realizes the supreme spirit in his own soul, with the help of knowledge, which helps him just as an *Anjanam* a tantric vision to find hidden things'. A cock crows at the crack of dawn, from its roost unerringly, in spite of the utter darkness of the night all around it.

In another following poem, Vemana telling that without the help of *Anjanam* we cannot able to find the treasure.

*Sommupadinachota Sodhimpagalugu
Sommu Leni Chota Sodhanela
Anjanambhu Leka Yasommu Dheliyadhu
Viswadhabhi Rama Vinura Vema*

Another Vemana's poem revealing about *Anjanam* as:

*Anjanambu kanula kantinchi chuchina
sommu dhoraku bhuvini suthramuganu
garuni nammi karuna gunamanti chudara
Viswadhabhi Rama Vinura Vema*

Vemana was a great poet and alchemist. He wrote several poems based on the practical observations in his contemporary society. Based on his poems we can say Vemana has knowledge of the practice of *Anjanam* and, in his time, the people were also having belief on *Anjanam*.

C.P. Brown has done extensive research on Vemana's poems. He collected several poems and which are preserved for future generations. According to C.P. Brown - John Milton was discussed about *Anjanam* in his treatise 'Paradise lost'. John Milton belongs to the period 1608-1674 and C.P. Brown belongs to 1798-1884.

In some of literature pertaining to Vuyyalavari Narasimha Reddy (died in 1847) has noted about *Anjanam*. He was a freedom fighter in Karnool district, Andhra Pradesh. There was one seer namely



Gosayi Venkanna, companion of him and he was used *Anjanam* to predict the attacks of British soldiers. The well-known folk story in Telugu namely 'Balanagamma Katha' is also stated about *Anjanam*. There are number of folk stories in Telugu have constructed based on the practice of *Anjanam*.

The traditional practicers in Tirumala foothill villages, over generations has been preserving several palm leaf inscriptions and written dairies regarding the preparation of *Anjanam* and its mode of operation.

These are the historical evidences of *Anjanam* which are obscured under time span. But the people in the present society are still having belief on this system and also still practicing this tantric vision evidently in Tirumala foothill villages.

In the subsequent paragraphs the researcher clarifies what is *Anjanam*?; how it is prepared?; How the practicer find mysterious things using tantric vision '*Anjanam*'.

PREPARATION AND OPERATION

Anjanam is a magical ointment (collerium/ char paste) made from the mixtures of herbal char, chemicals and zoological organs. The person who practices *Anjanam* is called '*anjanakadu*' in Telugu and '*anchanakkaran*' in Tamil. The practice of this traditional system transmitted from one generation to another through written or oral records. The practicer (*anjanakadu*) prepares it with herbs (leaves, roots, bark, seeds and oils) which are collected with devout in particular occasions (*subhamuhurtham*) for example; at the time of lunar or solar eclepsy (*grahanakalam*), *thidhi* and *nakshatra* etc, and also added some other components extracted from animals such as *kasthuri* (extracts from stag), *gorojanam* (extracts from cattle), spleen of some animals, eyes of some birds and also chemicals like camphor and *manisila*.



The herbals that are used in *Anjanam* are rare and only available at particular geographical locations. The practitioner prepares using these herbals in particular auspicious occasions consisting strict restrictions such as *antu-muttu* (impurity). The practitioner burnt the collected herbals into char on fire lamp (*deepam*) of castor oil. The charcoals of these herbals are grounded into paste by drenching sesame oil (*manchi nune/nuvvula nune/kantam nune*). After making into collerium paste some other ingredients are also added like *manisila*, camphor, *patcha karpooram*, *gorojanam*, the smoke ash (*kardhuvva*) of camphor etc,. The honey collected from termite hill (*puttathene*) and castor oil (*chittamudham*) is added to this paste for longtime preservation and clarity vision.

The practitioners used a unique kind of herbals for preparing the *Anjanam* i.e. *tella guruvindha* (white coloured seed species of *Abrus precatorius*), white flowered *Calotrophis zigantia* (*tella jilledu*), black coloured flowering species of *Datura metal* (*nalla ummettha*), *Yerra avisa* (red flowered species of *Seshania grandiflora*), *veru panasa*, *marri badanika* (dependent plant on banyan tree), *mustibadanika* (dependent plant on nux-vomica tree), the ficus religiosa that are grown in the trunk of tamarind tree (*chinthu chettuloni ragi chettu*) etc,. The prepared tantric paste is preserved in a small silver or copper or glass containers. The practitioners takes a small drop of *Anjanam* paste from the bottle and places on betel leaf/lemon fruit when he necessary and witnesses in front of light (*deepam*).

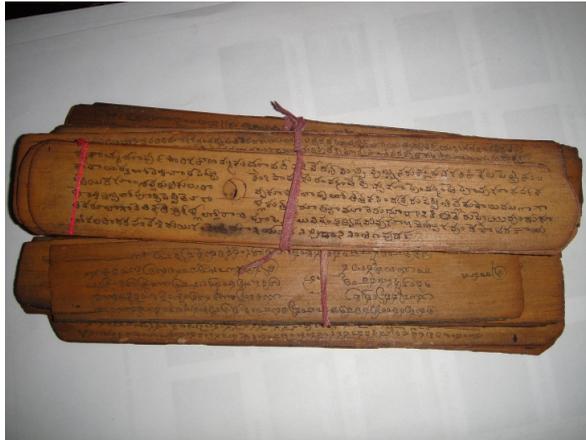
The practitioner keeps great concentration for seeing via *Anjanam* without closing his eyes. According to them when they see into the *Anjanam*, after some seconds later, Lord Hanuman (Monkey God) will appear in the *Anjanam* as like monkey or as mace (weapon of Anjaneya), in that time the person who on looking *Anjanam* asked the doubts to the God and they believe that the Lord will show all the facts as live that was actually happened. For instance, if a person loses his

gold ornament in somewhere, he wants to discover where it is placed. The Spectator at the time of seeing via *Anjanam* asks about this complaint to Lord Anjaneya to show me where the object is located. According to the practicers, the Lord show exact scene lively how it is happened just like recorded video. The spectator of *Anjanam* reveal about the object placed surrounding land marks such as trees, boulders, topographic marks etc., to find easily the missed object. According to the practicers, based on the purpose of the utilization, the *Anjanam* is named as *Sarvanjanam* (possible to see everything), *Pathalanjanam* (possible to see hidden things beneath the earth like underground water, hidden treasure, etc.) and, *Balanjanam* (children watchable) etc.,.

PLATES



Method of seeing through *Anjanam*



Palm leaf inscriptions regarding the preparation and practice of
Anjanam

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INFLUENCE OF STUDY HABITS ON THE SCIENTIFIC ATTITUDE AND ACHIEVEMENT IN SCIENCE OF 9TH CLASS STUDENTS

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INTRODUCTION

The study habits are very important characteristics of all human being that are being educated. As much study habits is important for higher academic achievement of students, as much it is important for their fruitful use of leisure time. The later aspect is also important for adults who are new in the job, particularly for the teachers. There are four main factors that pupil need to consider when creating their study plan; what to study, where to study, when to study, and how to study. When pupil put these four factors together, pupil can create a specific plan that will allow them to accomplish more in less time. If they have three weeks, two weeks, or even one week to get ready, they can create a plan that avoids anxiety-inducing cramming and focuses on real learning. The environment in which pupil choose to study can have a dramatic impact on how successful their studying. If they chose to study in a noisy coffee shop at a small table with dim lighting, it may take those two hours to cover the same material they could read in an hour in the quiet of the library. That is an hour that they don't have to lose. However, for some pupil the noisy coffee shop is the ideal environment. They need to determine what type of study environment works for them.

SCIENTIFIC ATTITUDE

Why don't students get hundred percent marks? Why do they lack in understanding the concepts in Sciences? Is it because of apathy,



frustration, lack of motivation or aptitude, hostility, scare due to difficulty and abstraction of this subject?

Obviously, different factors such as physiological, social, emotional, intellectual and pedagogical may cause dislike in the students and it is the duty of the science teacher to identify and isolate these factors. Once the disease is diagnosed, the remedy might be easy and often it may require a lot of effort, on the part of the teacher. In order to make the subject more fascinating, provide him with intellectual food to satisfy his curiosity and induce him to develop the habit of thinking, which is very essential for problem solving in his future life. Learning through learning activities could be helpful in this area.

It is sad to observe that even today, educational system in India, remains essentially, examination oriented. Under this system, learners do not receive science education. They mostly prepare themselves for passing the examinations. Such a situation not only damages the purpose of all education but also proves ruinous for science education. If we want to make science education more meaningful, this situation will have to be changed and the entire system of education will have to be reviewed and reoriented.

Review of Literature

Shannugasundaram (1983) conducted study on the influence of certain factors on academic achievement of undergraduate students; the factors were study habits, intelligence, motivation, sex and nature of instruction environment. Researcher found that high-level achievers had better study habits. Urban students had better study habits than rural students.

Nixon Coral and Forst Alan (1990) examined the study habit and its implication for student's success. 128 University Students were included



in the sample. Findings revealed that the students with good study habits and attitude are more successful in academic achievement.

Ramaswamy (1990) found out that study habits are not related to academic achievement among high and low achievers in boys but related to the girls.

George (1991) made an attempt to find out the effect of study habits of High school students on their academic achievement. 159 girls and 93 boys were selected as sample for the study. Findings showed that, there was no relation ship between the study habits of high school students' with achievement.

Kaur Harman.P (1991) studied the effect of home and school environment on study habits of high school students. Findings showed that 85% boys and 82% girls used planned schedule to study at home. Over 90 % of boys and girls were satisfied with their school's facilities, teachers' teaching methods and grading system.

Preman Vikki S (1993) examined relationship of academic achievement and study habits of 31 Asian Colleges' students. Results showed that students were using more time in reading and were intelligent, more dependent on books rather than any other materials

Mahesh Kumar Rajyaguru (1997) intended to study the non-cognitive variable such as study habit was studied as predictor of mathematics achievement. The sample consisted of 183 students of standard eight. Study habit inventory of Bhalalbai Patel was used to collect data. It is concluded that study habit was one of the important predictor of mathematics achievement.

Mary Suvarna (1997) conducted study on the effectiveness of training in study skills for high school under achievers in relation to their scholastic achievement. The objective of the study was to identify the study habits of underachievers. To develop a study skill programme to



inculcate study skills among the experimental group. Researcher found that there is significant relation between study habits and scholastic achievement. The study habit and scholastic achievement are improved after the study skill programme.

Dasgupta.D.S (1998) Studied effectiveness of Personalized system of instruction on conventional method in relation to retention and attitude. Researcher developed personalized system of instructional material. Each 30 students selected for conventional and experimental groups. Mean, SD, &'t' tests were used for analyzing the data. PSI group performed significantly better than conventional group. But on retention and attitude tests there was no difference.

Gehlat V.K (1998) made an attempt to study the effect of study habits on educational achievement of the students of secondary school. The main objective of the study was to find out the relationship between study habits and educational achievement. Tribal secondary schools covering 40% of the total population from the total number of 70 schools located in sabarakantha district were selected in random. All the students were administered with the B.V.Patel's study habit inventory. Findings revealed that there is significant effect of study habits on educational achievement of students of secondary schools.

VijayKumar Saroda (1999) made an attempt to study the effect of study habits on academic achievement. Investigator selected 78 Hindi medium students consist of 39 boys and 39 girls. Investigator used B.V.Patel's study habit inventory to collect data. Findings revealed that study habits exerted influence on academic achievement in case of Arts and Science students of both sex.

Bhagadekar Singh (2000) examined the (Relationship) correlation between Kannada and English medium students academic achievement with study habits. Sample consisted of 200 boys and girls, the findings were, students of Kannada mediums have less study habits than English



medium. There was a positive relationship between study habits and Kannada and English medium students with academic achievement.

Digumati Bhaskar Rao (2004) investigated the relationship of study habits with academic achievement. Sample of 200 secondary school students was selected by stratified sampling technique. The study habit inventory by D. Gopal Rao was used to identify study habits of students. It was found that secondary school students possessed study habits, but there was a significant difference in level of study habits among boys and girls, and there was correlation between study habits and academic achievement.

Scope of the Study

The main intention of the study is to find the relation of study habits on Scientific attitude and achievement in science of 9th class students.

Objectives of the Study

1. To study the influence of study habits on Scientific attitude of 9th class students.
2. To study the influence of study habits on achievement in science of 9th class students.

Hypothesis of the study

1. There is no significant effect of study habits on scientific attitude of the 9th class students.
2. There is no significant effect of study habits on achievement in science of the 9th class students.

Tools for the Study

1. **Scientific attitude questionnaire:** The scientific attitude of the subjects was assessed by using scientific attitude questionnaire; the questionnaire is developed by investigator. It consists of 62 items. Each item has five options. The items are scored with the help of scoring key. Each statement was arranged on a five - point scale, Strongly Agree (SA), Agree (A), Doubtful (D), Disagree (DA) and
-



Strongly Disagree (SDA). The total scores in each factor and marked them on the right corner of the answer sheet.

2. The Science achievement test is prepared and standardized by the investigator. Pilot study is conducted by the investigator with 120 items . The final study of Science achievement test consist 100 items. This procedure of item analysis is adopted from the prescribed standardized procedure, for construction and use of tests for class room examinations.
3. To measure the study habits of the students, the Study Habits Inventory (SHI) developed by Dr. B. V. Patel (1975) were used.

Sample selection

Based on the population, the investigator selected different types of schools namely Government, Private and Aided schools in Chittoor District covering all the revenue divisions. Out of the total students 600 students are boys and 600 students are girls.Two localities of the students are selected namely Urban and Rural areas.

Results and discussions

The Influence of study habits on scientific attitude and achievement in science

Looking into the importance of good study habits, Dr B.V. Patel's Study Habits Inventory was adopted to examine the study habits of 9th class students. The impact of study habits on scientific attitude and achievement in science was investigated. This Study Habits Inventory consists of seven areas:

- SH₁ Home environment and planning of work (7 statements)
- SH₂ Reading and note-taking (9 statements)
- SH₃ Planning of subject (5 statements)
- SH₄ Habits of concentration (4 statements)



SH₅ Preparation for examinations (6 statements)

SH₆ General Habits and attitudes (8 statements)

SH₇ School environment (6 statements)

This tool is consisted of 45 items. It is a five – point scale to get exact responses from students. The five points are (1) always, (2) often, (3) sometimes, (4) hardly and (5) never.

Influence of study habits on Scientific attitude

One – way analysis of variance is applied to study the influence of study habits on scientific attitude. The total study habits score and the scores of different areas of the study habits scale are divided into three groups on the basis of quartiles. Group – I represents the scores up to Q₁; Group – II represents the scores above Q₁ and up to Q₃; and Group – III represents the scores above Q₃. The corresponding scientific attitude scores of three groups were analyzed. The mean values of scientific attitude scores for each study habits and study habits total score were tested for significance by employing one – way analysis of variance technique. The following hypothesis is formed.

Hypothesis – 1

There is no significant effect of study habits on scientific attitude of the 9th class students.

By employing one – way analysis of variance technique, the above hypothesis was tested. The results are presented in **Table – 1**.

It is evident from **Table – 1** that the computed values 'F' for Reading and note-taking (SH₂) and Study habits total (SHT) are above the level of the critical value of 'F' (4.60) at 0.01 level of significance. Hence Hypothesis – 1 is rejected for Reading and note-taking (SH₂) and Study habits total (SHT) at 0.01 level of significance. The computed values 'F' for Home environment and planning of work (SH₁), Planning of subject (SH₃), Preparation for examinations (SH₅) and School



environment (SH₇) are above the level of the critical value of 'F' (2.99) at 0.05 level of significance. Hence Hypothesis – 1 is rejected for Home environment and planning of work (SH₁), Planning of subject (SH₃), Preparation for examinations (SH₅) and School environment (SH₇) at 0.05 level of significance. The remaining areas of study habits is also studied. It is observed that the computed values of 'F' for these areas are far below the critical value of 'F' (2.99) at 0.05 level of significance. Hence Hypothesis – 1 is accepted.

Table – 1: Impact of study habits on scientific attitude

S. No.	Study habits	No. of Observations			Mean			SD Values			F - values
		I	II	III	I	II	III	I	II	III	
1.	Home environment and planning of work	408	518	274	201.87	194.41	198.00	39.90	37.45	36.56	4.369*
2.	Reading and note-taking	396	429	369	192.50	198.85	202.15	36.66	38.98	38.38	6.409*
3.	Planning of subject	415	440	15	201.67	196.19	195.09	41.84	36.63	2.25	3.395*
4.	Habits of concentration	367	564	269	195.56	198.86	198.48	39.11	37.22	39.04	0.888@
5.	Preparation for examinations	315	641	244	200.06	198.66	192.47	37.46	38.69	37.58	3.087*
6.	General Habits and attitudes	361	505	31	199.26	196.53	198.03	38.53	38.02	38.21	0.546@
7.	School environment	448	365	387	199.69	200.27	193.19	38.41	38.11	37.55	4.12*
8.	Study habits total	422	386	392	200.78	199.31	193.01	39.14	39.04	2.95	4.680*

** Indicates significant at 0.01 level * Indicates significant at 0.05 level
 @ Indicates not significant at 0.05 level

It is implied that the study habits like 'Home environment and planning of work, (SH₁), 'Reading and note-taking' (SH₂), 'Planning of subject' (SH₃), 'Preparation for examinations' (SH₅), 'School

environment' (SH₇) and 'Study habits total' (SHT) have significant influence on scientific attitude of 9th class students. But the other areas of study habits scale have no significant influence on scientific attitude of 9th class students.

The bar diagram for the mean scientific attitude scores for the 'Study habits total' (SHT) is shown in **Figure - 1**.

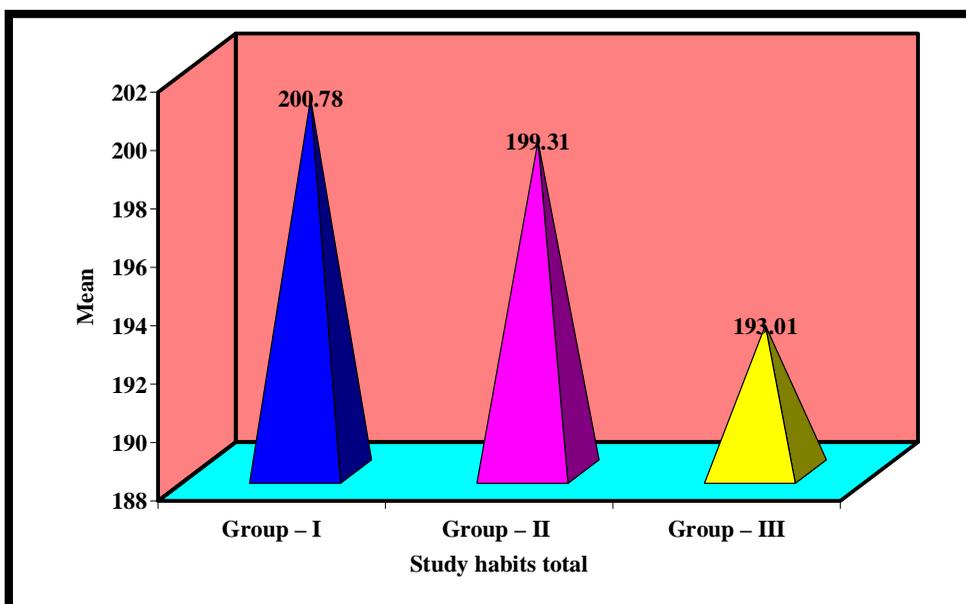


Figure - 1: Bar diagram for the mean scientific attitude scores for the 'Study habits total' (SHT)

Influence of study habits on Achievement in science

One - way analysis of variance is applied to study the influence of study habits on achievement in science. The total study habits score and the scores of different areas of the study habits scale are divided into three groups on the basis of quartiles. Group - I represents the scores up to Q_1 ; Group - II represents the scores above Q_1 and up to Q_3 ; and Group - III represents the scores above Q_3 . The corresponding achievement in science scores of three groups were analyzed. The mean



values of achievement in science scores for each study habits and study habits total score were tested for significance by employing one – way analysis of variance technique. The following hypothesis is formed.

Hypothesis – 2

There is no significant effect of study habits on achievement in science of the 9th class students.

By employing one – way analysis of variance technique, the above hypothesis was tested. The results are presented in **Table – 2**.

It is evident from **Table – 2** that the computed values 'F' for Habits of concentration (SH₄) and Preparation for examinations (SH₅) are above the level of the critical value of 'F' (4.60) at 0.01 level of significance. Hence Hypothesis – 2 is rejected for Habits of concentration (SH₄) and Preparation for examinations (SH₅) at 0.01 level of significance. The remaining areas of study habits and study habits total are also studied. It is observed that the computed values of 'F' for these areas are far below the critical value of 'F' (2.99) at 0.05 level of significance. Hence Hypothesis – 2 is accepted.

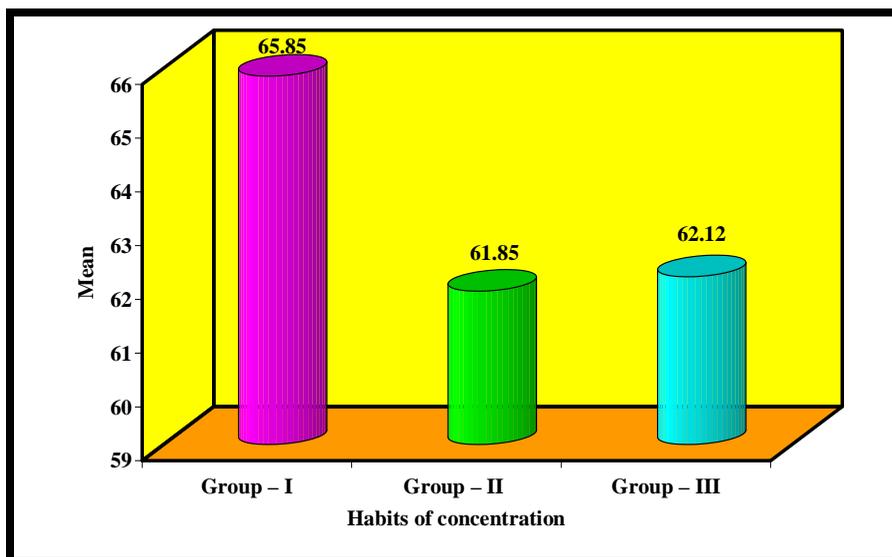
It is implied that the study habits like 'Habits of concentration' (SH₄) and 'Preparation for examinations' (SH₅) have significant influence on achievement in science of 9th class students. But the other areas of study habits scale have no significant influence on achievement in science of 9th class students.



Table – 2: Impact of study habits on achievement in science

S. No	Study habits	No. of Observations			Mean			SD Values			F - values
		I	II	III	I	II	III	I	II	III	
1.	Home environment and planning of work	40 8	51 8	27 4	62.8 8	64.0 7	61.7 4	18.0 9	17.1 6	17.6 1	1.625 @
2.	Reading and note-taking	39 6	42	36 9	64.4 4	62.0 2	63.0 5	17.0 5	18.0 9	17.5 2	1.963 @
3.	Planning of subject	41 5	44 0	15	63.5 3	62.3 3	63.6 8	17.9 6	17.1 8	17.6 7	0.724 @
4.	Habits of concentration	36 7	56 4	26 9	65.8 5	61.8 5	62.1 2	17.0 7	17.8 1	17.4 8	6.29**
5.	Preparation for examinations	31 5	64 1	24 4	60.4 7	64.1	63.4 0	18.9 9	17.0 4	16.8 2	5.153* *
6.	General Habits and attitudes	36 1	50 5	31	64.1 9	62.6 3	62.7 5	17.5 2	17.7 3	17.4 6	0.936 @
7.	School environment	44 8	36 5	38 7	63.1 9	64.4 8	61.7 9	16.9 3	17.4 6	18.4 0	2.197 @
8.	Study habits total	42 2	38 6	39 2	63.3 8	61.8 3	64.1 4	18.4 5	17.5 3	16.6 4	1.72@

** Indicates significant at 0.01 level * Indicates significant at 0.05 level
 @ Indicates not significant at 0.05 level



The bar diagram for the mean achievement in science scores for the 'Habits of concentration' (SH_4) is shown in **Figure - 2**.

Figure - 2: Bar diagram for the mean achievement in science scores for the 'Habits of concentration' (SH_4)

Major findings of the study

1. There is significant influence of Reading and note-taking (SH_2) and Study habits total (SHT) at 0.01 level and Home environment and planning of work (SH_1), Planning of subject (SH_3), Preparation for examinations (SH_5) and School environment (SH_7) at 0.05 level on the scientific attitude and Habits of concentration (SH_4) and Preparation for examinations (SH_5) at 0.01 level on the achievement in science of 9th class students.
2. Environment and planning of work (SH_1), Reading and note-taking (SH_2), Home Planning of subject (SH_3), Preparation for examinations (SH_5) and School environment (SH_7) and Study habits total (SHT) have significant influence on the scientific



attitude and Habits of concentration (SH₄) and Preparation for examinations (SH₅) have significant influence on the achievement in science of 9th class students.

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OVERVIEW OF MARKETING AT BOTTOM OF PYRAMID IN INDIA

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About a decade ago, Prahalad and Hammond (2002) brought to light the concept of Bottom of Pyramid (BOP) as a 'missing market' that was lying nearly dormant. BOP market is described as consisting of those buyers who have purchasing power equivalent to \$2 or less per day. This missing market is waiting for rampant increase in its economic and social prosperity, supported providing the 'poor' in developing and newly emerging economies with access to markets. Despite the actual fact that these individuals survive on annual per capita incomes of only \$1,500, this "bottom of the pyramid" represents a multi-trillion-dollar market. Taken along, 9 developing nations – China, India, Brazil, Mexico, Russia, Indonesia, Turkey, South Africa and Thailand – have a combined GDP that's larger, in purchasing power parity, than the combined GDPs of Japan, Germany, France, the United Kingdom and European nation. In the words of Prahalad, "the bottom of the pyramid, is the biggest potential market opportunity within the history of commerce." There was a time once when the total world thought that the rural India was a land of snakes and holy men with charming powers, but now it's time to re-acquaint ourselves with the current & real identity of the agricultural facet of our country. Coke / Pepsi or Chic / Pantene or Colgate / Close Up or Ariel / Surf or Lays / Cheetos are house hold brand names in rural markets today! There is huge potential for profits within the rural markets. Globally the bottom of the (economic) pyramid consists of four billion individuals living on \$2 per day. If we stop taking poor as victims or as a burden and begin to



recognize them as value-conscious shoppers, a full new world of opportunities can open up. C. K. Prahalad in his book " The Fortune at bottom of the Pyramid " suggests that four billion poor can be the engine of the next round of global trade and prosperity, and can be a source of innovations.To expand the market by approaching rural India, a large number of MNC's are foraying into India's rural markets. Among those who have created some headway are Hindustan Lever, ITC, Coca-Cola, LG , Britannia, LIC, HDFC Standard Life, ICICI, Philips, Colgate Palmolive and most of the Telecom companies.

What makes Indian Rural (BoP) market attractive?

The Indian rural market with its huge size and demand base offers enormous chances that companies cannot afford to ignore. India is country with population of 12 billion of which more then 700 million individuals resides in rural India in around 27,000 villages i.e 70 % of population belongs to rural Indian Market. India's rural population includes 12%of the world's population presenting an enormous, untapped market.

The importance of this market for some FMCG and durable marketers is underlined by the fact that the rural market accounts for 55% of LIC policies, 70 per cent of toilet soaps, 50 per cent of TV, Fans, Bicycles, Tea , Wrist Watches, Washing soap, Blades, Salt, Tooth Powder and 38 per cent of all Two-Wheelers purchased. Of the two million plus BSNL connections, 50% is from small towns/villages The figures tell us that the rural market is growing much faster than the urban counterpart.. A recent forecast disclosed that the Indian Cellular Services revenue can grow at a rate of 18.4 % with most of the demand coming from rural markets. In 2008, the rural market has grown at a rate of 25% compared to the 7–10 per cent rate of growth of the urban retail market.

In India, there are over 29% (650million) individuals in 'Bottom Of the



Pyramid' (BOP) segment. Out of them, 75% dwell in rural areas. Untapped rural market contributes 1/3rd of India's total savings and 60% of national demand for varied product categories. If the income of rural Indians increases by 1% then 10,000 crores more will be spent by them.

The reasons behind such growth are

- ✓ Increase within the share of earning from Non-Agricultural activities.
- ✓ Govt's minimum support price for food grains alone have up by 30-90% in 2 years.
- ✓ Improvement in social indicators like Rural literacy level
- ✓ Percentage of BPL families declined from 40% to 27%.
- ✓ Improvement in infrastructure: Improved rural roads, courtesy Bharat Nirman project. ,over 90% villages are electrified.
- ✓ Rural telephone density has up by 300% in last 10 years.

The phrase "Bottom of the Pyramid" is employed particularly by individuals developing new models of doing business that deliberately target the poorest regions. From multinational companies' perspective (MNC), there's a growing interest within the potential market of developing countries on the small upper-middle-class segments. However corruption, illiteracy, currency fluctuations, inappropriate infrastructures are some of the issues due to which MNCs are skeptical regarding profitability from such segments. These factors and additionally the obsolete image of the poor cover the real potential of BoP markets. One of the largest reasons that multinationals have avoided bottom of the pyramid is that selling to the poorest isn't a kids game. They generally lack regular income, have very little access to credit and resides in rural villages or urban slums where the traditional methods of advertising and distribution can't be practiced successfully. Most of the people at the bottom of the pyramid are part of an informal economy in which they do not hold legal title or



deed to their assets. Thus, effective way for reaching these individuals will require remarkably different approaches.

Recent Corporate Initiatives / Examples

1. Chik shampoo

Ariel & Chik Cavinkare launched Chik shampoo in 50 paise sachets. In order to target rural and small town customers who used soaps to wash their hair. It created a 'sachet revolution'.

2. Tata Swach range of Water Purifiers

The **Tata Swach** is a water purifier developed by Tata Chemicals, a part of the Tata group in India. It was designed as a low cost water purifier for Indian low-income groups, who lack access to safe drinking water. It has got three variants as **Tata Swach**, **Tata Swach Smart** and **Tata Swach Smart Magic**. This is an innovation not only for providing potable drinking water but also a low cost solution against already existing purifiers in the Indian market without the need of electricity, which is a scarce resource in India.

3. ChotuKool refrigerator

The very first example is of refrigerator from Godrej & Boyce called ChotuKool. It runs on battery unlike traditional refrigerator and doesn't need regular supply of power. The price of this refrigerator is only Rs.3250), with a total weight of 3-4Kgs and it works on simply 20 elements as compared to over 200 elements of traditional refrigerator. This landmarking innovation is considered to be it is the ultimate game changer, not only for the BoP but also for top of the pyramid consumers who could utilize it for camping and other leisure activities

4. Narayana Hrudayalaya Multispeciality Hospital,

The world popular Heart Institute has established an ultra low cost Hospital near to Mysore which is a super-specialty hospital to supply



medical treatments at a awfully low price. The distinctive options of Narayana Multispecialty Hospital includes terribly low investment in the infrastructure with the assistance of pre-fabricated material within the construction. The intensive care unit is the only department to be made up of concrete structure which facilitate this 200 bedded hospital to be made at a lowest price of Rs.16 crore. The building archietct helps maximize utilization of natural daylight and natural cross ventilation so as to reduce electricity consumption. The Hospital intends to increase this cost cuttings and supply medical services at a low price whereby a Heart Operation that prices around Rs.2,00,000 can eventually price Rs.50,000 to the patient visiting this hospital.

5. Jaipur Foot

The Jaipur Foot, also known as the Jaipur Leg, is a rubber-based prosthetic leg for people with below-knee amputations. Although inferior in many ways to the composite carbon fibre variants, its variable applicability and cost efficiency make it an acceptable choice for prosthesis. The beauty of the Jaipur Foot is its lightness and mobility, as those who wear it can run, climb trees and pedal bicycles. It is fitted free of cost by Bhagwan Mahavir Viklang Sahyata Samiti. **Bhagwan Mahaveer Viklang Sahayata Samiti (BMVSS)** is the world's largest organisation serving the disabled. This NGO provides all its assistance, including artificial limbs, calipers and other aids and appliances totally free of charge.

6. Gramateller – Low-cost ATM

Gramateller is a low-cost ATM being developed by Vortex, a startup incubated at Indian Institute of Technology, Chennai. Gramateller consumes only 72 units of electricity in comparsion to 1800 units of electricity consumed by conventional ATMs . In this type of ATM even no air conditioning system is required.It runs on Linux, which is an open source software, unlike conventional ATMs that run on Windows



for which licence has to be purchased. It also has a built-in UPS, which ensures the ATM doesn't go down when there are power cuts, and the option to run on solar energy

7. IFFCO & Tokio General Insurance:

Indian Farmers Fertiliser Cooperative Limited, also known as IFFCO, is the world's largest fertiliser cooperative federation based in India which is registered as a Multistate Cooperative Society. ITGI is well known for its diverse array of plans that are customized in a unique way and caters to a varied clientele that includes some of the biggest automobile makers in India as well as farmers. It has tied up insurance with fertilizer. The company offers farmers a free insurance cover worth Rs.4000 with every bag of fertilizer.

8. Tata Nano

Indian households spend some 2.5 percent of their expenditure on transportation; about 71 percent of all transportation expenditure comes from the bottom of the pyramid. Keeping this in mind along with other issues in the year 2008 Tata Motors launched Tata Nano, a small car made for India's poorer population. It was a car of worth of only 100,000 rupees (about US\$2,350 or £1,500) Even though the Nano is not affordable by the poorest, it does, however, serve the needs of those within the bottom of the pyramid who so far could afford a motorcycle but not a car.

9. Project Shakti

Distribution is one the aspect which plays prominent role in rising prices of goods. In order of reduce the price hiking role of distribution HLL created a direct distribution network in markets without distribution coverage through traditional distributors and dealers. They selected some women from these villages , who have information about the needs of locals and products in demand in the area.HLL



trained them to become distributors, providing education, advice and access to their products in their and nearby villages. These village women are called as ShaktiAmma ("empowered mother"). They earn between Rs. 3,000 and Rs.7,000 per month (U.S. \$60–\$150). These ShaktiAmma are increasingly becoming the educators and access points for the rural BoP consumers in their communities.

Beside these some other popular initiatives includes Nokia Life Tools from the Nokia India, Reliance (People's phone),etc. Government on their part has been providing a lot of subsidies for rural initiatives and promoting programs like Financial Inclusion, Unique Identification (UIDAI), Internet and mobile connectivity for the BoP. Private Universities in India and corporations jointly are forming Joint Venture like Manipal University-Philips BoP Initiative, which will focus on the growth of research and innovation in the coming years, which will transform the attractiveness of BoP market not only in India but worldwide.

The keys to success for marketing at BoP market

➤ **Innovate the product.**

There is a need to innovate products to fulfill BoP consumers needs. Already existing products in market especially in urban market, must be rethought in order to bring down its cost in such a way that at the same time it have features that meet the BOP's highest needs. For example, Hindustan Unilever Limited (HUL), a Unilever subsidiary, developed a new molecular encapsulation technology to prevent iodized salt from losing its iodine before consumption.

➤ **Make the solution scalable.**

Product for BoP consumers ,when innovated and priced at affordable level, then the only way to generate profit is through large volume sales. Solutions should be scalable across borders . Products for BoP



market should be designed in such way that it satisfied demands of large mass of BoP consumers and not of a particular segment of market.

➤ **Create Awareness**

Innovating and pricing the product on lower side with no one know about it makes no sense . Since large parts of rural India are inaccessible to conventional advertising media, building awareness is a big challenge. Marketing managers dealing with BoP markets need to create an awareness of the product and service. He/ She must ensure that everyone knows that product to satisfy there need is available and also understands how to use it. Godrej Consumer Products, which is trying to push its soap brands into the interior areas, uses Radio to reach the local people in their language. Coca-Cola uses a combination of TV, Cinema and Radio to reach rural households. LG Electronics uses vans and road shows to reach rural customers. Philips India uses wall writing and Radio advertising to drive its growth in rural areas.

➤ **Acceptability**

Along with innovation and awareness , acceptability for the product or service in BoP markets is the next area of focus in context to success in BoP market. Therefore, there is always a need to offer products that suit the rural market. One company which has reaped rich dividends by doing so is LG Electronics who developed a customized TV for the rural market and had sold 100,000 sets in the very first year of launch. Coca-Cola provides low-cost ice boxes — a tin box for new outlets and thermocol box for seasonal outlets in order to cope up with the hurdles like - the lack of electricity and refrigerators in the rural areas. The insurance companies that have tailor-made products for the rural market have performed well in rural market.

➤ **Affordable**



This is a real challenge for marketers as it means dividing product or service's price by a 50 or 100 figure. It's not just about making consumer products cheaper. With low disposable incomes, products for BoP consumers need to be affordable for the local people's pockets. Some companies have tackled this problem by introducing small unit packs. Godrej has introduced three brands of Cinthol and Fair Glow in 50-gm packs, priced at Rs. 4-5 meant specifically for rural markets. The success of Cavin Kare has become a very notable case study. Cavin Kare is the company which introduced Chic shampoo sachet for 50 paise when shampoo was available at Re.1. Hindustan Lever has launched a variant of its largest selling soap brand, Lifebuoy at Rs.2 for 50 gm. Coca-Cola has addressed the affordability issue by introducing the returnable 200-ml glass bottle priced at Rs.5. The initiative has paid off: Eighty per cent of new drinkers for coke now come from the rural markets.

➤ **Available**

The next key for success is the fact that- what is produced should be made available. India has 627,000 villages spread over 3.2 million sq km. Because of the poor state of roads and low connectivity of rural urban areas it is an even greater challenge to regularly supply the products to the villages. Over the years, India's largest MNC, Hindustan Lever, has built a strong distribution system which helps its brands reach the interiors of the rural market. To service remote village, stockists use autorickshaws, bullock-carts and even boats in the backwaters of Kerala. Coca-Cola, which considers rural India as a future growth driver, has evolved a hub and spoke distribution model to reach the villages.

➤ **Develop Partnerships**

A company's core competency is its offerings i.e., its product or service. In order to succeed in BoP market a company requires to develop



partnerships with NGOs, local governments, financial institutions and local entrepreneurs .These parties can help by providing training, development, micro-finance and other expertise. NGO's & MNC's ,Govt building a base of local support can also help to establish credibility within local communities, gain insight into a country's culture, increase local knowledge and overcome opposition when entering a new market. This will also help in educating BoP consumers in the use of products. HUL launched a program in some of India's village schools to promote the washing of hands with soap as a way to prevent the childhood diarrhea that kills two million children per year. HUL educated the children, who in turn educated their parents. Taking example of Procter & Gamble, it has been working with NGOs which have been trying to raise awareness of the need to treat drinking water. "For PUR, we let our NGO partners use their distribution channels.

➤ **Create Buying Power:**

Developing Innovative Financing Schemes, Provide financial services which focus on access financial literacy and encouraging a habit of savings, motivating people to investment in productive assets (tools, agricultural materials, preventative health), Community credit pooling with a revolving loan fund are some of successful strategies proven to reduce default risk. Project Shakti by Hindustan Lever Ltd. (HLL) in India, is a unique example of this category.

➤ **Building sustainable models**

Business plays a couple of important roles in terms of sustainable solutions. For BoP consumers ,it's very important for marketers sustainable models . For example when it comes to rural electrification, a sustainable solution will be to set up local energy businesses, using solar panels or fuel powered generators rather than donating



generators because no one will take pains to repair them when they got damaged.

Reduce the skills required to do the job.

Design products and services suitable to people without skills. Voxiva, a Peruvian start-up, developed a system enabling health-care workers to diagnose illnesses such as smallpox by comparing a patient's lesions to a picture of a similar lesion. With this simplified diagnostic process, health-care workers don't require great skills to know when to call a doctor.

Conclusion:

A silent revolution is sweeping the Indian countryside. 'Go Rural' seems to be the latest slogan. The marketing battle fields has shifted from the cities to the villages , but in this battle both consumers and companies are winners, it is a win-win situation. Go and meet the villagers and ask them what they want. Create the products and services that is relevant to their needs . Marketing to BoP consumers is not limited to low priced offerings or introducing sachets. It importantly deals with understanding buying behavior and decision-making process of these consumers. The key learning is that the consumers at the bottom of pyramid are not 'consumers' but in fact extremely careful 'money managers' for whom an expense is often an investment and the returns must be maximized. . India in particular has created a mark on the global map with the concept and has been successful in changing the perception of India from a manufacturing and back-end process hub to a research and innovation Hub. The Indian and Multinational corporations have not only limited innovative solutions for the Indian market but are now taking these innovations to international platform and are treating India as a BoP Innovation and Research Hub.



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INFLUENCE OF AN INDUCTION PROGRAMME ON THE TEACHING PERFORMANCE OF NOVICE TEACHERS IN GUYANA

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1.0 Introduction

During the first years of teaching, after their pre service education, many teachers find it challenging to cope with the realities of the classroom and the demands of the job. It is the defining period in which 'the student - teacher' grows into the 'teacher of students'. A time when teachers form their professional identity and construct a professional practice (Feiman-Nemser, 2001). Teachers also embark on a socialisation process in the school during this time. These novices have to adjust to the procedures and culture of the school and earn the appreciation of their new colleagues (Kelchtermans & Ballet, 2002 ; Zeichner & Gore, 1990). The steep learning curve is hard not only on them but on their students as well (Ingersoll & Smith, 2003 ; Smith & Ingersoll, 2004). Student achievement tends to be significantly worse in the classrooms of first-year teachers before rising in teachers' second and third years (Rivkin, Hanushek & Kain, 2005). For many novices, it is a time when their teaching performance is at its lowest level. It is for these reasons and more that an increasing number of schools support novices with an induction programme : a more or less formalised programme that is aimed at supporting beginning teachers in their first years of teaching, after their pre service education (Beijaard, Buitink & Kessels, 2010). It is believed that a comprehensive teacher induction

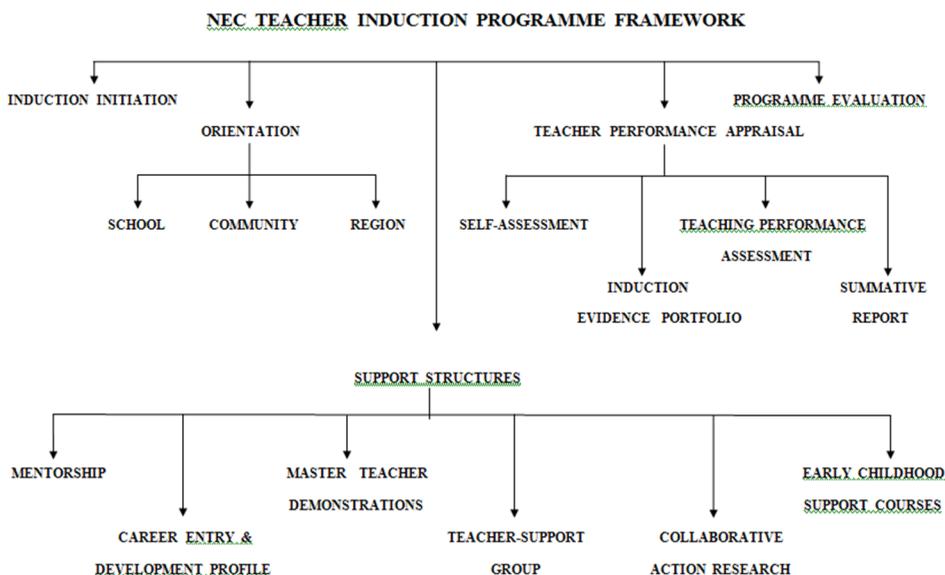


programme can help improve the teaching performance of novice teachers.

There is no scientific knowledge available about the influence of an induction programme on the teaching performance of novice teachers in Guyana. In fact, novice Guyanese teachers are not known to be supported by an induction programme. As a result, when confronted with the challenges of this critical period, among other things, they may either slump into the realm of ineffectiveness or become so frustrated that they choose to be more absent than present at school. This study is an attempt to arrest the situation and provide deliberate structured support for novice teachers in Guyana.

In the context of the study, the concept “teacher induction” refers to a process of systematically initiating novice teachers into their new roles, both as teachers and as members of a school organisation, through exposure to one year of professional development support structures. Consequently, a one-year teacher induction programme was developed and utilized by the author. The programme was named the NEC Teacher Induction Programme ; NEC meaning Novice Early Childhood. Figure 1 gives a structural overview of the various programme components and their connectivity. Teaching performance on the other hand focuses on the ability to proficiently demonstrate three domains of teaching , namely ; Classroom Environment, Lesson Planning and Preparation and Delivery of Instruction. Finally, a novice teacher is viewed as a classroom teacher with less than 3 years post training experience.

Figure 1



Research Questions

1. Is there significant difference in the overall teaching performance between novice teachers who participated in the induction programme and novice teachers who did not participate in the induction programme ?
2. Is there significant difference in the ability to deliver instructions between novice teachers who participated in the induction programme and novice teachers who did not participate in the induction programme ?
3. Is the level of planning and preparation displayed by novice teachers who participated in the induction programme positively related to their ability to deliver instruction ?



Methodology

A *Two-Group Pre test-Treatment-Post test Design* was utilized in the conduct of this study. For this design, two equivalent groups, an experiment and a control group was needed. Both groups were given a pre test after which the experiment group participated in the one-year teacher induction programme. At the end of the one year programme both groups received a post test. The test took the form of an assessment of teaching performance.

Sample

Purposive sampling procedures were utilised to select subjects for the study since only novice early childhood teachers were needed. Simple random sampling was employed to assign subjects to experiment and control groups. A total of 70 subjects were selected , 35 for each group.

Instrument

A Teaching Performance Assessment Scale was the instrument used to assess the teaching performance of the novices. The instrument was adapted and adopted from the St. Kitts and Nevis , Ministry of Education, Teacher Appraisal Form (n.d). The Assessment Scale is divided into three domains namely ; Classroom Environment, Lesson Planning and Preparation, and Delivery of Instruction. This instrument employed a four point scale to indicate novices' levels of performance in relation to specific descriptors outlined under each domain.

Data Analysis and Interpretation

Data collected from the Teacher Performance Assessment Scale were tabulated and converted into mean and standard deviation to describe the overall teaching performance and the novices ability to deliver instruction . A *t* test was then applied to



determine if there were any significant differences between the performance of the groups. To ascertain relationship between lesson planning and preparation and delivery of instruction, Pearson product-moment Correlation was employed.

GROUP	SUBJECTS	OVERALL TEACHING PERFORMANCE (RAW SCORE)		MEAN		STANDARD DEVIATION	
		PRE TEST	POST TEST	PRE TEST	POST TEST	PRE TEST	POST TEST
EXPERIMENT	35	3312	5104	95	146	8	6
CONTROL	35	3316	3679	95	105	5	4

Table 1 Overall Teaching Performance of Novices

Careful examination of Table 1 reveals that while the experiment and control groups scored the same mean on the pre test, and showed improvement from pretest to post test, improvement in overall teaching performance was greater in the experiment group. Both groups had a mean of 95 on the pre test however, on the post test, the control group moved to a mere 105 and SD 4 while the experiment group advanced to a mean of 146 and SD 6. But was this difference between the overall teaching performance of the two groups statistically significant?

Variables	S_p^2	SE _{dm}	df	Critical Value	Alpha Set	Computed Value	Remarks
Experiment vs Control group on the pre test.	43	2	68	2.00	.05	0	Not significant
Experiment vs Control group on the post test.	28	1.2	68	2.00	.05	34.1	Significant

Table 2 Differences between the overall teaching performance of the groups.



From the information presented on Table 2 it can be construed that the difference in overall teaching performance between the experiment and control group was significant, after the experiment group had participated in the induction programme. This is so since the t value obtained for the post test , 34.1 , exceeded the critical value of 2.00. It can therefore be inferred that participation in the teacher induction programme can improve the overall teaching performance of novice teachers in Guyana.

GROUP	SUBJECTS	DELIVERY OF INSTRUCTION (RAW SCORE)		MEAN		STANDARD DEVIATION	
		PRE TEST	POST TEST	PRE TEST	POST TEST	PRE TEST	POST TEST
EXPERIMENT	35	1392	1852	40	53	3	4
CONTROL	35	1374	1507	39	43	2	3

Table 3 Novices ability to Deliver Instruction

A study of Table 3 reveals that the ability to deliver instruction was almost the same for the experiment and control groups on the pre test. The experiment group scored a mean of 40 and SD 3 while the control group a mean of 39 and SD 2 . On the post test however, there was a vast difference between means for the groups. After the experiment group had participated in the induction programme their mean went to 53 while the control group scored a mean of 43.



Variables	S^2_p	SE_d M	df	Critical Value	Alpha Set	Computed t Value	Remarks
Experiment vs Control group on the pre test.	7	0.6	68	2.00	.05	2	Not significant
Experiment vs Control group on the post test.	13	0.9	68	2.00	.05	13	Significant

Table 4 Differences between experiment and control groups' ability to delivery instruction.

Judging from the information of **Table 4** one can conclude that the difference between the experiment and control groups' ability to deliver instruction was significant on the post test and not on the pretest. The evidence lies in the fact that the computed t value for the post test means, at 13, exceeded the critical value of 2.00. This can be attributed to the experiment group's participation in the induction programme. It therefore means that novice Guyanese teachers who participate in the induction programme would do a better job at the delivery of instruction.

Variables	df	Critical Value	Alpha Set	Computed r Value	Remarks
Pretest	33	.325	.05	1332	Significant
Posttest	33	.325	.05	1840	Significant

Table 5 . Correlation between Lesson Planning & Preparation and Delivery of Instruction for Experiment Group

Findings on **Table 5** show that on both tests there was correlation between the experiment group's lesson planning and



preparation skills and their ability to deliver instruction. The critical value was .325 and the group exceeded this with a computed r value of 1332 on the pre test and 1840 on the post test. However, it should be noted that the computed r value was greater on the post test, after the group had participated in the teacher induction programme. The inference therefore is that while lesson planning and preparation generally aids delivery of instruction, the relationship between the two domains is stronger for novices who participate in an induction programme. In conclusion, judging from the data presented, the NEC Teacher Induction Programme had a positive influence on the teaching performance of novice teachers in Guyana.

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PERPETUATION OF BELIEFS: INSTALLATION OF BODDURAI

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The first object to be worshiped by evolving man was a stone. A Stone (Boddurai) inscribed with Bijakshar as in the middle of the village with assize of nearly $8\frac{1}{2} * 4 * \frac{1}{2}$ cubic feet was installed in many villages of Andhra Pradesh from times ancient .It's really astonishing to see how people get together to take part in this ritual popularly known as "Boddurai Pratishtapana" or commonly called 'The Installation of Village Deity' which is celebrated on a grand scale with religious fervor. The Boddurai, seen even in the present day in village centers, serves as a fertile "navel" for a community's growth. I have conducted a cross-cultural study of the material culture of rural Andhra Pradesh, crisscrossing various places in the pursuit of the comprehension of Indian folk arts and crafts.

I had been to a village in Andhra Pradesh, a number of times previously to visit the family of a close friend. This time, I had been taken to visualize the Village Deity of the community. This new experience was an unprecedented honour, being allowed to witness the ceremony of invocation in which a very special ritual, enacted on rare occasions to implore the aid of the Goddess in overcoming a difficult domestic problem. I was fascinated to witness this festival in his village, with no basic knowledge of the happenings and ritual practices evident there. But, this sprouted with lots of questions in my mind seeking to procure answers as to why the village deity is being installed in the center of the village and how it runs parallel to the mainstream Gods and Goddesses in sacred temples.



In artistic point of view, I tried to search for the culture and traditions being followed for prolonged years by the villagers. They reflect interesting myths or facts of various elements of nature in idols such as deities, their ritual practices, culture and how these relate contemplating to modern contemporary times. I might feel empathy toward a particular subject or situation, but as a scholar I tried to distance myself to observe and take note. I felt a change in the atmosphere: a palpable sense of power vibrating throughout the area surrounding the sacred stone. It was a type of pulsating energy, the strength of which I had never before sensed in my life. I was completely surprised, overwhelmed beyond any expectation. In that one moment I, who had come as an observer, had become a participant. I no longer withhold myself in critical appraisal, fully present with all of my senses to absorb the ritual, to feel the full experience. I realized now that my earlier distance was merely the consequence of my own limitations.

This was the festival that transcends caste and religion as every family within the village invariably takes part in this rituals. In the prehistoric past, it originated 800 years ago during the reign of Kakatiyas. The installation of Bodduraiin volves a series of rituals spanning three days and its mandatory that every woman from the village who migrated or married should come to attend this ceremony as entire family is involved. Actually the worship is done to propitiate God for protection of residents, their general wellbeing and prosperity of the village. The ritual also involved certain hours of prohibition of residents from going out or others coming into the village which is called as "Grama Dhighbhandanam".

It involves pitching of three wooden logs into the place at the center of the village selected by the residents. One log represents Brahma and up above shows eight sides representing Vishnu and on the top the log is carved in round shape as Siva Swarupa. Alongside is pitched another log with a portrait of Lakshmi on it and third log is a flag post named as



'Daru Dwajam'. Its a common belief that the installation of Boddurai would heal up the victims of various diseases and prevent untimely or unexpected deaths, chase out evil spirits bringing sanctum to whole village and the residents would be in peace and harmony. It is believed to be vibrant with the energies of innumerable pujas and will usually continue to be a focus of community worship. The position of priest may be hereditary, usually given to a person of a menial caste whose family has conducted the pujas at a devasthanana for untold generations. pujas are considered particularly effective in combating agricultural calamities, family crises, civic disputes, infertility and disease. The powerful shrine is believed to be so immense that several kingdoms during the past millennia have owed their greatness to its beneficence.

On the most basic level, the Goddess is the earth from which all life springs and depends. Every life existing on this planet is considered to be her form. This notion is acknowledged in art as well as contemporary worships of the village deities. The navel stone of the village indicates the pervasiveness of the deities male or female in all components of nature and its existence. The villagers continue to pay homage to the deities and worship this heap of stone with vermilion, turmeric and flowers. The deities are worshipped here as rain bearers and understood as fertile soil of earth, healing and protection. After witnessing the positive impact of natural forces, the villagers sends their offerings, cooked milk rice and coconut in gratitude of the village deities worshipped in the form of navel stone. Each, even the most elaborate, is ephemeral: its value is in the giving. It represents a personal commitment between the devotee and his or her Deity, the essence of Hindu reciprocity.

This ritual has its grassroots from Rig vedic times which was earliest known vedas of Hindu religion. They incorporate the prevalent concepts of earth as (Prithvi) and water as (Saraswathi). Even the Bhumisukta in Atharvaveda, a prayer to goddess described as earth and



surrounding atmosphere in ancient Vedas forms the basis to present system of belief of natural forces and ruled by the village deities, which is evident now even in the contemporary society. There exists a correlation between the beliefs of ancient and modern society on the Doctrine of Panchabhootas. The early Sangam literature in Buddhist era and the Tamil epic of second century – Cilappatikaran has abundant reference to the guardian village goddesses, groves waterfronts and crossroads. The village deities such as Goddess Durga who is known to have tribal and village association with her mounts as tiger and lion is noticed on Satavahana coins of Kolhapur series from 2nd -3rd century AD. A detailed anthropological analysis of contemporary goddess worship in Andhra Pradesh traces auspicious symbols and patterns back to ancient sources, including pottery, burial slabs, rock paintings, and coins. These early pieces show symbols such as the Nandipada, the footprint of the bull later known as the Triratna in Buddhist and Jaina spheres, the lotus, the vegetative form of the Srivatsa, and the Trisula (trident).

Each Hindu community on the Indian subcontinent has its own deity literally village divinity worshipped spiritually as boddurai-a stone with inscriptions written on it with “Mahasheetala Yantram(the power of divine akshras) is regarded as protector of that village or a locality as a whole. The worshipping of boddurai is especially prevalent in Andhra Pradesh and the stone is conceived and believed by the people of contemporary times as providing the sap of life driving away all hurdles in their lives. The above instances illustrates the similarity imagined between the human form and stone form as earth protector from unnatural forces and spirits ,symbolized by the bedrock of the hills , streams water or trees of nature’s elements in Andhra Pradesh.

Considering that each Hindu community honours its own individual Gramadevata or the village deity, it is no wonder that India is said to contain a million and one Gods and Goddesses. The present census lists



more than 630,000 villages, not counting the numerous towns and cities. In its entirety, the Hindu pantheon is mesmeric and inconceivable. Its relevance lies in its approachability, not its vastness. Each Hindu has a vital sense of belonging. Each has an Ishtadevata, the Deity of personal choice; a Kuladevata, the Deity of family and household; and a Gramadevata, the Deity of community in the form of natural element like a stone. An individual's life is entwined in recognizing and honoring these relationships, in defining the self and one's interconnectedness to all other living beings. In a world where concepts and values are constantly challenged and perpetuating, the underlying purpose of all the numerous rituals and pujas of every day and season is to allow the Hindu to meet God, an experience that brings with it a sense of clarity, balance and belonging. It is a religion of strength, vitality, innovation, and balance. I believe that by opening our hearts and minds to its messages, we can enrich our own lives.

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HETEROPHENOMENOLOGY: DENNETT'S SOLUTION TO THE PROBLEM OF CONSCIOUSNESS

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Introduction

Daniel Clement Dennett is one of the most influential philosophers of mind of the past thirty years. Unlike many philosophers of mind Dennett rejects the idea that consciousness is the fundamental problem about the mind. According to him there is no such thing as phenomenal consciousness as an extra property of the world. His philosophy of mind follows the naturalist tradition: according to which the mind can be explained by science without spiritual or metaphysical approaches. In *Consciousness Explained*, Dennett offers an outline of the solution to the mind-body problem. He proposes a theory of consciousness that gives answers to the questions that have been just as baffling to philosophers and scientists as to laypeople.

Dennett's theory of consciousness involves a critique of qualia and the Cartesian Theater, phenomenal consciousness, possibility of zombies, knowledge argument, and what-it's like aspect of consciousness. His theory of consciousness deals not with the so-called hard problem of consciousness, but with a set of problems (kinds of access, unification of a stream of consciousness from multiple drafts at the sub-personal level, self-representation and virtual centre, self-reports, the difference language makes in a mind, etc). For Dennett, though, this is how a theory of consciousness should be. Dennett proposes that human intentionality traces to the long, slow process of evolution of the human race by natural selection.

Dennett's idea is that natural selection mirrors the mind in that it



seemingly makes choices and improves its products by weeding out failures, yet it does so without any representations or foresight. Further, since natural selection may reuse one structure for a different function, there will sometimes be indeterminacy about what a structure is for. This potential for indeterminacy is inherited by our intentional states.

According to Dennett, consciousness is a sort of 'virtual machine', a sort of evolved program that shapes the activities of the brain. But to have a model of consciousness, there needs to be an answer to the question: what sort of program is the machine running? In the next section we will discuss Dennett's answer to this question.

Heterophenomenology

In studying consciousness, Dennett adopts a method he calls *heterophenomenology*, which he presents as an alternative to Husserl's phenomenology. The prefix 'hetero' means 'other'. The goal of this method is to find a way of describing a subject's world of appearances from the third person perspective.

Husserl claims that it is possible to develop a rigorous, introspection-based methodology for studying consciousness. Husserl's term for this is 'phenomenology,' or the study of phenomena, which, to him, meant the study of the world of appearances.¹ According to Husserl, we should describe consciousness purely as we experience it without prejudging it from the standpoint of any philosophical doctrine, any scientific theory, or even our everyday faith that there are things in the world independent of our experience.²

Dennett argues that phenomenology is not a scientific method for studying consciousness. There are no public constraints on a person's judgments about what they introspect.³ Dennett has been a critic of first-person methodologies for decades. He states "Consciousness is often celebrated as a mystery beyond science, impenetrable from the



outside, however intimately known to each of us from the inside"⁴. According to him, this tradition is not just a mistake, but a serious obstacle to ongoing scientific research that *can* explain consciousness, just as deeply and completely as it can explain other natural phenomena: metabolism, reproduction, light, gravity, and so on. According to him, "even if mental events are not among the data of science, this does not mean we cannot study them scientifically. Black holes and genes are not among the data of science, but we have developed good scientific theories of them."⁵ Dennett, of course, regards first-person data for a science of consciousness with deep suspicion. As he puts it "There is no such thing as first-person science, so if you want to have a science of consciousness, it will have to be a third-person science of consciousness...."⁶

In Dennett's words, heterophenomenology is "the *neutral* path leading from objective physical science and its insistence on the third-person point of view, to a method of phenomenological description that can (in principle) do justice to the most private and ineffable subjective experiences, while never abandoning the methodological principles of science".⁷

Heterophenomenology begins with collecting what Dennett calls raw data. Next step is carefully recording any indications of the conscious phenomena under investigation. This can be accessible from the third-person perspective. These do not include any of the subject's private conscious phenomena, but do include his verbal reports and cataloguing all his beliefs, hunches, emotional reactions and so forth. The next stage converts the recorded verbal utterances into transcripts, in the subject's own language. These interpretations aim to give the best possible description of what it is like to be the subject.

These interpreted data constitute the subject's heterophenomenological world. It is 'hetero', because it is accessible to



many perspectives, and it is 'phenomenological' because it is about the subject's private conscious experience that a science of consciousness should seek to explain.

The important feature to note about the method of heterophenomenology is that it is metaphysically minimalist and neutral with regard to the debates about subjective versus objective approaches to phenomenology, and about the physical or nonphysical reality of phenomenological items. Heterophenomenology makes no assumptions about whether this world of appearances is real or not.

Dennett uses an analogy to anthropology in order to clarify this point. When investigating the mythology of some tribe, an anthropologist must treat the natives' utterances as authoritative and, at the same time, remain neutral about the truth of what they say. Heterophenomenology is the application of this anthropological method to any subject's utterances about their own conscious mind.

Heterophenomenology is neutral about whether such facts are also true of the real world of the subject's nervous system. This is something for science to discover. Then the question of whether items thus exist as real objects, events, and states in the brain is an empirical matter to investigate. If suitable real candidates are uncovered, we can identify them as the subject's terms; if not, we need only explain why people think there is phenomenal consciousness.

Let us summarize heterophenomenology as follows:

- (1) Heterophenomenology is a methodology for the study of consciousness.
- (2) The source of heterophenomenological data is first-person reports.
- (3) Heterophenomenologists interpret reports as expressions of subjects' beliefs about their conscious experience.
- (4) Heterophenomenology is metaphysically minimalist and neutral
- (5) Heterophenomenologists are agnostic about the truth value of first-person reports.



Heterophenomenology is explicitly not a first-person methodology but it is also not directly about “brain processes and the like”; it is a reasoned, objective extrapolation from patterns perceptible in the behaviour of subjects, including especially their text-producing or communicative behaviour, and as such it is *about* precisely the higher-level dispositions, both cognitive and emotional, that convince us that our fellow human beings are conscious.

Qualia Disqualified

Qualia include the ways things look, sound and smell, the way it feels to have a pain, and more generally, what it's like to have experiential mental states. Qualia are experiential properties of sensations, feelings, perceptions, thoughts and desires.

Frank Jackson defined qualia as "certain features of the bodily sensations especially, but also of certain perceptual experiences, which no amount of purely physical information includes."⁸

Philosophers often use the term “qualia” to refer to the introspectively accessible, phenomenal aspects of our mental lives. In this standard, broad sense of the term, it is difficult to deny that there are qualia.

Dennett agrees that "Yes, it is indeed difficult to deny that there are qualia, But "The reason it is difficult is mainly that this “standard, broad sense of the term” is a conspiracy of unexamined presuppositions and circularly defined elaborations."⁹ Dennett attempts to remove the qualia from a scientific account of consciousness. He proposes that qualia, as most philosophers conceive of them, do not exist. In a series of thought experiments, which he calls “intuition pumps” Dennett points out some difficulties with the commonly accepted concept of qualia.

Dennett identifies four properties that are commonly ascribed



to qualia. These qualia are characterized in the following way:

1. Qualia are *ineffable*: No matter how eloquent one is and no matter how cooperative and imaginative one's audience is, one cannot say to another exactly what way one is currently sensing, tasting, smelling, and so forth.
2. Qualia are *intrinsic*: Qualia are somehow atomic and unanalyzable, and are supposed to be the intrinsic properties of our experiences.
3. Qualia are essentially *private*: Any objective, physiological, or merely behavioural test would of necessity miss the target, so all interpersonal comparisons of these ways of appearing are systematically impossible.
4. Qualia are *immediately apprehensible in consciousness*: They are essentially directly accessible to the consciousness of their experiencer, or immediately phenomenological qualities.

Dennett, however, claims that there are no qualia. It's a confused notion and it's high time to get rid of it. Dennett comes to the conclusion that we can explain consciousness without appealing to qualia. Then, why does it seem that our conscious experiences have ineffable properties? Dennett answer this question through the following intuition pumps:

- The guitar string: Through this interesting example, Dennett's aim is to show that quale is a describable property. At first time a string sound is entirely novel and we are not able to identify which string is pressed. After some training, the homogeneity and ineffability of the first experience is gone, replaced by a duality as "directly apprehensible" and clearly describable as that of any chord.
- The experienced beer drinker: Most people don't like beer when they first taste it, but equally most people do eventually come to like beer. Is this because of an increased appreciation of the taste of beer, or is that with more experience the taste actually changes to one that is more likeable? If the taste of beer somehow depends upon one's reactions to it, then the claim that



qualia are intrinsic properties might be threatened.

- The cauliflower cure: Earlier Dennett dislikes the smell and taste of cauliflower and now he likes that taste. The above two intuition pump shows that our tastes do seem to be affected by our past experiences or our attitudes etc. Therefore, qualia such as tastes are not intrinsic.

On Dennett's view there are no ineffable, intrinsic, private, directly apprehensible properties of experience. There is an internal property detector responsible for each sensory property. This detector can be refined through experience. This allows us to identify or recognize a familiar property.

Then, what are qualia? Dennett's answer is that qualia "are just those complexes of dispositions. When you say "This is my quale," what you are singling out, or referring to, whether you realize it or not, is your idiosyncratic complex of dispositions. You seem to be referring to a private, ineffable something or other in your a private shade of homogeneous pink, but this is just how it seems to you, not how it is. That "quale" of yours is a character in good standing in the fictional world of your heterophenomenology, but what it turns out to be in the real world in your brain is just a complex of dispositions."¹⁰

Dennett's attack on qualia is the first move in the demolition of phenomenal consciousness. According to him, an explanation of consciousness would require only an account of mental content and an explanation of why it appears as if there is phenomenal consciousness. His series of thought experiments show that facts about qualia dissolve into unverifiable pseudo-facts.

Dennett offers a multiple draft model of mind, since he believes that there is no single mechanism through mind functions; there are multiple ways in which mental functions are channelled. He begins with a criticism of an assumption that there is one place in the brain



responsible for producing conscious experience.

However, the question here is: Where does it all come together for consciousness? Dennett's answer is: Nowhere. He says that some of these distributed contentful states soon die out, leaving no further traces. Others do leave traces, on subsequent verbal reports of experience and memory, and other varieties of perceptual set, on emotional state, behavioural proclivities, and so forth. Some of these effects influence on subsequent verbal reports are at least indicative of consciousness. But there is no one place in the brain that all come together and consciousness happens. For him, the important tool for initiating such probe into the work of the mind is language. Not only other people, but we are also constantly triggering such amplifications by talking to ourselves. This constant verbal self-probing creates a kind of stream of consciousness.

According to Dennett, consciousness is a sort of "'virtual machine', a sort of evolved (and evolving) program that shapes the activities of the brain."¹¹ But to have a model of consciousness, there needs to be an answer to the question: what sort of program is the machine running?

Evolution of Consciousness

Dennett proposes an evolutionary theory about what sort of program the machine can run. "The design of our conscious minds is the result of three successive evolutionary processes, piled on top of each other, each one vastly swifter and more powerful than its predecessor, and in order to understand this pyramid of processes, we must begin at the beginning."¹²

Dennett describes two qualitatively different levels of evolution:

- 1) Genetic evolution
- 2) Memetic evolution

Biological evolution occurs when there is variation, heritability and differential reproductive success. Dennett mentions the following



condition which exist certain evolution takes place. According to Dennett, there are other kinds of replicators that have recently emerged on this planet, i.e. memes. Memes are units of cultural ideas that pass from one generation to the next, while genes passed down through biological reproduction. Memes are replicators like genes. Dennett claims that it is the meme that separate human beings from the rest of the living world. It is the special capability that distinguishes the differences between human beings and the rest. Then the problem is 'how all these are related to the evolution of human consciousnesses? Perhaps the most important meme of all is the meme for human language. Many if not most memes are transmitted through language: whenever we talk to each other, memes are transmitted.¹³

Language becomes a way of controlling the flow of information within the brain. Meme evolution has the potential to contribute remarkable design-enhancements to the underlying machinery of the brain at great speed. "...Cultural evolution, which happens much faster still, permits individuals to acquire, through cultural transmission, Good Tricks that have been honed by predecessors who are not even their genetic ancestors."¹⁴

Conclusion

Dennett's idea of evolution of human consciousness can be summarised as follows: The stages of evolution such as genetic evolution and memetic evolution have contributed to the design of human consciousness. Compared with genetic evolution, which has been around for millions of years, significant memetic evolution is an extremely recent phenomenon, which has become a powerful force only in the last hundred thousand years.

Dennett's explanation of consciousness is far from complete. One might even say that it was just a beginning, but it is a beginning, because it breaks the spell of the delighted circle of ideas that made



explaining consciousness seem impossible. In any case, Dennett's account of heterophenomenology regarding the concept of consciousness is an important one which tries to explain consciousness through a primarily naturalistic and scientific method.

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MEASURING GROWTH: INDIA AND THE MILLENNIUM DEVELOPMENT GOALS

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1. INTRODUCTION

The period of the early 1990's saw an economic downturn affecting much of the world that caused a stock collapse of unprecedented size in various countries of the world. The following years saw unemployment and social unrest in various parts of different countries with problems of poverty and hunger rising simultaneously. India too suffered serious economic crises. Soon, plans were underway for a Millennium Summit that would launch a set of Millennium Development Goals which reaffirmed the universal values and principles of freedom, equality, solidarity, tolerance, respect for nature and the UN's commitment to promote peace, security, disarmament, human rights, democracy and good governance. The United Nations initiated this step on September 8, 2000 by adopting the Millennium Declaration after intense debate and much political negotiation between institutions and Governments that made 193 member countries to sign the following declaration. India is among those nations that pledged to adopt measures to fight poverty, hunger, illiteracy, gender inequality, diseases and environmental degradation. The MDG's are an expression of the strong commitment to universal development and poverty eradication made by the International Community. At the same time, it calls for a new partnership between the developed and the developing countries,



determined to create an environment which is conducive to the development.

The following Declaration has been spelt out in 8 broad goals that came to be known as the MDGs. Each goal is translated into one or more targets, totaling 18 targets to be achieved by 2015 and for each target one or more (mostly) measurable indicators have been specified for monitoring progress, adding up to as many as 53 indicators. The following eight goals to be achieved by 2015 that respond to the world's main development challenges are as under:

- Goal 1: Eradicate Extreme Poverty and Hunger
- Goal 2: Achieve Universal Primary Education
- Goal 3: Promote Gender Equality and Empower Women
- Goal 4: Reduce Child Mortality
- Goal 5: Improve Maternal Health
- Goal 6: Combat HIV/AIDS, Malaria and TB
- Goal 7: Ensure Environmental Sustainability
- Goal 8: Developing a global partnership for development

At this crucial juncture, it is therefore very important to take stock of what has been achieved from the MDGs in India so far and to propose changes that may be needed to ensure the commitments made at the Millennium Declaration are delivered. Such an endeavor is all the more justified given that we now stand towards the end of the agreed deadline for achieving these goals.

2. REACHING THE MDGs: STATUS REPORT OF INDIA

GOAL 1: Eradicate Poverty and Hunger

Poverty and Hunger in India is widespread. Since the 1950s, the Indian government and NGOs have been struggling to alleviate them from its root. Their efforts have been extremely conclusive and fruitful dropping the poverty and hunger rates by a considerable amount.



Target1: Halve, between 1990 and 2015, the proportion of people whose income is less than 1\$ a day.

This Target consists of two indicators – **Poverty Head Count Ratio (PHCR)** and **Share of poorest quintile in national**.

According to the Declaration, the Country is required to achieve a HCR level of 23.9% by 2015 in order to accomplish Target1. And as per the poverty estimates of 2009-10, the rural poverty has declined by 8.0% points from 41.8% to 33.8% while the urban poverty has declined by 4.8% points from 25.7% to 20.9%.[7] In the worst performing states of Bihar, Chhattisgarh and Uttar Pradesh which have shown a marginal decline, states like Goa, Madhya Pradesh, Orissa and Uttarakhand also add up to this list. Despite the overhanging chaos of poverty, India is on track to meet the United Nations' Millennium Development Goal (MDG) of poverty reduction by 2015 with the States of Arunachal Pradesh, Haryana, Himachal Pradesh, Jammu & Kashmir, Maharashtra, Manipur, Pondicherry and Tamil Nadu being the major contributors.

Target2: Halve, between 1990 and 2015, the proportion of people who suffer from hunger.

Indicator: Prevalence of underweight children under 3 years of age.

As per the MDG Declaration, the proportion of underweight children is required to be reduced to 26% by 2015. However, from the estimated 52% in 1990, the decline is expected to come down to about 33% by 2015. [15] States like Madhya Pradesh (57.9%), Bihar (54.9%), Jharkhand (54.6%), Chhattisgarh (47.8%), Meghalaya (42.9%), Uttar Pradesh (41.6%) and Gujarat (41.1%) are far behind the national level estimate and only 6 States, Maharashtra, Andhra Pradesh, Tamil



Nadu, Delhi, Jammu & Kashmir and Punjab are likely to achieve their own MDG targets by 2015.

Current Efforts:

1. National Rural Employment Guarantee Act (NREGA)
2. Jawaharlal Nehru National Urban Renewal Mission (JNNURM)
3. Swarnjayanti Gram Swarozgar Yojana (SGSY) or Golden Jubilee Rural Self Employment Scheme

GOAL2: Achieve Universal Primary Education

Target3: Ensure that by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary education.

This Target consists of two indicators – **Net Enrolment Ratio (NER) in primary education** and **Proportion of pupils starting Grade 1 who reach Grade 5.**

Primary enrolment of 6-10 year old children by their NER measure has improved from 83% in the year 2000 to over 95% in 2007-08. However, the individual State levels of Net Attendance Rate (NAR) - a proxy indicator suggests that against 95.9% NER for the country as a whole in 2007-08, the all-India level NAR for the same year is estimated to be 84%. [15] States of Assam (90%), Himachal Pradesh (91%), J&K (92%), Karnataka (92%), Kerala (91%), Maharashtra (91%), Mizoram (97%), Sikkim (90%), Andaman and Nicobar Islands (93%) and Daman & Diu (97%) are the best contributors. [15] The trend of national estimates suggests that the country is likely to achieve 100% NER for girls and boys alike ahead of 2015.



Indicator: Literacy rate of 15-24 year olds.

As per the poverty estimates for the year 2007-08, it shows 93% and 83% youth literacy in urban and rural areas respectively, significantly reducing the urban-rural gap. In the same year, 91% males and 80 % females aged 15-24 years were found to be literates. As per the Census 2011, the all India literacy rate has surged forward from 64.83% in 2001 to 74.04% in 2011 showing an increase of 9.21 percentage points. [15] Thus, the literacy indicators from intervening survey results indicate the on-track movement of youth literacy.

Current Efforts:

1. SarvaShikshaAbhiyan Progressing
2. PrarambhikShikshaKosh (PSK)
3. District Primary Education Programme (DPEP)

GOAL3: Promote Gender Equality and Empower Women

Education develops intrinsic capacity, inner transformation of one's consciousness to overcome barriers, access resources and change traditional ideologies. Empowerment therefore is possible only with access to education as a fundamental right.

Target4: Estimate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education, no later than 2015.

Indicator: Ratio of girls to boys in primary, secondary and tertiary education.

By the measure of Gender Parity Index (GPI) in enrolment at all the three levels, the primary education showed a 29% increase, while secondary and higher education showed a 42% and a 30% increase respectively. States including Kerala, Delhi and Andaman Nicobar have achieved GPI at 1 in all the three levels. However, the States which are



still far from the target are Bihar (0.62), Madhya Pradesh (0.67), Rajasthan (0.58), and Dadra Nagar Haveli (0.63).[5] The rate of increase in GPI signify India's on – the – track progress to achieving Gender parity in enrolment by 2015.

Indicator: Proportion of seats held by women in National Parliament.

As on November 2011, India, the world's largest democracy, has only 60 women representatives out of 544 members in Lok Sabha, while there are 26 female MPs in the 241-member Rajya Sabha. India ranks 98 in the World for proportion of National Parliament seats held by Women.

Indicator: Share of women in wage employment in the non-agricultural sector.

The percentage change of females in wage employment is slow being 19.6% for rural areas and 17.6% for Urban in 2009-10.[7] At this rate of progression, the share of women in wage employment can at best reach a level of about 23.1% by 2015.

Current Efforts:

1. National Programme for Education of Girls at Elementary Level (NPEGEL)
2. The Kasturba Gandhi Balika Vidyalaya (KGBV)
3. Early Childhood Care and Education (ECCE)

GOAL4: Reduce Child Mortality

Target5: Reduce by two-thirds, between 1990 and 2015, the Under- Five Morality Rate.

Indicator: Under- Five Mortality Rate.

The Under-Five Mortality Rate (U5MR) is the probability of a child born in a specified year dying before reaching the age of five. U5MR in



India for the year 2010 stands at 59 and it varies from 66 in rural areas to 38 in urban areas.[15] India tends to reach near 52 per thousand live Births by 2015, thereby missing the target of reducing U5MR to 42 per thousand live Births. The States of Delhi, Goa, Jammu & Kashmir, Sikkim, Tamil Nadu and West Bengal & Kerala are likely to achieve their respective MDG target by 2015.

Indicator: Infant Mortality Rate.

Infant Mortality Rate (IMR) is defined as the deaths of infants of age less than one year per thousand live births. IMR for the country as a whole declined by 33 points in the last 20 years at an annual average decline of 1.65 points. With the present improved trend due to sharp fall during 2008-09, the national level estimate of IMR is likely to be 44 against the MDG target of 27 in 2015.[15] IMR in 2010, was lowest in Goa (10), followed by Kerala (13) and Manipur (14). The States of Madhya Pradesh (62), Orissa (61), Rajasthan (55), Chhattisgarh (51), Bihar (48) and Haryana (48) have reported IMR above the national estimates.

Indicator: Proportion of one year old children immunized against measles.

The national level measure of the proportion of one-year old (12-23 months) children immunized against measles has registered an increase from 42.2% in 1992-93 to 74.1% in 2009. India is expected to cover about 89% children in the given age with 78.3% for urban areas and 72.4% for rural areas.[5] Going by their historical rate of increase in coverage, 16 States are expected to achieve universal coverage while India is likely to fall short of it by about 11% points in 2015, with states like Uttar Pradesh, Mizoram, Chattisgarh and Haryana being a disappointment.



Current Efforts:

1. Integrated Child Development Services (ICDS) Scheme
2. Integrated Management of Neonatal & Childhood Illnesses (IMNCI)
3. Facility Based Newborn and Child Care:
4. a) Special Newborn Care Units (SNCU)
5. b) Newborn Stabilization units (NBSUs)
6. c) New Born Care Corners (NBCCs)
7. Universal Immunization Programme

GOAL5: Improve Maternal Health

Target 6: Reduce by three quarters between 1990 and 2015, the Maternal Morality Ratio.

Indicator: Maternal Mortality Ratio (MMR).

The Maternal Mortality Ratio is the number of women who die from any cause related to during pregnancy (excluding accidental or incidental causes) or within 42 days of termination of pregnancy, per 100,000 live births. SRS data indicates that India has recorded a deep decline in MMR by 35% from 327 in 1999-2001 to 212 in 2007-09.[7] India is required to reduce the MMR to 109 per 100,000 live births by 2015. At this historical pace of decrease, India tends to reach MMR of 139 per 100,000 live births by 2015, falling short by 30 points. The States of Assam (390), Haryana (153) and Orissa (258), are likely to fall short of their State level targets by huge amount. However, the States of Kerala, West Bengal and Bihar and Jharkhand are likely to achieve their State level MMR targets by 2015.



Indicator: Proportion of births attended by skilled health personnel.

Safe motherhood depends mainly on delivery by trained personnel, particularly through institutional facilities. The coverage of deliveries by skilled personnel has increased almost by 19 percentage points from 33% to 52% during the same period.[7] With the existing rate of increase in deliveries by skilled personnel, the likely achievement by 2015 is only to 62%, which is far short of the targeted universal coverage. States namely, Andhra Pradesh, Goa, Karnataka, Kerala, Punjab, Sikkim and Tamil Nadu are likely to reach universal coverage or close to it by the year 2015.

Current Efforts:

1. The Reproductive and Child Health Programme (RCH) and National Rural Health Mission (NRHM).

Some of these specific initiatives include the following:

- Essential Obstetric care.
 - Provide emergency obstetric and neonatal care.
 - Provision of quality manual vacuum aspiration abortion facilities.
2. JananiSuraksha Yojana (JSY)
 3. Integrated Child Development Services (ICDS)
 4. Indira Gandhi MatritvaSahyog Yojana (IGMSY)

GOAL6: Combat HIV/AIDS, Malaria and Other Diseases

Target 7: Have halted by 2015 and begun to reverse the spread of HIV/AIDS.

Indicator: HIV prevalence among pregnant women aged 15-24 years.



Based on HIV Sentinel Surveillance 2008-09, it is estimated that India has an adult prevalence of 0.31% with 23.9 lakh people infected with HIV, of which, 39% are female and 3.5% are children. Among pregnant women of 15-24 years, the prevalence of HIV has also declined from 0.86% in 2004 to 0.49% in 2007.[7] Though a number of States like Goa, Maharashtra, and Mizoram show a decline in 2008 compared to 2004. The States of Punjab, Himachal Pradesh, Gujarat, Rajasthan and Bihar reported an increase. The trend remains a mixed one for most of the States during the period.

Target8: Have halted by 2015 and begun to reverse the incidence of Malaria and other major diseases.

The following target consists of two indicators – **Prevalence and Death Rates associated with Malaria and Tuberculosis**. Malaria is a public health problem in several parts of the country with about 95% population residing in the malaria endemic areas. However, the total Malaria cases have consistently declined from 2.08 million to 1.6 million during 2001 to 2010. [15]

Where, Malaria seems to be a chaos in the country, India is highest TB burdened country in the world, accounting for nearly one-fifth of the global incidence and in 2009. There has been an increase in the number of TB patients registered for treatment from 1.29 million in 2005 to 1.52 million in 2010. [15]

Current Efforts:

1. National AIDS Control Programme (NACP)
2. Condom Vending Machine (CVM) Project
3. Red Ribbon Express project (RRE)
4. Adolescent Education Programme (AEP)



5. The National Vector Borne Disease Control Programme (NVBDCP)
6. DOTS Plus for management of Multidrug resistant TB

GOAL7: Ensure Environmental Sustainability

The Environment comprises of all entities, natural or manmade, external to oneself, and their interrelationships, which provide value, now or perhaps in the future, to humankind. Environmental concerns relate to their degradation through actions of humans which is why United Nations included this goal to raise awareness and strengthen the sustainable management, conservation and sustainable development of all types for the benefit of current and future generations.

Target 9: Integrate the principles of sustainable development into country policies and programmes, and reverse the loss of environmental resources.

Indicator: Proportion of land area covered by forest.

Natural resource depletion (water, mineral, forest, sand, rocks etc.), environmental degradation, loss of biodiversity and loss of resilience in ecosystems etc. are the major environmental issues faced by India. The forest cover of the Country as per 2007 assessment was 21.02% (6, 90,899 km²) of the geographical area of the Country and has increased to 21.05% (6, 92,027 km²) of the Country's geographic area in 2011, thereby an increase of 1128 sq. km. during 2009-11. [15]

Indicator: Ratio of area protected (to maintain biological diversity) to surface area.

India is one of the 17 mega diverse countries with 4 global biodiversity hotspots, a network of 668 Protected Areas, extending over 1, 61,221.57 sq. kms. (4.90% of total geographic area), comprising 102 National



Parks, 515 Wildlife Sanctuaries, 47 Conservation Reserves and 4 Community Reserves and 15 Biosphere Reserves. The total area covered under National Parks and Wildlife Sanctuaries, has increased from 155,961.06 sq.km in 1999 to 156,659.0842 sq.km in 2011. The country is on track in increasing the protection network for arresting the diversity losses and for maintaining ecological balance.

Indicator: Energy use per unit of GDP (Rupee).

Per-capita Energy Consumption (PEC) during a year is computed as the ratio of the estimate of total energy consumption during the year to the estimated mid-year population of that year. The estimated PEC has increased from 1204 KWh in 1970-71 to 4646 KWh in 2009-10. The total consumption of energy from conventional sources increased from 36,233 peta joules during 2008-09 to 38823 peta joules during 2009-10, showing an increase of 7.15%. [15]

Indicator: Carbon Dioxide emission per capita.

The Carbon dioxide emission showed a percentage change of 172.30% in 2009 over 1990. The Per capita Carbon dioxide emission in 2009 is 1.37 MT registering an increase from 0.69 MT in 1990. [15]

Indicator: Consumption of ozone –depleting Chlorofluoro Carbons (ODPtons).

The per capita consumption of the Chlorofluoro Carbons did not cross 20g during 1995-97 (base line), as against 300g permitted for Article 5 Parties under the Montreal Protocol on Substances that deplete the ozone layer. As a consequence of the ongoing measures, consumption of ozone depleting CFCs in ODP tones has started coming down sharply after the year 2000.



GOAL8: Develop a Global Partnership for Development

Goal 8 of the MDGs is unique in the sense that, it essentially focuses on donor government commitments and achievements, towards developing the global partnership for development. Most of the objectives and targets under the goal are set for developed countries to achieve a “global partnership for development” by supporting fair trade, debt relief for developing nations, increasing aid and access to affordable essential medicines, and encouraging technology transfer. Thus developing nations are not seen as left to achieve the MDGs on their own, but as a partner in the developing-developed compact to reduce world poverty.

Target 18: In cooperation with the private sector, make available the benefits of new technologies, especially information and communication.

Telecommunications is one of the few sectors in India, which has witnessed the most fundamental structural and institutional reforms since 1991. The number of telephone subscribers in India increased from 846.32 million in March-2011 to 885.99 million in the month of June, 2011 registering an increase by 39.6 million (4.7%) in a period of three months. Rural subscriber base continues to show higher growth rate than urban. In June, 2011, 98.1% of the total inhabited villages in India have been connected.

Indicator: Internet subscribers per 100 populations.

Over a period of 12 years, internet subscriber base had increased by 97 fold from 0.21 million in 1999 to 20.33 million in 2011. The 20.33 million Internet subscribers at the end of June-2011 as compared to 19.67 million at the end of March-2011 registered a growth of 3.33% within a period of three months. [15]



Indicator: Personal Computers per 100 populations.

Use of Personal Computers has also increased from 5.4 million PCs in 2001 to 19.6 million in 2006. Sale of Personal Computers recorded a growth of 12% in 2010-11 touching 9.7 million. The high rate of growth in the IT and Communication sector is still urban centric and highly skewed over States. [15]

Current Efforts:

1. National Knowledge Network
2. Capacity Building Scheme
3. State Wide Area Network (SWAN)

3. CONTEMPLATING THE FUTURE: WHAT NEXT?

With all the advantages of the MDGs in advocating for and encouraging development in India, there are some downfalls in the way they have been set out to measure development. The MDGs did not justify the path of growth for India as out of many indicators, only 18 concerned the country. Some areas necessary for development such as legislature, land reforms were not addressed at all, which have been seen as critical to stimulating agricultural growth for the poor. The big challenge standing in the way of MDG achievement remains the extreme variations and inequalities that exist across the wide expanse of India's multi-ethnic and regional landscape. The broad nature of the goals also leaves questions about responsibility, and transparency. To be achievable, the goals need to be more specific regarding who is to be held accountable for these targets for development. It also ignored growth in the field of Urbanization, Agriculture, Climate Change, Job Equity and many more. Hence, a framework that allows these disparities to shrink, and indeed encourage the Indian Government, to reformulate policies, redesign strategies and rethink development in the national context is necessary. The post-2015 targets must guard



against the misconception that global and national targets are one and the same. The following points talk about the measures that should be taken to keep the efforts of the country accelerated.

- 1. Youth** - The agency of young people and children must be supported going forward: *'young people must be subjects not objects of the post-2015 development agenda'*. They should be supported through well-funded formal and non-formal education and civic participation mechanisms and ensure their participation in decision-making at all levels.
 - 2. Urbanization** - Most of the world's population now live in cities. While that is not yet true of the world's poor, growing migrations to cities, and the relationships between city and countryside, are a key part of the realities of poor people's lives. The migration to the city can be a catalyst for increased wealth and opportunity, or can trap people into a life of poverty and insecurity. The current MDG framework has been poor at driving the kind of policy and politics that would most effectively reduce urban poverty. Sound urban planning which is essential for the sustainable growth of urban centers also needs to be acknowledged.
 - 3. Climate change** - A fundamental criticism of the MDGs is their lack of attention to climate change, both in terms of the environmental sustainability of development pathways and in terms of the threats posed by climate change to development success. Global agreements have to work together so that responses to climate change also accelerate poverty reduction. A post-2015 agreement should increase the resilience of poor people to shocks, if it is to properly address current poverty problems.
 - 4. Chronic poverty and Rise of inequality** - We know that poverty reduction is highly uneven, and that social, cultural and economic factors act together to trap some people in poverty even if
-



average incomes are increasing. The MDGs are criticized for being weak on equity. How can the realities of chronic poverty and inequality be reflected in a post-2015 agreement? Proposals should introduce targets to reduce poverty severity and depth or making MDG progress conditional on targets being reached in all regions of the country or among all population groups. Another proposal concerns social protection, an issue that has risen up the policy agenda since 2000. Universal social protection could contribute to meeting many of the MDGs and reduce poverty and vulnerability.

5. **Jobs and Equitable growth** - Rising unemployment, with its human cost, its link to political instability, and its waste of productive resources, is shaping up to be one of the biggest economic and political issues of all in many developing countries. MDG 1 has a target on employment and latterly more attention has been paid to this issue. But some observers argue that it is too little, too late.
6. **Health** - In terms of healthcare, the MDGs only set out to address certain diseases while neglecting others. In terms of cost, it does not take into account expenditures necessary for developing an all-around health delivery system and surrounding infrastructure. Increasing national and international funding to meet agreed commitments to ensure universal access to HIV prevention, treatment, care and support and in this regard committing full funding for the Global Fund to Fight AIDS, Tuberculosis and Malaria, and to exploring additional innovative financing mechanisms to ensure the long-term sustainability of the response is necessary.
7. **Education** - Primary school enrollment is included, but not secondary education, and the costs for training teachers to train new teachers and the construction and maintenance for the new



schools has been underestimated. National education systems need to be strengthened by addressing infrastructure, human resource and governance constraints, backed by international donor support, Key barriers to girls' education need to be removed, including by providing scholarships, cash transfers and eliminating user fees.

- 8. Agriculture** – The MDG's do not pay attention towards agricultural development. Since majority of people in India live in rural areas, it needs to be included in the framework. A sharp increase in agricultural productivity can accomplish several things simultaneously: (I) reduced hunger (II) reduced child mortality through improved nutrition (III) reduced maternal mortality through improved nutrition and (IV) higher household incomes and economic growth. Supporting increased agricultural productivity and sustainable agricultural practices by facilitating the access of smallholder farmers, especially women farmers, to markets, credits and inputs will be an asset.
 - 9. Governance:** Inclusion of elements that improve people's ability to influence decisions that govern their lives; reference to the role of governments in ensuring freedom of speech, open political choice and access to justice; adopting a forward-looking, macroeconomic policy that promote sustainable development and lead to a sustained, inclusive and equitable economic growth, increase productive employment opportunities and promote agricultural and industrial development. Strengthening the country's capabilities to undertake integrated assessments of the impact of the global financial and economic crisis on resources required to achieve the Millennium Development Goals and to develop and implement coherent policy responses to meet these requirements, including through external financial support.
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- 10. Gender Equality:** Enhancing opportunities for women and girls and advancing the economic, legal and political empowerment of women. Social protection measures and labor laws and policies that are gender responsive should be introduced; and legal protections for the most vulnerable women workers must be introduced and enforced.
- 11. International Relationships:** Working towards greater transparency and accountability in international development cooperation, in donor and developing countries, focusing on adequate and predictable financial resources as well as their improved quality and targeting. Improved quantity, quality and focus of investments, financed by international development, based on a holistic approach, including smallholder agriculture, health, education, infrastructure, business development and environmental conservation.
- 12. Environment:** National Action Plans and Policy reforms to substantially reduce perverse subsidies for carbon-intensive development, to create positive incentives, appropriate taxes and other initiatives (such as a global feed-in tariff arrangement to encourage renewable energy generation and use) that will encourage the adoption of renewable energy sources and low-emission technologies, are urgently needed.
- 13. Incentives for Implementation:** Given that the framework is not legally binding and there is no compulsion for member states or other stakeholders - namely the private sector - to endorse or implement the framework, we believe more direction is necessary on how to incentivize stakeholders to implement the framework in a committed, meaningful way. Public-private partnerships must also be promoted.
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4. CONCLUSION

The story of India is one of growth, gains and gaps. With an economy that is going from strength to strength, it is therefore necessary to effectively implement policies to support government leadership and national ownership. A pro-poor growth, social protection of girls and women, strengthening National Health Systems, contribution to Environment Sustainability and expanding International partnerships is a key to a stable economy. This report calls on all stakeholders, including national Governments, donor and other supportive Governments, the business community and civil society at large, to work in concert to ensure that the Millennium Development Goals are met by 2015. We encourage the children and youth sectors to use this report as a lobbying tool to persuade keystakeholders that children and young people can and must be supported and given the space to contribute to society, the economy, environmental commitments and policy-making and implementation going forward.

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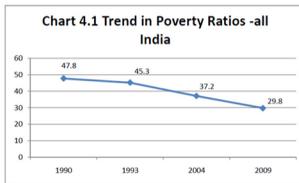
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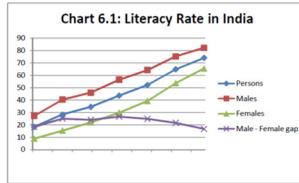
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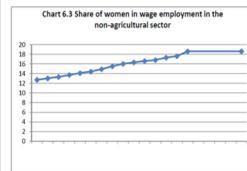
5. FIGURES: GRAPHS & CHARTS



MDGs INDIA COUNTRY REPORT 2011



MDGs INDIA COUNTRY REPORT 2011

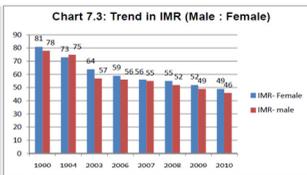


MDGs INDIA COUNTRY REPORT 2011

Table 5.1: Percentage of children of age 6-10 years attending formal education

Censuses/ Surveys	All	Girls	Boys	Rural	Urban
NSSO Survey (1995-96)	69	63	73	65	83
Population Census, 2001	69	66	72	66	79
NFHS Survey (2005-06)	63	61	65	61	68
NSSO Survey (2007-08)	88	87	89	87	91

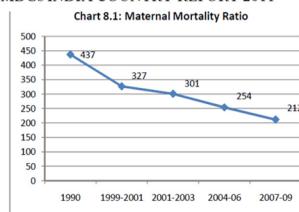
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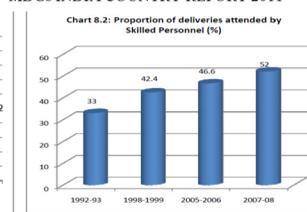
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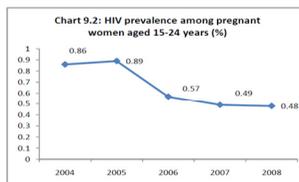


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Table 10.1: Forest Cover in India

Class	Area (sq.km)			% of Geographic Area		
	2003	2007	2011	2003	2007	2011
Very dense forest	51285	83510	83471	1.56	2.54	2.54
Moderately dense forest	339279	319012	320736	10.32	9.7	9.76
Open Forest	287769	388377	387820	8.76	11.62	11.65
Total Forest Cover	678333	690899	692027	20.64	24.86	24.95

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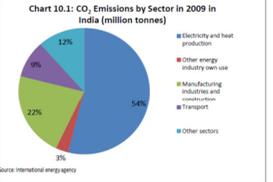


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Table 10.2: Trends in Per Capita Energy Consumption and Energy intensity in India

Year	Per Capita Energy	Energy Intensity
1990-91	2232.50	0.1594
1995-96	2593.58	0.1593
2000-01	3047.81	0.1553
2005-06	3497.59	0.1374
2006-07	3727.24	0.1355
2007-08	3928.16	0.1325
2008-09(b)	4171.56	0.1166
2009-10 (p)	4646.87	0.1224
Growth rate of 2009-10 over 2008-09 (%)	11.39	4.93

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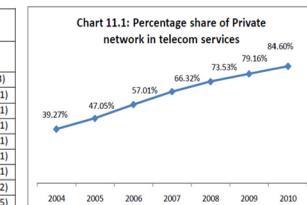


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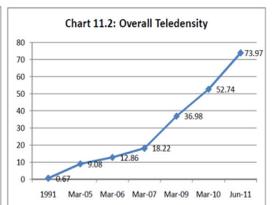
Table 9.5: Estimated rates per 100,000 population for TB

Year	Mortality (Ex cl. HIV)	Prevalence (Incl. HIV)	Incidence (Incl. HIV)
1990	43 (21-73)	338 (135-659)	168 (92-243)
1995	19 (10-33)	234 (91-400)	168 (134-201)
2000	24 (14-37)	248 (108-418)	168 (134-201)
2005	26 (16-38)	258 (114-431)	168 (134-201)
2006	25 (15-38)	254 (110-427)	168 (134-201)
2007	24 (14-36)	250 (108-420)	168 (134-201)
2008	23 (14-36)	248 (105-419)	168 (134-201)
2009	23 (14-36)	249 (107-417)	168 (134-202)
2010	26 (17-39)	256 (161-373)	185 (167-205)

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HINDU BACKWARD CASTES: SOCIOLOGICAL AND LEGAL PERSPECTIVES

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INTRODUCTION:

Caste system has been existing in India since, time immemorial. It is one of the institutions of Indian society which does not have its parallel in other societies. Therefore, it has been referred as unique institution of Indian society, but the concept of 'Backward Castes' did not exist before British rule. It has its origin in Colonial administration. During British rule words such as 'Backward Classes' and 'Depressed Classes' were used for those castes/communities that were identified socially discriminated and therefore require preferential treatment for their upliftment. However, these terms did not acquire definite meaning whose definitions, differed from region to region. Initially, these terms included both 'touchable' and 'untouchable' caste, except some castes of higher status: After scheduling untouchables as a separate category for preferential treatment. Two major species of usage emerge:

1. As the more inclusion group of all those who need special treatment.
2. As a stratum higher than the untouchables but nonetheless depressed. This double usage continues today: the former in the usage of Backward Classes in wide sense(including Scheduled Castes and Scheduled tribes): the later in the usage as equivalent to Other Backward Classes (Marc Galanter 1984)

The Constitution of India use the word 'Backward Classes' but does not define it; it is left to state to define Backward Classes. Government



of India set up two Commission Kaka Kalekar (1953) and Mandal Commission (1979) for the identification of Backward Classes (Other Backward Classes) other than scheduled castes and scheduled tribes. Many State Government have also appointed Backward Classes Commission for the purpose. These Other Backward Classes are distinguished from twice-born castes and from untouchables and tribal's. Therefore, they are popularly referred as 'Backward Castes'.

Caste Division

Like, the word Backward Caste/Other Backward Classes, the word caste, did not exist before 16th century, in India. Words such as *Varnas* and *Jatis* were for the social division of people and their hierarchical status, it was Portuguese who first used the word 'Caste' for hierarchical groupings among Indians. The word caste has been derived from Portuguese and Spanish word '*casta*' which means "*properly something not mixed from the Latin word 'castus' 'chaste'*". *The word seems to have been used in the sense of race by the Spaniards and to have applied to India by the Portuguese in the middle of the 15th century. In English there is a use (caste) in the sense of race in 1555, and the Indians sense is encountered at the beginning of 17th century, the French spelling and caste, is scarily found before 1800. In French, Litter record that the word was only inserted in the Dictionary of the Academy in 1740, and appears neither in Furetiere nor Richelet. It was used in the technical sense at least from 1700. In English, as in French, there was for long time no distinction between caste and tribe, and confusion with the ancient division of Indian society into four categories. Thus Litter writes: Each of the tribes into which Indian society is divided. There are four caste...The derived sense of 'exclusive group' as in the expression 'caste spirit' is found in both language.*" (Louis Dumont 1980)

Subsequently, sociologists, while distinguishing between *varna* and *jatis*, use the word caste for *jati*. They argue, that castes are many



while varnas are only four. "One of the most pervasive features of the caste system is that by its values. The entire population of a region is divided and sub-divided and this sub-division further sub-divided. (Andre Beteille, 1981)" and therefore Indian used the word Jati for both 'Caste' and Sub-Caste', it is also used for caste category and caste association. Thus, J. H. Hutton (1963) writes that *"there are thought to be some 3,000 caste in India, and it would need an encyclopedia to deal with them all. Some are derived from tribal or racial elements, some are occupational being of the nature, originally perhaps of guild of artificers or craftsmen, some are territorial, some religious and so forth. The originals bond which united the members of a caste has often been different in different cases, but it is suggested the society of the country as a whole as a whole has been built up by the integration of these different units into an organic community and one into which a new unit is fitted without difficulty"*. Similarly G.S Ghurye (1950) says that- *"In each linguistic area there were about two hundred groups called caste with distinct names, birth in one of which usually, determined the status in society of a given individual, which were divided into about 2000 smaller units generally known as sub-caste, fixing the limits of marriage and effective social life and making for specific cultural tradition"*.

Thus, there is innumerable caste or jatis in India, which evolved over a long period of time through various process, such as fission, fusion, migration assimilation etc. These innumerable, jatis are organized into jati-group and jati-clusters at the village and regional level. A jatis is consisted of social groups, such as family, lineage and jati-group. D. G. Mendelbum (1970), he writes jati-group is another unit within a jati. In addition, some jatis have clan groupings... Two groups in a village may use the same language, have the same traditional occupation, and follow much the same jati customs, yet the members of each will cherish some unique traits that distinguish them from other groups.



Other in the village may lump the two jati-groups together; usually the member of the do not. A different kind of distinction is commonly made with a jati. Some families are recognized as being more prestigious than other, either because of wealth education, ancestral honor or for other reasons. The class like distinction are not necessarily formalized (yet such distinctions have sometimes led to the establishment of formal section with a jati and occasionally to the formation of new jatis which higher families split off from the rest). In sum, villager's interchange with other of his jati is largely through his roles as members of his family lineage and jati-groups.

But when a villager interacts with member of other jatis, he follows interactional rules of his jati-cluster. A jati-cluster- "is a set of separate jatis classed together under one name whose members are treated by other as having the same general status. It is easier to deal with many people, as one must in a complex society by using jati-cluster categories rather than by regulating one's own behavior to each individual in term of such narrower social distinction as those of family or lineage or jati. The jatis that are classed together are usually similar in traditions, occupation, jati-practices and relative rank" D. G. Mendelbum (1970).

Thus, neither, a jati nor a jati-cluster is consisted of groups, having similar or uniform social status and economic condition. Indeed, they are units composed of groups of different status and life condition. Hence, sociologist argue, that it is very difficult to define caste or jati precisely. (Shah, A.M.). However, attempt had been made to define caste at empirical level. M.N. Srinivas (1962) define, "*caste as hereditary, endogamous, usually localized groups, having a traditional association with an occupation, and a particular position in the local hierarchy of castes. Relation between castes are governed among other thing, by the concept of pollution and purity and generally maximum commensality occurs within the caste*".



Here, a caste is assumed to be identifiable which not true. For “a caste is usually segmented into several sub-castes and each sub-caste is endogamous”. M.N. Srinivas (1962)

Caste Hierarchy

Hierarchy is most pervasive feature of caste system. It exist both in fact and design sociologist make a distinction between hierarchy of jati and hierarchy of varnas while the former differ from region to region, later, exists across the country. M.N. Srinivas (1962) writes that, “the popular impression of the hierarchy is a clear – cut one, derived from the idea of Varna with Brahmins at the top and Harijans at the bottom. But, as a matter of fact, only the two opposite ends of the hierarchy are relatively fixed; between and especially in the middle regions. There is considerable room for debate regarding mutual position. In a dispute over rank each caste would cite as evidence of its superiority the item of its dietary, the other caste groups from which it accepted or refused to accept cooked food and water, the ritual it performed and the custom it observed its traditional privilege and the myth of the origin. The fact that mutual position is arguable, if not vague over great areas of the hierarchy permits social mobility.

Thus , hierarchical position of middle ranking caste differ from region to region and within a region from one location to other “sometimes the same jati will ranked higher in one village than another not many miles away” (M.N. Srinivas, 1962). Similarly hierarchy rules for governing inter-caste relationship are not fixed. They differ from region to region.

In this way, caste system contains innumerable units whose status and occupation vary from one region to another. There is difference at each level, at the level of jati, at the level of jati-cluster, and at the level of region. How could one formulate a uniform concept of Backward Caste or identify Other Backward Classes in the context of multiple divisions



of caste and their varied tradition, occupation and status? This is the question which is generally raised by sociologists who contest, the classification of caste into which is called forward and backward.

If one looks at caste from within as Louis Dumont has said, one would find innumerable castes and their sub-division. Does it mean caste has no system? Louis Dumont argues that it has a system if one looks at it from outside. He writes, "The caste, unified from the outside, is divided within... This is why the whole should not be seen by starting from the notion of the element in terms of which it would be known through the number and nature of the constituent 'element' but by starting from the notion of the system in terms of which certain fixed principles govern the arrangement of fluid and fluctuating elements" He further writes "if the element cannot be defined then let us try to define the system, which is apparently constant and quasi-organic" (M.N. Srinivas, 1962).

He pictured caste system as a "linear order going from the highest to the lowest, a transitive non-cyclic order each is lower than those which precede it and higher than those which follow it and they are all comprised between the extreme points". Underlying this order is found a system of oppositions a structure. "This opposition of hierarchy, which is the superiority of the pure to the impure, underlies separation because the pure and the impure must be kept separate. The whole is founded on the necessary and hierarchical co-existence of the two opposites." The opposition is manifested in many macroscopic forms in the contrast between Brahmans and untouchables.

There are many castes which are ranked between Brahmans and untouchables. How would one define hierarchical position of such caste? Varna classification helps us in this regard. Although Varna, classification is different from caste system, it has bearing on the caste system. In fact, one cannot understand caste system without the



reference of varnas namely, Brahmans, Kshatriyas, Vaishyas and Sudras which are found across the country. "The sets of the four varnas divide into two: the last category that of the sudras is opposed to the block of the first three; whose member is twice-born in the sense that they participate in initiation, second birth and in the religious life in general".

Since, untouchables, are placed outside the varna scheme, sudras, the varnas of haves not, whose duty was to serve, the top three varnas, are defined as "Backward Caste" (Meenakshi Jain) Sudras, are not homogeneous category it contains, innumerable castes of different status and power. "There are at one extreme the dominant, landowning, peasant castes, which wield power and authority over local Vaishyas and Brahmins, whereas at the other extreme are the poor, near untouchable groups living just above the pollution line. The category also includes the many artisan and servicing castes" (M.N. Srinivas, 1962) Hence, Shudras comprised of caste having higher and lower social status and economic position.

Backward Caste: Administrative view

Hindu Backward castes are now included in the administrative/legal category of castes called Other Backward Classes. Having its own origin in the colonial administration, the category of OBCs has been evolved over a period of time. In beginning Backward Castes were included in caste categories called 'Backward Classes' and 'Depressed Classes'. "At the time of Independence the term "Backward Classes" had a less fixed and definite reference the term has been around for some time, but, it had a variety of referents, it had shifted rapidly in meaning, and it had come to mean different things in different places" The term "Backward Classes" first acquired a technical meaning in the princely state of Mysore in which Backward Communities were identified for the purpose of preferential recruitment in 1921. (Marc Galanter, 1984) All



communities except Brahmins were identified as backward. There, the distinction between backward and depressed classes was not made. Indeed, these term were used synonymously, similar kind usage, existed in Bombay where Government Resolution of 1925, define Backward Classes "as all except Brahmins, Prabhu Marwaris, Parsis, Baniyas and Christians".

The Hartog Committee (1982) "Included depressed classes, aboriginals, hill tribes, and criminal tribes in the definition of Backward Classes". Similarly, Indian central committee of 1929, "included aboriginals, criminal tribes, and other among the less advanced of the inhabitants of British India" in Backward Classes. This committee, thus, not only included depressed classes but also tribals in the category of Backward Classes. In this way, concept of Backward Classes was comprehensive and no distinction was made between backward and depressed classes in the beginning.

Synonymously, usage of the term depressed classes and backward classes were contested on the grounds differed from region to region. While, people of south and western India contested the synonymous usage of the term on the ground that distinction should be made between untouchable and Backward Classes, while, the Hindus of united provinces (present day Uttar Pradesh) argued that people are reluctant to adopt the nomenclature of depressed classes, so they pleaded for the use of Hindu Backward Classes, which include non-dwija caste of both touchable and non touchable. In this way the term 'Backward Classes' could not be rigorously define nor could distinction be made between Backward Classes and depressed classes. After, the listing of Scheduled caste, the usage as a synonym for untouchable drop away. Two major species of usage emerge:

1. As the more inclusion group of all those who need special treatment.



2. As a stratum higher than the untouchables but nonetheless depressed. This double usage continues today: the former in the usage of Backward Classes in the wide sense (including Scheduled Caste and Scheduled tribes) the later in the usage as equivalent to "Other Backward Classes".

Constitutional Provision

The constitution of India identifies some categories of people which deserve preferential treatment for their uplift. Such categories of people which are mentioned in the constitution are Scheduled Caste, Scheduled Tribes, socially and economically Backward Classes, weaker section, and Other Backward Classes. As the constitution of India does not define these terms, the term of scheduled caste and scheduled tribes are used for those castes which have been subjected to the practice of untouchability in the past and those people who are living in excluded areas and have tribal origin. In contrast, to these two categories of people terms, such as socially educationally Backward Classes, weaker section, Other Backward Classes are generally used for those castes which neither are both touchable and tribal nor belong to three twice-born varnas. Article 15 uses the term "socially and educationally Backward Classes" Article 16(4) mentions "Backward Classes of citizens" while Article 46, uses the term "weaker section". The term "Other Backward Classes" is mentioned in Article 338(10). Article 340 allows president to "appoint a commission to investigate the condition of socially educationally Backward Classes within the territory of India and the difficulties under which they labour and to make recommendation as to the step that should be taken by the Union or any State to remove such difficulties and to improve their condition."

Under these constitutional provisions Government of India and government of various States appoint Backward Classes Commission(S) for the identification of Backward Castes.



FIRST BACKWARD CLASSES COMMISSION OF INDIA

On 29 January 1953, the first Backward Classes Commission known as Kaka Kalekar Commission was set up which submitted its report in 1955 revealing the four criteria for identification of socially and educationally Backward Classes :

1. Low social position in the traditional caste hierarchy of Hindu society.
2. Lack of general educational advancement among major section of a caste or community.
3. Inadequate or no representation in government services.
4. Inadequate representation in the field of trade, commerce and industry.

On the basis of all these criteria Kaka Kalekar Commission prepared a list of 2,399 Backward Castes or Communities for the entire country and 837 of them were classified as most backward. But Kalekar Commission could not present a unanimous list. There were some member who were opposed to linking caste with backwardness when the report was present, the government refused to accept caste as a criterion of backwardness. (Ramaiah, A. 1992)

SECOND BACKWARD CLASSES COMMISSION OF INDIA

The second Backward Classes Commission was set up on 1st January 1979, popularly know as Mandal Commission under the chairmanship of B.P. Mandal. The Commission evolved eleven criteria for determining social and educationally backwardness into three heading as follows,

Social:

1. Caste/Classes considered as socially backward by others.



2. Caste/classes that mainly depend on manual labour for their livelihood.
3. Caste/Classes where at least 25% female and 10% males at an age state average get married at an age 17 years in rural areas and least 10% females and 5% males do so in urban areas.
4. Caste/Classes where participation of females in work is at least 2% above the state average.

Educational:

1. Caste/Classes where the number of children in the age group of 5-15 year's who never attended school is at least 2% above the state average.
2. Caste/Classes where the rate of student drop out in the age group of 5-15 years at least 25% above the state average.
3. Caste/Classes amongst whom the proportion of matriculates is at least 25% below the state average.

Economic:

1. Caste/Classes where the average value of family assets is at least 25% below the state average.
2. Caste/Classes where the number of families living in kuccha houses is least 25% above that state average.
3. Caste/Classes where the sources of drinking water is beyond half a kilometer for more than 50% of the households.
4. Caste/Classes where the number of house hold having taken consumption loan is at least 25% above average.

The Commission prepared a list of 3,743 castes covering about 52% of the population of India as Other Backward Classes. The Mandal Commission submitted its report in 1980, the report become a bone of



contention in 1990, when it was implemented. The Commission recommended a reservation of 27% for the Other Backward Classes in Central Government Services. The Mandal Commission emphasized that both education and social criteria in combined form, should be used to enlist any caste or community as the Backward Classes. The Commission argued that the economic factor of any community or caste should not be considered to judge the backwardness and forwardness of the categories.

Many question have been raised against the methodology and the evidence, for the identification of Backward Classes, which included both Hindus and Non-Hindus. Foremost, criticism, of the Commission is its mixing caste with class which are sociologically different it has been argued that many people of Backward Caste have become prosperous, they reached to the level of Backward Caste be excluded from the list of Backward Classes? This is the question which is vehemently raised by people who oppose reservation of Backward Classes in the institution of higher learning.

But issue, related with the sociological distinction between caste and class is settled by the Indian Court which decided that caste and class in India are inseparable. "The Courts generally permit the use of the word 'caste' for 'class' they lay down specific conditions for considering any caste as a 'backward class'. The Supreme Court in the Rajender Case (1968) stated, 'If the caste as a whole is socially and educationally backward, reservation can be made in favour of such a caste on the ground that it is a socially and educationally backward class of citizens. In another judgment the same year, in the case of Sagar vs. State of Andhra Pradesh the Supreme Court stated, 'In the context in which it occurs, the expression "class" means a homogeneous section of the people grouped together because of certain likenesses or common traits and who are identifiable by some common attributes such as status, rank, occupation, residence in a locality, race, religion and the like.' In



1971, judgment in the case of Perikaruppan vs. State of Tamil Nadu, the Supreme Court reiterated both the above views. In a 1972 judgment in the case of Balram vs. State of Andhra Pradesh, the Supreme Court went a step further when it stated that a caste may be a ' Backward Class' notwithstanding the presence in it of a 'few individual(who are) both socially and educationally above the general average". (A.M. Shah, 1998).

Conclusion:

Caste system has been existing in India since, time immemorial. It is one of the institutions of Indian society which does not have its parallel in other societies. Therefore, it has been referred as unique institution of Indian society, but the concept of 'Backward Castes' did not exist before British rule. It has its origin in Colonial administration. During British rule words such as 'Backward Classes' and 'Depressed Classes' were used for those castes/communities who were identified socially discriminated and therefore require preferential treatment for their upliftment.. This double usage continues today: the former in the usage of Backward Classes in wide sense: the later in the usage as equivalent to Other Backward Classes. In this way, caste system contains innumerable units whose status and occupation vary from one region to another. There are differences at each level, at the level of jati, at the level of jati-cluster, and at the level of region. How could one formulate a uniform concept of Backward Caste or identify Other Backward Classes in the context of multiple divisions of caste and their varied tradition, occupation and status? This is the question which is generally raised by sociologist who contest, the classification of caste into which is called forward and backward. Article 15 uses the term "socially and educationally Backward Classes" Article 16(4) mentions "Backward Classes of citizens" while Article 46, uses the term "weaker section". The term "Other Backward Classes" is mentioned in Article 338(10). Article 340 allows president to "appoint a commission to investigate the



condition of socially educationally Backward Classes within the territory of India and the difficulties under which they labour and to make recommendation as to the step that should be taken by the Union or any State to remove such difficulties and to improve their condition."

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REBELLION AS A MODE OF ASSERTION IN GITA HARIHARAN'S THE THOUSAND FACES OF NIGHT AND MULTI-CULTURALISM AS AN EMERGING PERSPECTIVE OF FOURTH WORLD LITERATURE

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The Fourth World literature is a comprehensive term inclusive and indicative of multiple connotations, the literature of the natives of America, Canada, Aborigines of Australia, Dalits of India, and the Maoris of New Zealand, the literature of native people of a particular land occupied and inhabited by non-natives, literature of minorities, tribal people, Adivasis, and any literature giving voice to any individual or group that is underprivileged, victimized or oppressed. The term has been in vogue since 1974 with the publication of Shuswap Chief George Manuel's : **The Fourth World An Indian Reality**. Manuel thought of the Fourth World as the "Indigenous peoples descended from a countries aboriginal population and who today are completely or partly deprived of the right to their own territories and riches." ¹ Publications such as The Fourth World News and Resurgence, the journal of the Fourth World include some more human institutions under the concept "[The]Fourth World embraces small nations of under twelve million inheritance, groups working for their autonomy and independence at all levels from the neighborhood the nation, minority groups whether ethnic, linguistic, cultural or religious, and those in fields of peace action, ecology, economics, energy resources, women's liberation and the whole spectrum of the alternative movement who are struggling against the gigantism of the institutions of today's mass society's and for a human scale and a non-centralized, multi-cellular power dispersed world order."² In 1972 Ben whittaker of the Minority Rights Group



applied the term Fourth World to refer to any oppressed group, failing to distinguish between true ethnic and social minority's and historic nations.³ As women come under the category of the oppressed and the victimized they represent the Fourth World literature.

Gita Hariharan, winner of the common wealth writers prize for her very first novel, *The Thousand Faces of Night* in 1992-93, also published another novel 'The Ghosts of Vasu Master' in 1994 and edited 'A Southern Harvest,' a volume of stories in English translation from four major south Indian languages. 'When Dreams Travel' (1999) and 'In The Time of Sage' are her other works.

Gita Hariharan loves stories and so tells retells and invents stories. *The Thousand Faces of Night*'in her own words, "My first book deals with the lives of three women. The limited space of their lives is enlarged with myths some twisted in the retelling, some remaining the same, but still all retellings."¹

Women were treated on an equal plane on par with men according to all scriptures and Shastras of all religions, be it Hinduism, Manusmriti,² or the precepts of Islam ordains equality of sexes and Christianity also granting Adam and Eve an equal position (Gen.1:7) Women are worshipped as goddesses through feminine attributions to nature and its forms, woods and rivers, as Shakti Swarupa, Kali and Durga. Goddesses are pleased where women are worshipped and wealth ceases to stay where women are made to weep. Women received high degree of respect even during the reign of sultanate³, Mughals⁴ and Tughlaqs⁵. To begin with patriarchal society was the order and it was women who ruled and enjoyed power. Patriarchal society replaced the matriarchal order and Kanya shulkam gave way to Varakatnam (The Dowry system). Women's voice has been suppressed for long everywhere, in the state, in public places, and at home. Though created equal by the creator, women were subjected to innumerable sufferings,



ill treatment and discriminations (of all sorts) and have been facing subordination to men. They were denied rights and privileges which are justifiable their own on gender bias and social prejudices, proving the saying, 'Na Sthree Swatantraya marhathi', no women deserves freedom as depicted by Manu saying that a women continues to be a dependent all through her life "her father protects her in her childhood, her husband protects her in youth and her sons protect her in old age." (Manusmriti chapter IX ,verse : 5) This problem is not limited to the Indian context and had acquired global significance.

Long sufferings and deprivation of basic needs led to women movements and women started raising her voice breaking the silence for bare survival, existence, identity, independence, individuality, and self-assertion. The feminist movement started in the west in the 1960's to fight against injustice on the fair sex. Simon de Beauvoir (**The Second Sex**), Betty Friedan (**The Feminine Mystique**), Kate-Millet (**Sexual Politics**), Mary Woll Stone Craft (**A Vindication of The Rights of Woman**) are the noted feminist writers of the west. Women writers generally have a clear conception of the problems related to women and they choose their tastes, experiences, and ideas. But feminine sensibility need not always be confined to female sex alone and Anita Desai rightly identifies in her paper on Indian English Women Writes that even some male writers exhibit such a tendency and attitude in their writing.⁶Elizabeth Hardwick to remarks that "Every artist is either a man or a woman and the struggle is pretty much the same for both."⁷ Virginia Woolf holds the view, "that both in life and in art the values of woman are not the values of man."⁸

Women consciousness is central to the fiction of Kamala Markandaya with projection of philosophical and sociological strains. Her Rukmani in **Nectar In a Sieve** and Sarojini in a **A Silence of Desire** resolve their problems amidst odds. She exposes the inner strengths of women



who bear oddities silently. Ruth Praver Jhabvala explores the problems of middle class families, for a compromise in **The House Holder** or a separation in **Get Ready for Battle** and **A Backward Place** due to cross- cultural clashes. Nayanatara Sahgal portrays man-woman relationship with stress on the unequal status of women. Her Simrit in **The Day in Shadow** opts for a divorce, no longer able to bear the sufferings and oppression despite the social demeanor. Anita Desai focuses on marital failures, inability or unwillingness to express sensitive, agonized, neurotic/psychic souls in an indifferent, dark and cold world. Husband – wife alienation seems to be the recurrent motif in her fiction. Shashi Desh Pande analyses women’s problems from different angles, perspectives and contexts exhibiting silent protest mostly playing the traditional roles and to a minimum extent the otherwise. Saru in **The Dark Holds No Terrors** establishes herself. In **A Matter of Time** she brings out the issues concerning the lives of three women from three generations from the same family and their reactions and responses to the sudden tragedy that surrounds them. Bharati Mukherjee’s **Jasmine** is a strong willed woman who attempts to rewrite her own destiny.

Women characters in Indian fiction play two types of roles. The conventional and the unconventional Both types suffer in one way or the other. Bala Kodandaraman says. “the unconventional are seen to suffer for their violation of accepted norms of society or for questing them: death is the way out for the, unless their experiences teach them to subdue their individuality and rebelliousness and realize the wisdom of the traditional ways.”⁹ The roles played by women change but her struggle continues to be more or less the same. She finds it difficult to preserve her identity as wife, mother, and most important of all, as human being. Bell Hooks suggests that the best solution to the problems of women is realization on the part of men to play their part.



“Man should be an ally and work together with the fair-sex to abolish oppression.”¹⁰

II

Gita Hariharan expresses her anguish protest against the age old wisdom contained in sayings, proverbs, myths, and beliefs through her powerful tools of satire, irony, and sarcasm and she revolutionizes the role of new woman.

Gita Hariharan's *The Thousand Faces of Night* is Chiefly about the struggle in the lives of three women of three generations for their survival, bare existence, freedom, individuality and identity revolving around meek and submissive Mayamma, strong willed devoted Sita and modern, un impulsive and rebellious Devi. Gita Hariharan brings out Devi's journey towards maturity and her identity through her own experiences interspersed with her knowledge of experiences of the events in the personal lives of Mayamma, Sita and allusions, references to the rich Indian myths. Devi's attainment of wisdom is through her series of questions for which she seeks answers and also by listening to the stories of her grand mother, Mayamma and those of Baba, her father-in-law.

The answers Devi gets to her questions apparently appear to be truths but on another level, the ironical statements revealing the fate of women arouse feelings of rebellion in her. In reply to a question put by Devi about her life, Mayamma, the caretaker tells her the village doctor's comments and warns Devi to be careful about her questions. (*The Prelude*)

Devi struggles for an assertion which is portrayed through her views, responses, musings and interactions with her grand mother, father-in-law. Baba and Mayamma. Devi praises the art of story telling of her grandmother where “there was room only for heroes and



heroines" (20) She assures Devi, 'you too will live like a princess' (20) Devi further thinks of the contextual suitability of her grandmother's stories.

She chooses each for a particular occasion, a story in reply to each of my childish questions. (27)

Devi relates the relevance of the stories to the present day

In my grandmother's mind, the link between her stories and our own lives was a very vital one. ... The cracks I now see are no longer fine, they gape as if the glue that held them together was counterfeit in the first place. (30-31)

Devi recalls her grandmother's stories when she listens to the stories of Baba. She compares and contrasts both the stories.

Baba's stories remind me of my grandmother's but they are also different. They are less spectacular, they ramble less. Her stories were a prelude to my womanhood, an initiation into its subterranean possibilities. His define the limits. (51)

Devi's grandmother introduces the typical Indian myths to her. She proceeds to the story of Gandhari to make Devi learn ' what it is to be a real woman.' (28) Devi perceives the blind idealism of women and the dishonesty of men. Devi equates Gandhari's sacrifices with her mother's sacrifices when her mother Sita was made to give up her love for music, the veena. Devi senses the fine cracks and gaps between the stories told and the high realities. (P.30) Devi equates Gandhari's sacrifice with that of Sita and the story of Uma with the story of Amba.

At the time of her death, Devi's grandmother ' made a gift of the ultimate fantasy : a woman avenger who could earn manhood through penance. Devi imagines herself to be a Devi, a goddess. " I became a woman warrior, a heroine, I was Devi. I rode a tiger, and cut off evil, magical demons' heads." (45) This is an indication of the things to come



and the germination of seeds of rebellion against any sort of injustice against women in general and herself in particular.

Baba tells her that 'The woman has no independent sacrifice to perform, no row, no fasting: by serving her husband, she is honoured in the heavens. Here comes Sushila Singh's saying handy" "Human experience for centuries has been synonymous with the masculine experience."¹⁴ Baba also takes Devi into the world of great saintly mystics and composers of a bygone era...of their devotion, of their single minded fervor,' (51), Muthuswamy Dikshitar(51), Jayadeva(65), Purandara Dasa(65), Syama Sastri, and Tyagaraja (67). He tells her, that women should be honoured everywhere and also that ' women have always been the instruments of the saint's initiation into bhakti.'(65) He also enlightens her by informing her about a Brahmin(52).

III

The prelude denotes Mayamma's bitterest experience at the hands of her mother-in-law for her inability to conceive a child is a basis, an indication for the things to come. The novelist hints at the set stage for things to be built upon. Mayamma asks a question only once in her life and the answer she gets silences her for ever. Mayamma, the old care taker of the house, leads a life of sufferings and sacrifices, always trying to please and satisfy others.

After her son's death she remains alone and helpless in her battle of life. But she never loses her courage despite all the sufferings showing her innate strength. She never questions and protests for her due. She never shows even the slightest hint of rebellion. To her and women of her generation, a meek and submissive acceptance of fate is life. Since then Parvatamma was her sister, mother, and daughter. She stands as strong as a rock, holds the family intact irrespective of the entries and exits of Parvatamma first, followed by Baba to America to their daughter



Lalita, his death and then Devi who runs away with Gopal leaving Mahesh for ever.

Sita, a middle aged woman stands differently in between the two extreme poles Mayamma and Devi of different generations. She was a practical woman.

She makes her moves deftly "like a veteran chess player" leads Devi "to her carefully laid plans.... A Swayamvara ." Sita's singular love before her marriage was for her veena and to be a good, responsible household lady, wife and mother she gave up her love. Marriage had meant that Sita would have to learn to eat dry chapattis.... A woman who did not complain, a woman who knew how to make sacrifices without fanfare." and all "to a single goal, wifeness." With Devi's birth "Sita.... Had found a new Veena (103) to play on and this time she was not going to give it up so easily...." She "hated all illusion." (105) and performs her marriage with Mahesh.(107)

But with Devi's elopement with Gopal, Sita senses an unexpected sudden reversal of things and gets upset.. As if in sympathy with Sita's rage, the rain poured in three days and nights." (108) "Sita could now see her life almost as an entirety:" (107-108) Sita was a woman with a strong will. Sita prepared herself "... for self-examination, she sat before the relic from her past, the broken veena, freshly dusted, and waited for Devi to come back to her." (109)

IV

Devi, the protagonist comes into contact with Dan, an American, Mahesh, her husband, and Gopal the musician. Devi analyses her experiences with these three persons in her life.

During her stay in America for her studies she befriends Dan, a black but due to clash cultural conflicts and ambivalent attitude she turns away his proposal of marriage and returns to India. Nostalgic feelings



and the magnetic pull and the over-powering influence of her mother prompt her home coming.

Devi is married to Mahesh, a regional manager in a multi-national company. Mahesh seemed to be ' a polite stranger' who 'views marriage as a necessity, a mile stone like another. He remains an outsider who is always on tours. Devi is left alone in the large old house. She feels that " A marriage cannot be forced into suddenly being there, it must grow gradually like a delicate but promising sapling." (49) Mahesh never cares for any understanding and dismisses everything she asks for, her wish to do a job or learn Sanskrit to understand Baba's sayings better.(52) Thus unable to find any happiness in her marital life and denied her feminine freedom, Devi gets solace in her gentle father-in-law Baba's stories. Devi thinks that she is a misfit in the frame of marriage and also that her education is of no avail to her. She identifies marriage with a knife." The sacrificial knife, marriage, hung a few inches above my neck " Finally she views that "My education has left me unprepared for the vast, yawning middle chapters of my woman hood." (54) Mahesh fulfils his bodily pleasures and physical needs without caring for her emotions and feelings. ' He is suave, sure, unashamed of his body's needs and desires.'(49)Devi expresses her anguish protest," "He is far too civilized to raise his hand and bring it down in my rebellious body Am I a neurotic because I am a lazy woman who does not polish her floors every day?(74)

Mahesh takes her to a doctor and she comes out with her 'parts glued together whole, mended an efficient receptacle for motherhood.'(89) Devi gets shocked at the 'official reference' to her 'sex life' (91) The distance between Mahesh and Devi grows further due to the mounting pressure within, the loneliness and the increasing frustration.

Devi decides herself neither to be a meek submissive Mayamma of the first generation or another Sita of the second generation, not to be



virtuous, sacrificial tradition bound wife sati and Parvati etc. she imagines herself Durga or Kali as her name suggests with rebellious mood. She feels that she cannot be fixed in the rigid and slavish frame of marriage to which she is drawn like an enchanted bird.

All the stories and sayings narrated by her grandmother, father-in-law, Baba, and Mayamma subordinate women to men and the ironical, witty, epigrammatic statements reveal and reflect this social inequality and all these aroused feelings of rebellion and revolt in Devi. Women characters Mayamma, Annapurna, Parvatamma, Gauri, cousin Uma, Amba her grand mother all dance before her eyes. Devi's soul urges her to act like goddesses, sati/Parvati/Hymavathi/Dura/Kali (94).

Dissatisfied Devi gets charmed with the music of Gopal . 'I ache for that drug, that blissful numbness.' (78) She has decided to humiliate Mahesh and 'do something bloody, final, a mark of protest worthy of the heroines I grew up with,' (95) soaring 'high on the Crest of Gopal's wave of ragas.' (95) Her fascination coupled with venturesome nature and modernity leads her to elope with Gopal with the fond hope of getting some caring love but to her utter dismay, there too she faces loneliness and indifference . 'His music was no longer a distant call romantic because unknown, ' 'she knew the man now, but still did not understand his music' (127) she had none except Gopal's voice but 'the voice grew fainter,' (129) The image of peacock and peahen reveals the process of disenchantment of Devi in her relation ship with Gopal.'Devi looked for the bedraggled, submissive peahen every time she saw herself reflected in the mirror – studded buttons of Gopal's kurta' (129)'...the images his music evoked in her were no longer so uplifting, or even neutral.'(129) "Devi knew the time was right; if she did not act now, she would be forever condemned to drift between worlds,..." (138)

Devi comes to know about the unbearable sufferings experienced by Mayamma as a battered wife, daughter-in-law and a mother, at the



hands of her cruel dominating mother-in-law, the beastly husband and her fit for nothing son. Having no way out, she continues to lead a life of sacrifices. Sita, mother of Devi, a woman of the second generation, unlike Mayamma, achieves her goal of becoming a perfect wife and mother, blamelessly with a single minded devotion but she too can't escape from her share of sacrifices of giving her first love, veena, her dreams of fame and name and even cutting herself off from all her links with her past and even to eating the left overs.

Devi " thought of the three of them, Mayamma, Sita and herself. Three of the women who walked a tight rope and struggled for some balance; for some means of survival they could fashion for themselves.

So Devi unable to adjust anywhere finally returns to her only permanent shelter, her mother with a wounded pride. "She rehearsed in her mind the words, the unflinching look she had to meet Sita with to offer her her love. To stay and fight, to make sense of it all, she would have to start from the very beginning." (139)

The references to Indian myths, epics such as Mahabharata, the scriptural sayings all hold a true mirror to the typical Indian culture. Devi's stay in America for her studies, her friend and lover, Day's nativity represent the American culture. Devi faces clash of cultures and unable to bear the ambivalence inclines towards her native Indian culture. Traditional Indian Music and Bhakti (spirituality) reveal the typical Indian culture. The struggle of the underprivileged, exploited, and the oppressed is a cultural feature of the world. Thus in brief *The Thousand Faces of Night* reflects multi - culturalism on different planes and in varied shades.

Gita Hariharan's **The Thousand Faces of Night** is compared to Shashi Desh Pande 's **A Matter of Time** ' in that both deal with the struggle in the lives of women of three generation for their survival. Jaya, the protagonist, of Shashi Desh Pande's **That Long Silence**



resembles Sita of Gita Hariharan's **The Thousand Faces of Night** as both accept their fate and lead a life of meek submission without any protest rebellion or fight. Gita Hariharan's novel is a dignified contrast to Shashi Tharoor's **The Great Indian Novel**, a trivializing mockery of the great epic. ¹¹ Gita Hariharan's **The Thousand Faces of Night** is an excellent match for Gita Mehata's **A River Sutra** since both the Women novelists use rich Indian cultural heritage to the maximum extent exploited. Besides a deft use of mythical background both employed music... and the different rages to reflect deep human emotions. ¹²

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ANTECEDENTS OF CUSTOMER LOYALTY—AN EMPIRICAL STUDY WITH FOCUS ON THE INDIAN DOMESTIC AIRLINE INDUSTRY

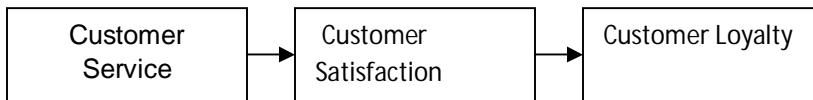
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1 Research Background

It has always been a great challenge to run airlines profitably (cf. Doganis, 2006). In addition to cut throat competition, reducing airline profits, exposure to market volatility, legal regulations restricting operations and a disadvantageous cost structure with high fixed costs have put many airlines in troubled waters. Low cost carriers have become a driving force in this competitive arena. In an industry that always has been marked by marginal profitability (Doganis, 2006), this competition on price has led to further profit decline. Today, many airlines in India are struggling to make profits. In such a highly competitive environment, customer satisfaction and customer loyalty have become an increasingly effective weapon for securing a firm's profitability (e.g Reichheld and Sasser, 1990; Reinartz, and Kumar, 2002). Customer Loyalty refers to the customer's repeated same brand purchase within a given category based on a favourable attitude towards and preference for the particular brand. Empirical findings have revealed that increased market share and decreased price sensitivity among customers are particular contributions of customer loyalty to a firm's profitability (Chaudhary and Holbrook, 2001). The establishment and maintenance of a loyal customer base should, therefore, be and in many cases is a key objective for airlines, since it promotes a sustainable competitive position in the market place.

Consequently, the retention of valuable customers is an important objective and requires airline management to understand the underlying factors that reinforce airline customer loyalty towards a given airline brand. Customer loyalty rests in particular on the brand, which plays an important role in customer retention. A brand can be described as a “cluster of functional and emotional values that promises a unique and welcome experience” (de Chernatony et al., 2006, p.819) for its customers. With the objective of fostering customer loyalty, airlines have introduced loyalty schemes. Several studies on the antecedents of customer loyalty in the airline industry has been carried out(e.g Ostrowski et al., 1993; Park et al.,2006; Zins 2001).

Figure 4.1 A typical Customer Behavior Model, and firms profitability.



The research work attempts to prove that the relationship between service quality attributes and the overall customer satisfaction is non linear and asymmetric. Finally, the study estimates the relationship between customer satisfaction, retention, and loyalty. Such an approach to customer behavior may help service providers to maximize profitability more effectively and efficiently.

1.2 The Research Question

Based on previous discussion, this thesis research objective is to gain insights into the customer brand relationships in the airline industry and to examine the interrelations between customer satisfaction and loyalty. To achieve the stated objective, the research focuses on the identification of important drivers of airline customer loyalty. In



consideration of the previously formulated research objective, the overarching research question of this thesis is:

“What kind of benefits do customers seek when they engage in relationship with airline brands and how can those relationships strengthen airline customer loyalty.”

1.3 Research sub questions

Based on this overall research question, the following sub questions (SQ) to be answered are:

SQ1 How can service quality attributes influence customer satisfaction?

SQ2 What role do customer satisfaction play between service quality attributes and Customer behavior (retention and loyalty)

SQ3 How can Customer Satisfaction lead to Customer Loyalty?

1.4 Research Aim and Objectives

1.4.1 Aim: To create a framework that estimates the relationship between service quality attributes, customer satisfaction, retention and loyalty.

1.4.2 Objectives

In order to meet the aim of this research work, the following objectives are pursued:

1. To measure the customer satisfaction levels among firms in the domestic airline industry.
2. To study the customer loyalty levels of various firms in the airline industry.
3. To study the relationship between customer satisfaction and customer loyalty levels.
4. To study the impact of customer satisfaction levels on the post purchase behavioral patterns of the customer.

1.5 Broader Hypothesis of the Study:



To achieve the objectives of the study, the following null hypothesis have been formulated for empirical testing:

H(1): There is no significant difference in the Customer Satisfaction Levels among various firms in the industry.

H(2): There is no significant difference in the customer loyalty levels among various firms in the industry.

H(3): There is no significant difference in the relationship between customer satisfaction and customer loyalty levels among various firms in the industry.

H(4): There is no significant difference in the impact of customer satisfaction levels on the post purchase behavioral patterns of the customer.

H(5): There is no significant difference in the impact of customer satisfaction levels on the customer retention capacity of firms.

1.7. Research Methodology:

1.7.1 Sampling Element:

The study is carried out by interviewing passengers at various airports in Gujarat. The airports included for the purpose of study were Jamnagar, Rajkot, Vadodara and Ahmedabad. Travel and tour operators in Jamnagar and Vadodara were also considered in this study. The passengers flying from these airports were the target respondents.

1.7.2 Sampling Technique:

The researcher has applied multistage sampling and convenient sampling technique which is carried out in various stages. Here Non probability convenient random sampling technique based on the judgement of the surveyor has been used for the purpose of data collection. The population elements were selected based on the researcher's own judgement. The sampling have been collected considering the following factors:



- The passengers flying from the airports selected under the study were considered.
- The passengers booking their ticket at different travel operator locations were considered.

1.7.3 Sampling Size:

The sampling size of 210 respondents were selected from different airport locations in different cities in Gujarat as well as at various travel operator locations in Jamnagar.

1.7.4 Data Source

Secondary data has been collected from various Journals, Magazines, Internet etc. Structured questionnaire was used as instrument for collecting the primary data. Looking at the nature of study, the questionnaire mainly consisted of questions which were closed ended. The response were recorded and measured by using the 5 point likert scale. The data collected thus was more of a quantitative nature. The questionnaire was pre-tested before final use. Some station managers of airline companies were asked to offer their inputs while designing the questionnaire.



1.8 Analysis and Interpretation of Data

Hypothesis testing for antecedents of Customer Loyalty

Cross Tabulation Hypotheses	Chi-square	df	Significance	Decision
Gender * I will fly with Airline X in future	6.280	4	.179	Hypothesis is accepted. No any significant relation with gender and future intentions to fly with airline.
Gender * I will recommend others to fly with Airline X	7.586	4	.108	Hypothesis is accepted. No any significant relation with gender and recommendation to others to fly.
Gender * Will you consider switching to other airlines in future	3.790	4	.435	Hypothesis is accepted. No any significant relation with gender and future intentions.
Gender * I encourage my friends and relatives to fly with this airline	11.184	4	.025	Hypothesis is rejected. Significant relation with gender and word of mouth.
Gender * I am likely to pay a higher price to use Airline X's services	9.750	4	.945	Hypothesis is accepted. No any significant relation with gender and likelihood to pay higher price.
Gender * I have a strong preference towards Airline X	3.387	4	.495	Hypothesis is accepted. No any significant relation with gender and preference towards a brand.
Gender * I will keep patronizing with this airline regardless of everything being changed somewhat	11.110	4	.025	Hypothesis is rejected. Significant relation with gender and strong personal opinion about airline.



Gender * I do not consider cost when using this airline	6.258	4	.181	Hypothesis is accepted. No any significant relation with gender and cost of airline services.
Gender * I am confident that service will be performed correctly by this airline	1.637	4	.802	Hypothesis is accepted. No any significant relation with gender and service reliability.
Gender * To me, this airline would rank first among other airlines	5.976	4	.201	Hypothesis is accepted. No any significant relation with gender and airline preference.
Gender * I think there is a similarity between me and the brand	4.487	4	.344	Hypothesis is accepted. No any significant relation with gender and similarity between brand and me.
Gender * The brand suits me	1.957	4	.744	Hypothesis is accepted. No any significant relation with gender and suitability of the brand.
Gender * I have found this airline better than others	1.139	4	.888	Hypothesis is accepted. No any significant relation with gender and airline being good.
Gender * I feel confident in my purchase decision when I buy a ticket of this airline	3.919	4	.417	Hypothesis is accepted. No any significant relation with gender and purchase decision.
Gender * Repeatedly, the operations of this airline is superior to other airlines	13.470	4	.009	Hypothesis is rejected. Significant relation with gender and superiority of airline operations.



Gender * I feel that my comment and suggestions are highly valued by this airline	6.751	4	.150	Hypothesis is accepted. No any significant relation with gender and suggestions and comments
Gender * I like the performance and services of this airline	4.554	4	.336	Hypothesis is accepted. No any significant relation with gender and operational and service performance of airline.
Gender * I am always delighted with this airline's service	12.474	4	.014	Hypothesis is rejected. Significant relation with gender and delightment of using the service.
Gender * I have a positive attitude towards this airline	13.031	4	.011	Hypothesis is rejected. Significant relation with gender and positive attitude towards airline.
Gender * I believe there is less risk that something will go wrong with this airline	3.184	4	.672	Hypothesis is accepted. No any significant relation with gender and risk of something going wrong.
Gender * My relationship with this airline is important to me	4.642	4	.326	Hypothesis is accepted. No any significant relation with gender and relationship with airline.
Gender * The airline's employees go out of the way to serve me	11.919	4	.018	Hypothesis is rejected. Significant relation with gender and service of airline employees.
Gender * This airline is like a friend to me	3.291	4	.510	Hypothesis is accepted. No any significant relation with gender and companionship with the airline.



Age * I will fly with Airline X in future	18.299	12	.107	Hypothesis is accepted. No any significant relation with age and future intentions to fly with airline.
Age * I will recommend others to fly with Airline X	11.925	12	.452	Hypothesis is accepted. No any significant relation with age and recommendations to others.
Age * Will you consider switching to other airlines in future	10.521	12	.570	Hypothesis is accepted. No any significant relation with age and switching to other airline.
Age * I encourage my friends and relatives to fly with this airline	12.934	12	.374	Hypothesis is accepted. No any significant relation with age and encouragement to friends and relatives.
Age * I am likely to pay a higher price to use Airline X's services	13.565	12	.329	Hypothesis is accepted. No any significant relation with age and payment of higher price.
Age * I have a strong preference towards Airline X	15.058	12	.238	Hypothesis is accepted. No any significant relation with age and strong preference towards airline.
Age * I will keep patronizing with this airline regardless of everything being changed somewhat	12.526	12	.404	Hypothesis is accepted. No any significant relation with age and relationship with airline
Age * I do not consider cost when using this airline	14.088	12	.295	Hypothesis is accepted. No any significant relation with age and cost.



Age * I am confident that service will be performed correctly by this airline	10.611	12	.563	Hypothesis is accepted. No any significant relation with age and service reliability.
Age * To me, this airline would rank first among other airlines	13.956	12	.304	Hypothesis is accepted. No any significant relation with age and ranking of airline.
Age * I think there is a similarity between me and the brand	10.207	12	.598	Hypothesis is accepted. No any significant relation with age and similarity of airline brand.
Age * The brand suits me	12.158	12	.433	Hypothesis is accepted. No any significant relation with age and suitability of brand.
Age * I have found this airline better than others	18.598	12	.099	Hypothesis is rejected. Significant relation with age and better service of airline.
Age * I feel confident in my purchase decision when I buy a ticket of this airline	9.222	12	.684	Hypothesis is accepted. No any significant relation with age and purchase decision.
Age * Repeatedly, the operations of this airline is superior to other airlines	10.371	12	.583	Hypothesis is accepted. No any significant relation with age and superiority of airline operations.
Age * I feel that my comment and suggestions are highly valued by this airline	12.900	12	.376	Hypothesis is accepted. No any significant relation with age and suggestions and comments.



Age * I like the performance and services of this airline	14.281	12	.283	Hypothesis is accepted. No any significant relation with age and operational and service performance
Age * I am always delighted with this airline's service	17.076	12	.147	Hypothesis is accepted. No any significant relation with age and delightment of service.
Age * I have a positive attitude towards this airline	16.696	12	.161	Hypothesis is accepted. No any significant relation with age and positive attitude towards airline.
Age * I believe there is less risk that something will go wrong with this airline	8.476	12	.903	Hypothesis is accepted. No any significant relation with age and risk of something going wrong.
Age * My relationship with this airline is important to me	7.219	12	.843	Hypothesis is accepted. No any significant relation with age and relationship with airline
Age * The airline's employees go out of the way to serve me	6.392	12	.895	Hypothesis is accepted. No any significant relation with age and helping nature of employees.
Age * This airline is like a friend to me	19.171	12	.084	Hypothesis is rejected. Significant relation with age and companionship with airline.
Education * I will fly with Airline X in future	42.733	16	.000	Hypothesis is rejected. Significant relation with education and future intentions to fly.



Education * I will recommend others to fly with Airline X	8.958	16	.915	Hypothesis is accepted. No any significant relation with education and recommendations of others.
Education * Will you consider switching to other airlines in future	17.967	16	.326	Hypothesis is accepted. No any significant relation with education and switching intentions.
Education * I encourage my friends and relatives to fly with this airline	30.451	16	.016	Hypothesis is rejected. Significant relation with education and encouragements of friends and relatives.
Education * I am likely to pay a higher price to use Airline X's services	7.117	16	.971	Hypothesis is accepted. No any significant relation with education and likelihood to pay a higher price.
Education * I have a strong preference towards Airline X	20.423	16	.202	Hypothesis is accepted. No any significant relation with education and strong preference towards brand.
Education * I will keep patronizing with this airline regardless of everything being changed somewhat	11.245	16	.794	Hypothesis is accepted. No any significant relation with education and patronizing with brand.
Education * I do not consider cost when using this airline	20.574	16	.195	Hypothesis is accepted. No any significant relation with education and cost of using the airline.



Education * I am confident that service will be performed correctly by this airline	13.554	16	.632	Hypothesis is accepted. No any significant relation with education and confidence in service.
Education * To me, this airline would rank first among other airlines	18.255	16	.309	Hypothesis is accepted. No any significant relation with education and ranking of airline.
Education * I think there is a similarity between me and the brand	9.562	16	.888	Hypothesis is accepted. No any significant relation with education and similarity with airline brand.
Education * The brand suits me	9.598	16	.887	Hypothesis is accepted. No any significant relation with education and suitability of brand.
Education * I have found this airline better than others	8.486	16	.933	Hypothesis is accepted. No any significant relation with education and comparison of airline service with others.
Education * I feel confident in my purchase decision when I buy a ticket of this airline	21.748	16	.152	Hypothesis is accepted. No any significant relation with education and purchase decision.
Education * Repeatedly, the operations of this airline is superior to other airlines	8.250	16	.941	Hypothesis is accepted. No any significant relation with education and superiority of airline operations.



Education * I feel that my comment and suggestions are highly valued by this airline	44.057	16	.000	Hypothesis is rejected. Significant relation with education and comments and suggestions about airline.
Education * I like the performance and services of this airline	21.256	16	.169	Hypothesis is accepted. No any significant relation with education and service performance of airline.
Education * I am always delighted with this airline's service	23.952	16	.091	Hypothesis is rejected. Significant relation with education and delightment of airline service.
Education * I have a positive attitude towards this airline	24.456	16	.080	Hypothesis is rejected. Significant relation with education and positive attitude towards airline.
Education * I believe there is less risk that something will go wrong with this airline	77.435	16	.000	Hypothesis is rejected. Significant relation with education and risk of something going wrong.
Education * My relationship with this airline is important to me	11.898	16	.751	Hypothesis is accepted. No any significant relation with education and relationship with airline
Education * The airline's employees go out of the way to serve me	41.871	16	.000	Hypothesis is rejected. Significant relation with education and service of employees.



Education * This airline is like a friend to me	5.086	16	.995	Hypothesis is accepted. No any significant relation with education and companionship of airline.
Occupation * I will fly with Airline X in future	38.243	16	.001	Hypothesis is rejected. Significant relation with occupations and future intentions to fly.
Occupation * I will recommend others to fly with Airline X	15.068	16	.520	Hypothesis is accepted. No any significant relation with occupation and recommendations of others.
Occupation * Will you consider switching to other airlines in future	13.384	.16	.645	Hypothesis is accepted. No any significant relation with occupation and tendency to switch to other airlines.
Occupation * I encourage my friends and relatives to fly with this airline	11.590	16	.772	Hypothesis is accepted. No any significant relation with occupation and encouragement of friends and relatives.
Occupation * I am likely to pay a higher price to use Airline X's services	25.502	16	.061	Hypothesis is rejected. Significant relation with occupation and likelihood to pay high price.
Occupation * I have a strong preference towards Airline X	13.092	16	.666	Hypothesis is accepted. No any significant relation with occupation and preference towards airline.



Occupation * I will keep patronizing with this airline regardless of everything being changed somewhat	7.292	16	.967	Hypothesis is accepted. No any significant relation with occupation and patronizing with airline.
Occupation * I do not consider cost when using this airline	12.828	16	.685	Hypothesis is accepted. No any significant relation with occupation and cost of airline service.
Occupation * I am confident that service will be performed correctly by this airline	10.486	16	.840	Hypothesis is accepted. No any significant relation with occupation and confidence in airline service.
Occupation * To me, this airline would rank first among other airlines	16.247	16	.436	Hypothesis is accepted. No any significant relation with occupation and ranking of airline.
Occupation * I think there is a similarity between me and the brand	14.914	16	.531	Hypothesis is accepted. No any significant relation with occupation and similarity with brand.
Occupation * The brand suits me	16.575	16	.414	Hypothesis is accepted. No any significant relation with occupation and suitability of brand
Occupation * I have found this airline better than others	15.287	16	.504	Hypothesis is accepted. No any significant relation with occupation and airline favorability to others.



Occupation * I feel confident in my purchase decision when I buy a ticket of this airline	11.067	16	.805	Hypothesis is accepted. No any significant relation with occupation and confidence in purchase decision of particular airline.
Occupation * Repeatedly, the operations of this airline is superior to other airlines	13.536	16	.633	Hypothesis is accepted. No any significant relation with occupation and airline operations.
Occupation * I feel that my comment and suggestions are highly valued by this airline	22.511	16	.127	Hypothesis is accepted. No any significant relation with occupation and respect of my suggestions by the airline.
Occupation * I like the performance and services of this airline	7.386	16	.965	Hypothesis is accepted. No any significant relation with occupation and airline performance and service.
Occupation * I am always delighted with this airline's service	10.039	16	.865	Hypothesis is accepted. No any significant relation with occupation and delightment of airline service.
Occupation * I have a positive attitude towards this airline	10.191	16	.856	Hypothesis is accepted. No any significant relation with occupation and positive attitude of airlines.
Occupation * I believe there is less risk that something will go wrong with this airline	11.636	16	.928	Hypothesis is accepted. No any significant relation with occupation and risk of something going wrong.



Occupation * My relationship with this airline is important to me	14.339	16	.574	Hypothesis is accepted. No any significant relation with occupation and airline importance.
Occupation * The airline's employees go out of the way to serve me	11.289	16	.791	Hypothesis is accepted. No any significant relation with occupation and service of airline employees.
Occupation * This airline is like a friend to me	14.106	16	.591	Hypothesis is accepted. No any significant relation with occupation and friendliness of airline.
Monthly Income * I will fly with Airline X in future	7.078	12	.852	Hypothesis is accepted. No any significant relation with monthly income and willingness to fly with the airline in future.
Monthly Income * I will recommend others to fly with Airline X	4.454	12	.974	Hypothesis is accepted. No any significant relation with monthly income and recommendations to others.
Monthly Income * Will you consider switching to other airlines in future	18.010	12	.115	Hypothesis is accepted. No any significant relation with monthly income and switching intentions to other airlines.
Monthly Income * I encourage my friends and relatives to fly with this airline	9.266	12	.680	Hypothesis is accepted. No any significant relation with monthly income and encouragement of my friends and relatives.



Monthly Income * I am likely to pay a higher price to use Airline X's services	6.920	12	.863	Hypothesis is accepted. No any significant relation with monthly income and likelihood to pay a high price.
Monthly Income * I have a strong preference towards Airline X	7.078	12	.852	Hypothesis is accepted. No any significant relation with monthly income and preference towards airline.
Monthly Income * I will keep patronizing with this airline regardless of everything being changed somewhat	3.996	12	.984	Hypothesis is accepted. No any significant relation with monthly income and patronizing with airline brand.
Monthly Income * I do not consider cost when using this airline	10.940	12	.534	Hypothesis is accepted. No any significant relation with monthly income and cost of airline.
Monthly Income * I am confident that service will be performed correctly by this airline	6.633	12	.881	Hypothesis is accepted. No any significant relation with monthly income and confidence in airline.
Monthly Income * To me, this airline would rank first among other airlines	8.611	12	.736	Hypothesis is accepted. No any significant relation with monthly income and ranking of airline.
Monthly Income * I think there is a similarity between me and the brand	4.779	12	.965	Hypothesis is accepted. No any significant relation with monthly income and similarity of airline brand



Monthly Income * The brand suits me	12.325	12	.420	Hypothesis is accepted. No any significant relation with monthly income and suitability of airline brand.
Monthly Income * I have found this airline better than others	12.463	12	.409	Hypothesis is accepted. No any significant relation with monthly income and favorability of airline brand.
Monthly Income * I feel confident in my purchase decision when I buy a ticket of this airline	6.143	12	.909	Hypothesis is accepted. No any significant relation with monthly income and confidence in purchase decision.
Monthly Income * Repeatedly, the operations of this airline is superior to other airlines	7.061	12	.854	Hypothesis is accepted. No any significant relation with monthly income and superiority of airline operations.
Monthly Income * I feel that my comment and suggestions are highly valued by this airline	13.000	12	.369	Hypothesis is accepted. No any significant relation with monthly income and valuation of suggestions and comments of airline.
Monthly Income * I like the performance and services of this airline	9.492	12	.660	Hypothesis is accepted. No any significant relation with monthly income and performance and services of airline.



Monthly Income * I am always delighted with this airline's service	11.195	12	.512	Hypothesis is accepted. No any significant relation with monthly income and delightment of airline services
Monthly Income * I have a positive attitude towards this airline	6.480	12	.890	Hypothesis is accepted. No any significant relation with monthly income and positive attitude towards airline
Monthly Income * I believe there is less risk that something will go wrong with this airline	12.081	12	.673	Hypothesis is accepted. No any significant relation with monthly income and possibility of something going wrong with airline.
Monthly Income * My relationship with this airline is important to me	8.622	12	.735	Hypothesis is accepted. No any significant relation with monthly income and relationship with airline
Monthly Income * The airline's employees go out of the way to serve me	9.923	12	.623	Hypothesis is accepted. No any significant relation with monthly income and service of airline employees.
Monthly Income * This airline is like a friend to me	19.789	12	.071	Hypothesis is rejected. Significant relation with monthly income and companionship of airline towards customers.

1.9 Findings from the Study

- There is significant difference between gender and switching to other airlines in future. Thus the majority 56 (26.67%)



respondents strongly agree as well as 51 (24.29%) respondents agree that they will encourage their friends and relatives to fly with this airline as compared to 72 (34.28%) respondents who disagree and 9 (4.29%) who strongly disagree that they will encourage their friends and relatives to fly with this airline.

- There is significant difference between gender and patronizing with the airline brand. Thus the majority 79 (37.62%) respondents strongly agree as well as 60 (28.57%) respondents agree that they will keep patronizing with airline X as compared to 36 (17.14%) respondents who disagree and 4 (1.90%) who strongly disagree that they will keep patronizing with airline X.
- There is significant difference between age and companionship of the airline. Majority of the respondents 94 (44.76%) strongly agree and 65 (30.95%) agree that the airline is like a friend to them as compared to only 23 (10.95%) respondents who disagree and 3 respondent who strongly disagree that the airline is like a friend to them.
- There is significant difference between education and travel with airline X in future. Majority of the respondents 64 (30.48%) strongly agree and 48 (22.86%) agree that they will consider airline X for future travel as compared to only 70 (33.33%) respondents who disagree and 7 respondents who strongly disagree that they will fly with airline X in future.
- There is significant difference between education and encouragement to friends and relatives. Majority of the respondents 56 (26.67%) strongly agree and 51 (24.29%) agree that they will encourage their friends and relatives to fly with other airlines in future as compared to only 72 (34.29%) respondents who disagree and 9 respondents who strongly



disagree that they will encourage their friends and relatives to fly with airline X in future.

- There is significant difference between education and risk that something will go wrong with the airline. Majority of the respondents 83 (39.52%) strongly agree and 61 (29.04%) agree that there is less risk that something will go wrong with the airline as compared to only 26 (12.38%) respondents who disagree and 3 (1.43%) respondents who strongly disagree that they have a positive attitude towards the airline.
 - There is significant difference between occupation and future travel. Majority of the respondents 64 (30.48%) strongly agree and 48 (22.86%) agree that they will travel with airline X in future as compared to only 70 (33.33%) respondents who disagree and 7 (3.33%) who strongly disagree that they will travel with airline X in future.
 - There is significant difference between occupation and high price to use airline services. Majority of the respondents 45 (21.43%) strongly agree and 40 (19.05%) agree that they are likely to pay a higher price to use the services of airline X in future as compared to only 77 (36.67%) respondents who disagree and 11 (5.24%) who strongly disagree that they are likely to pay a higher price to use the services of airline X in future.
 - There is significant difference between airline of choice and comparability of the airline brand. Thus, the majority 99 (4.71%) respondents strongly agree, 59 (2.81%) agree as compared to only 25 (11.90%) who disagree that they have found airline X better than others.
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- There is significant difference between airline of choice and confidence in airline decision. Thus, the majority 80 (38.09%) respondents strongly agree, 54 (25.72%) agree as compared to only 25 (11.90%) who disagree that they are confident in the purchases of airline X's tickets.
- There is significant difference between airline of choice and risk of something go wrong with the airline. Thus, the majority 83 (39.52%) respondents strongly agree, 61 (29.08%) agree as compared to only 26 (12.38%) who disagree that there is less risk that something will go wrong with the services of airline X.

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DIABETES MELLITUS: MOST PREVALENT METABOLIC DISORDER, CAUSES & ITS MANAGEMENT

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Introduction

Diabetes Mellitus is a chronic metabolism disorder that prevents the body to utilize glucose completely or partially. It is characterized by raised glucose concentration in the blood and alteration in carbohydrates, protein and fat metabolism. This is due to failure in the formation of hormone insulin or its liberation. Diabetes Mellitus is a group of metabolic diseases characterized by hyperglycemia resulting from defects in insulin secretion, insulin action or both (American Diabetes Association, 2009).

Diabetes Mellitus, one of the most common metabolic disorders affecting humankind, is known since ancient times. Discovery of insulin and several other breakthroughs have neither contributed to clearly understand it's a etiology nor to find its cure. Modern medicine manages to control hyperglycemia, which is the hallmark of the disease, and thereby provides relief from symptoms and prevents or delays the complications. Diabetes exists in all populations but with variations in prevalence between different ethnic groups and geographical areas. Having the current largest number of Diabetes, over 40 million, India has earned the dubious distinction of being termed the —Diabetes capital of the world.

Review of Literature

Prevalence of Diabetes Mellitus



According to the World Health Organization (WHO) projections, the prevalence of Diabetes is likely to increase by 35% by the year 2025 (Barker ,2006).

The total number of people with Diabetes is projected to rise from 171 million in 2000 to 366 million in 2030. The prevalence of Diabetes is higher in men than women, but there are more women with Diabetes than men. The urban population in developing countries is projected to double between 2000 and 2030. The most important demographic change to Diabetes prevalence across the world appears to be the increase in the proportion of people >65 years of age.

Types of Diabetes

Type 1 Diabetes

According to Cooke et al, (2008) Type 1 Diabetes (also called juvenile-onset Diabetes Mellitus and insulin-dependent Diabetes Mellitus) is caused by an absolute insulin deficiency, the result of a loss of the insulin-producing beta cells of the pancreas.

Type 1 Diabetes, which may develop at any age is a chronic autoimmune disease, characterized by irreversible autoimmune destruction of the insulin secreting β -cells of the islets in the pancreas. There is hepatic overproduction of glucose by glycogenolysis and gluconeogenesis and decreased cellular uptake of glucose from the circulation. Type 1 Diabetes requires life long treatment with exogenous insulin for survival (Mehra et al., 2007).

Type 1.5 Diabetes

Patients with Type 1.5 Diabetes have an autoimmune process similar to that found with Type 1 Diabetes. Though patients with Type 1.5 Diabetes possess genes such as HLA DR2, DQB1, etc., which appear to protect an individual from developing Diabetes, the beta-cells become so inflamed by repetitive environmental insults that they begin to



succumb to autoimmune destruction within the beta-cells. This immune-mediated destruction of beta-cells in Type 1.5 diabetics leads to insulin dependency more rapidly than in Type-2 Diabetes, but the more attenuated genetic and immune factors associated with Type 1.5 Diabetes as compared with Type 1 Diabetes lead to an older age at onset and a slower progression to insulin dependency (Unger, 2008).

Type 2 Diabetes

Most patients with this form of Diabetes are obese and obesity itself causes some degree of insulin resistance. This form of Diabetes frequently goes undiagnosed for many years (American Diabetes Association, 2010).

The familial predisposition to Type 2 Diabetes is mediated by both genetic and intrauterine environmental factors (Seshiah et al., 2008).

Type 2 Diabetes Mellitus then develops due to a defect in insulin secretion that prevents such secretion from matching the increased requirements imposed by the insulin-resistant state.

Causes of Diabetes

Genetic Susceptibility

Heredity plays an important part in determining who is likely to develop Diabetes. Genes are passed down from biological parent to child. Genes carry instructions for making proteins that are needed for the body's cells to function.

Autoimmune Destruction of Beta Cells

In Type 1 Diabetes, white blood cells called T cells attack and destroy beta cells. The process begins well before Diabetes symptoms appear and continues after diagnosis. Often, Type 1 Diabetes is not diagnosed until most beta cells have already been destroyed. At this point, a person needs daily insulin treatment to survive.



Environmental Factors

Environmental factors, such as foods, viruses, and toxins, may play a role in the development of Type 1 Diabetes, but the exact nature of their role has not been determined. Some theories suggest that environmental factors trigger the autoimmune destruction of beta cells in people with a genetic susceptibility to Diabetes.

Viruses and infections

A virus cannot cause Diabetes on its own, but people are sometimes diagnosed with Type 1 Diabetes during or after a viral infection, suggesting a link between the two. Also, the onset of Type 1 Diabetes occurs more frequently during the winter when viral infections are more common. Viruses possibly associated with Type 1 Diabetes include Coxsackievirus B, Cytomegalovirus, Adenovirus, Rubella, and Mumps. Scientists have described several ways these viruses may damage or destroy beta cells or possibly trigger an autoimmune response in susceptible people

Obesity and Physical Inactivity

An imbalance between caloric intake and physical activity can lead to obesity, which causes insulin resistance and is common in people with Type 2 Diabetes. Central obesity, in which a person has excess abdominal fat, is a major risk factor not only for insulin resistance and Type 2 Diabetes but also for heart and blood vessel disease, also called cardiovascular disease (CVD). This excess —belly fat produces hormones and other substances that can cause harmful, chronic effects in the body such as damage to blood vessels.

Insulin Resistance

Insulin resistance is a common condition in people who are overweight or obese, have excess abdominal fat, and are not physically active. Muscle, fat, and liver cells stop responding properly to insulin, forcing

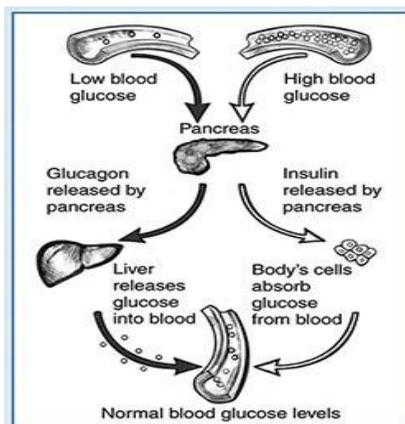
the pancreas to compensate by producing extra insulin. As long as beta cells are able to produce enough insulin, blood glucose levels stay in the normal range. But when insulin production falters

because of beta cell dysfunction, glucose levels rise, leading to pre Diabetes or Diabetes.

Abnormal Glucose Production by the Liver

In some people with Diabetes, an abnormal increase in glucose production by the liver also contributes to high blood glucose levels. Normally, the pancreas releases the hormone glucagon when blood glucose and insulin levels are low. Glucagon stimulates the liver to produce glucose and release it into the bloodstream. But when blood glucose and insulin levels are high after a meal, glucagon levels drop, and the liver stores excess glucose for later, when it is needed. For reasons not completely understood, in many people with Diabetes, glucagon levels stay higher than needed. High glucagon levels cause the liver to produce unneeded glucose, which contributes to high blood glucose levels. Metformin, the most commonly used drug to treat Type 2 Diabetes, reduces glucose production by the liver.

Figure.1: Insulin and glucagon help regulate blood glucose level





DIAGNOSTIC APPROACHES FOR DIABETES

Diagnosis of Diabetes at an earlier stage is important in preventing Diabetes related complications. The tests commonly used to diagnose Diabetes are fasting blood glucose, postprandial blood glucose and HbA1c. Recent clinical studies have shown that acute glucose swings in addition to chronic hyperglycemia can trigger oxidative stress mechanisms in Type 2 Diabetes, demonstrating the importance for therapeutic interventions during acute and sustained hyperglycemic episodes (Monnier et al., 2006).

Table .1 Diabetes Range

		Glucose Concentration, mmol/litre (mg/dL)			
		Whole Blood		Plasma	
		Venous	Capillary	Venous	Capillary
		Diabetes Mellitus			
Fasting	mmol/L	≥ 6.7	≥ 6.7	≥ 7.8	≥ 7.8
Value	mg/Dl	≥ 120	≥ 120	≥ 140	≥ 140
2 hours after	mmol/L	≥ 10.0	≥ 11.1	≥ 11.1	≥ 12.2
glucose load	mg/dL	≥180	≥ 200	≥ 200	≥ 220
Impaired glucose toletance					
Fasting	mmol/L	< 6.7	< 6.7	< 7.8	< 7.8
Value	mg/dL	< 120	< 120	< 140	< 140
2 hours after	mmol/L	6.7 – 10.0	7.8 – 11.1	7.8 – 11.1	8.9 – 12.2
glucose load	mg/dL	120-180	140 - 200	140 - 200	160 – 220



TREATMENT/MANAGEMENT OF DIABETES

In severe cases, the life of the recently diagnosed diabetic depends on regular injections of insulin, a regular pattern of meals, and a suitably adjusted life-style. At the other extreme, a weight-reducing diet may suffice to correct the metabolic disturbance completely. Diabetes may be discovered in many ways-by a routine medical examination during pregnancy; when a patient presents with weight loss and slowing of growth; or by the sudden emergence of ketoacidotic coma.

The range of glucose concentrations aimed for in treatment is similar to normal and falls within the following limits: 3.3-5.6 mmol glucose/liter (60-100 mg/dl) of venous whole blood under fasting conditions and not exceeding 10 mmol/liter (180 mg/dl) after meals; blood glucose concentrations should not be allowed to fall below 3 mmol/liter (55 mg/dl).

Diet and exercise

Primary prevention is the main aim at preventing Diabetes from occurring in susceptible individuals or in general population. Regular physical activity is an important component of the prevention and management of Type 2 Diabetes Mellitus. Prospective cohort studies have shown that increased physical activity, independently of other risk factors, has a protective effect against the development of Type 2 Diabetes (Krolewski.et.al.) A prospective study of exercise and incidence of Diabetes among U.S. male physicians (J Am Med Assoc 1992). These epidemiological prospective studies demonstrated that various levels of regular physical activity one to several times a week were associated with a decrease incidence of the disease at long-term in both men and women of different age groups.



GLYCAEMIC INDEX

The **Glycaemic Index** (GI) is a measure of how quickly Blood glucose levels (i.e., blood sugar) rise after eating a particular type of food. Glucose (the defining standard) has a glycemic index of 100.

Table 2. Glycaemic Index of Foods

Classification	GI Range	Examples		
Low GI	55 or less	Almond, kidney beans, wheat, rice, oats, barley, most vegetables, etc.		
Medium GI	56-69	Unpeeled boiled potato, banana, raisins, etc.		
High GI	70 or more	White bread, cornflakes, potato, etc.		

DIET CHART

Meal/Time	Menu	Quantity
Early Morning Breakfast	Tea	1 Cup
	Biscuit (High Fibre)	2 No.
	Milk	1 Glass
	Porridge (Oats/Dalia)/Wheat Bread	1 Bowl/2 No.
	Egg/Sprouts/Tofu/Paneer	1 No./30gm
Mid Morning Lunch	Fruits (Apple / Papaya / Gauva / Pear etc.)	100-150 gms
	Soup/ Lemon Water/Buttermilk	1 Bowl/1 Glass
	Salad	1 Plate
	Roti/Rice(without starch)	2-3 Nos./1 ½ Katori
	Dal/Non-Veg/ Paneer	1 Katori
	Seasonal Vegetable	1 Katori
	Curd/Sweet Dish(without sugar)	1 Katori
	Oil	5ml/ 1tsp
Evening Tea	Tea	1 Cup
	Biscuit/Roasted	2 No. / 20gm



	Chana/Murmura/Popcorn (Without Butter)		
	Pre dinner fruit/Besan	1 no./1Bowl	
	Cheela/Dhokla/Bhelpuri/Soup		
Pre Dinner	Fruit/Besan Cheela/ Dhokla/ Bhelpuri/Soup		
Dinner	Salad	1	Plate
	Roti/Rice(without starch)	2-3 Nos./1 ½	Katori
	Dal/Non-Veg/ Paneer	1	Katori
	Seasonal Vegetable	1	Katori
	Curd/Sweet Dish(without sugar)	1	Katori
	Oil	5ml/ 1tsp	
Post Dinner	Milk	1	Cup

DIETARY TIPS FOR DIABETES

- **Make wise food choices:** The best tip for a diabetes diet focuses on choosing healthy food options instead of foods full of fats, carbohydrates, starch, sugar, and so on. For example, eat whole grain breads and cereals instead of refined flour.
- **Limit sweets:** Substituting sugary foods with other healthy alternatives such as fruit instead of ice-cream or pudding ranks second among our diabetes diet tips.
- **Limit consumption of alcohol:** Alcoholic drinks have no nutritional value, but contain a lot of calories.
- **Eat less fat:** Instead of butter or vegetable oils, use olive oil for cooking. Avoid fried foods; eat baked or grilled food instead.
- **Eat plenty of whole grain foods, fruits, and vegetables:** Include greater amount of fruits and vegetables in your diet, as these provide vitamins, minerals, and fiber.



- **Eat often:** Do not starve yourself or remain hungry, as this will encourage you to overeat when you do eat. This diet tip for diabetes will prevent hypoglycemia, the risky condition where sugar level in the blood falls below the normal range.
- **Carefully control your intake of carbohydrates:** Starches, fruits, and milk groups contain the highest amount of carbohydrates. Vegetables are low in carbohydrates.
- **Eat a set amount of food:** Do not overeat, nor starve yourself. Make use of measuring cups and spoons to ensure that your food servings are the right size.
- **Stick to regular meal times:** The best tip for a diabetes diet is to eat at regular intervals. Regular eating habits help your body regulate blood sugar levels.
- **Avoid temptation:** Keep your kitchen free of enticing food items.

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TRIBAL POPULATION IN THE DISTRICT OF VISAKHAPATNAM

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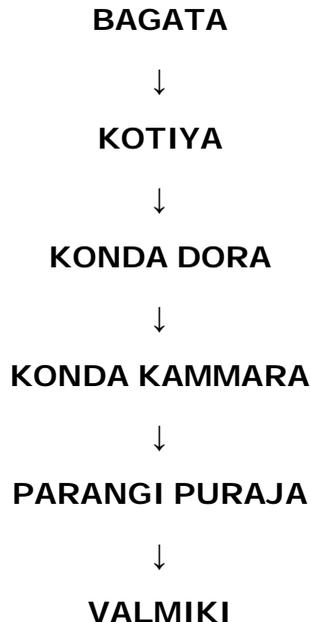
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The tribal population in the district of Visakhapatnam is distributed in the Agency area of eleven tribal mandals like Dumbriguda, Anantagiri, Araku, Paderu, Munchingput, Pedabylu, G.Madugula, Chintapalli, G.K. Veedhi, Hukumpeta and Koyyuru. Visakha Agency area is the part Eastern ghats. For the present study the tribal settlements like Guntaseema, Doraguda, Sariyavalasa, Soburu, Jogiputt, Gangavalasa, Guntagannayla, Rangilisingi village were covered. These villages are Visakha Agency are is the part of Eastern ghats.

Guntaseema :

Village Guntaseema has six tribal groups namely the Bhagatha, Kotiy, Kondadora, Kammara, Parangi Puraja, Valmiki and one non tribe Sondi (Back word cast). The details of tribe wise number of households and their respective population are presented in Guntaseema village. The Kotiya are numerically dominant in this village having 85 households are constructed in this village part of pie veedhi and highest elevation on the village and the other tribal groups occupy lower elevation. The Bagata are only 2 households in kotiya street. Kondadora are numerically 12 house holds, Kammara 8 households, Parangi Puraja are numerically 35 households are constructed in this village, Valmiki are numerically 55household are

present in this village. A brief sketch of different tribal living in the village is presented here. All the tribes agree that the Bagatha and Kotiya occupy the highest position, followed by the Valmiki occupy the lowest rung of the local hierarchy as presented below :



The Bagata :

According to many reports the Bagata are said to be serving under the Golugonda and other local Zamindararies with bhakti and hence the name of the tribe is derived from that as Bagata. Thurston (1909) explained that the Bagatas originated from the plains. However Muni Ratnam Reddy demonstrates that the Bagatas are natives of this region. A majority of Muttadars and pettamdars in the Visakha patanam Agency were Bagatas under the Zamindari system. Bagathas own a large number of fertile lands and became relatively riches being



the representatives of the zamindars. Their record only two households with 8 individuals and own portion of this village land. Bagatas speak Dhyshya, Odissa, Telugu which others also speak to them.

The Kotiya :

In this village Kotiya also known as Rana jaathi, Rithulu. According to some peoples are both are equal and there having realations in their between Bagatha and Kotiya. Kotiya own a large number of fertile lands and become relatively riches being the representatives. Their record of military service, good economic position, numerical strength and political power can be attributed to their highest position in the tribal hierarchy in this village, many villages still have Bagatas as their village headman, as Guntaseema has a Kotiya headman, and a number of Kotiyas have taken up modern elected political offices. In Guntaseema , the Kotiya represented by 85 households with 510 individuals and own major portion of the village land. Kotiyas speak Telugu, Odiss, Daysiya which other tribals also speak to them.

Kotiyas are the upper tribe in this village. Guntaseema village these Kotiya people have their surnames as Pangi, Gollori, Korra, Thangula, Killo, Buridi, and Giddangi. In this village these Kotiyas had more lands than other tribes. Village headman Naidu and Pujari are from this tribe only. These Kotiya people makes relations with Bagata and Kotiya tribes only. They accept food and water from the Bagata and Sondi, but do not accept the same from the Konda Dora, Kammara, Parangi Puraja, Valmiki. Few educated persons are there with in this tribe. Kotiyas will maintain a strong family customs and tradition and not only that Jathimi cyber tradition will be followed by these people very strictly. The Burial ground of Kotiyas also larger place than others.



Sondis (Non-Tribe)

In this village six tribals and one Non tribe also present that is sondes. These peoples ancestors migrated from Odissa. These people are doing raw-alcohol (Gunumbha) business. In this village first Sarpanch came from sondies family Bangarubandi Ramarao is first. Those who are addicted by the alcohol, used to put their lands, original documents to Sondis for that gudumbha and some alcoholic material purchasing purpose in anesthetic condition, without knowing the stage what they were in, so sondies become the total landlords dor these villages. Since now also the kotiya lands Original documents are with sondies.

Sonnies are 8 families in Guntaseema there surnames are bangarubandi and Maamidi in sondi family. Ththe Bangarubandi Ramarao while the time of kings ruling the area the used to collects the landtax, behalf of Government and paying. After the collapsation of kings ruling Britishers come to India. At that time Bangarubandi Ramarao told to britishers that, which villages he used to collect land tax are belongs to him only. And the made registration of all this lands and properties of those villages. So the properties and lands are with the name of Bangarubandi Ramarao only.

Sondies are speak Odissi, Telugu and Dhyssiya, which other tribals also speak to them. Due to Sondies people are belongs to Backward caste dont getting admission into welfare schools become difficuly. These people will dine with kotiya and Bagata tribal families.

Konda Dora

Konda Dora also known as Kondi Dora,they are concentrated in the states of Andhra Pradesh and Orissa. Konda means hill and Dora means ruler. The population of the kondadora in Andhra Pradesh is 1,39,238 according to the 1981census. In this state they are concentrated in the Visakhapatanam, Vijayanagaram, Srikakulam and



East Godavari districts. They willing that they are the descendants of the pandavas of the Mahabharata and call themselves Pandavs Rajas or Pandava Doras. In konda dora mythology, they refer to themselves as Kubing. Their language is Konda, which belongs to the Dravidian family of languages. Many of them have forgotten their own dialect and have adopted Telugu as their mother tongue.

The have several exogamous clans (vamsam) some of which are Naga (cobra), Surya (sun), Peyya (cow), Biddakar etc. Their surnames are Korra, Pangi, Gola, Majji, Kasabooee etc. They are patrilocal and patriarchal and their families are of the nuclear type. They generally acquire spouses through negotiation but those living in nterior villages often resort to capture and elopement. Their were dependent on shifting cultivation (Kondapodu) for their livelihood. But now, they have taken up settled agriculture like Coffe, Paddy, papper, termic . They also collect brooms, tamarind etc.

The Konda Dora claim that the Bagata, Kotiya are supereior to them while the Kammara, Parangi Puraja, and Valmiki are inferior to them in the local social hierarchy. They accept food and water from the Bagata and Kotiya but do not accept the same from the Kammara, Parangi Puraja and Valmiki.

The Konda Kammara

They are the blacksmiths of the hills (Kammara means black smiths). They also practice carpentry and also known as Ojulu in other parts of Visakhapatanam agency. They supply agricultural implements to other tribes and receive payment in kind annually. They also sing songs st different festivals. There are 8 families in Guntaseema having 36 persons. Not having any land property in this village depending on the kammara work, Konda pani and labour work also. Kammaras speak Kammara language and also Odissa, Telugu and Dhysiya which other tribal also speak to them.



In this village have a one single Kammara family that sur name is pangi. Pangi clans is Eagle. Their also living in separate steet in this village.

Parangi Puraja

The Puraja occupy the second lowest position among the tribes in this village. In the Visakhapatanam agency three types of Puraja tribes are present there are Parangi Puraja, Pinga Puraja and Konda puraja. In this village Parangi Puraja 45 households are present. These are migrate from anther places in Visakhapatanam agencyto Guntaseema for labour work then their were constructed on the elevation from road separated the streem. In Guntaseema village having a single cement road that in Parangi Puraja leaving road. Why because the Indian constitution according to Parangi Puraja has conected to PTG (Primitive Tribe Group)

In this village Parangi Puraja has don't have any economical property, land property, political power, numerical strength and education. Nobody has graduate in the tribe in the Guntaseema, in this tribe higher education persion is Pangi Suribabu has did intermediate. The Pangi Purjas speak Odissa, Dhayssiya and least numbers of peoples speak telugu, somebody has do not speak telugu. The have sur names in Parangi Puraja Pangi, Korra, Vanthala, Buridi, gollori . The Goverment of Andhra Pradesh recognised to this tribe PTG so in the ration depot giving to 35k.g rice to every Parangi Puraja family ration card. Their house arranged orderly in separate street backside of the Guntaseema High school.

Valmiki

The Valmiki occupy the lowest position among the trabes of Visakhapatanam and some reports express that they are treated on par with the untouchables in the caste system. Thurston (1909) mentions that they are the Telugu Mala emigrate from the plains but later



investitions show that they constitute an integral part of the tribal society. No other tribal group accepts cooked food from the Valmiki and they are traditionally leather workers, musicians and menial of the bills. The Valmiki have better literacy rate i.e. 12.5% among the tribes of Andhra Pradesh. Other tribes refer to the Valmiki as intelligent and cunning. There are 55 Valmiki households in Guntaseema.

In this village among all tribals are refer to Valmiki tribe is cunning tribe. Valmikis occupy the highest elevation on the main stream less than Kotiya and the other tribal groups occupy lower elevation, the Valmiki almost living by the stream, indicating a distinct pattern in the special differentiation of the households. Some Valmiki households are also present at the sondi signifying their interest in business.

Not only in this village almost all villages are Valmiki tribes are role play Barika and Chalanu and Thalari positions in the villages. There are eat animal meat and do the sacrifices in villages so they are refer to lowest position among the all tribals. Valmikis speak separate dialect in their internal houses in Kupiya language they are called mothertongue (Thalli Bhasha) talking in only Valmiki families.

In this village Valmiki surnames are Pangji, Sarabha, Chetty, Gumma, Kaangu, Moosha, Gujjala, Aarji, Dheeliya. Their record of good economic position, numerical strength, education and political power can be attributed to their highest position in the tribal hierarchy.

Dress pattern:

The Kotia women dress in saree in the traditional way i.e. "Addukattu" along with a blouse stitched. The Didoyi men wear only a loin cloth and cover the shoulders with a towel. The women use ornaments of silver and aluminum. They also wear earrings and hair pins. The young males are mostly wearing shirts, T-shirts, pants and



jeans, but the traditional way of dressing i.e. "*Panche* and *Lalchi*" is seen among old people.

Food habits:

The Kotia depend on seasonal fruits, vegetables, cultivated crops and locally available food items. They depend on the prepared gruel made out of ragi called as "*Thopa*" as morning meal. The food intake is twice a day. Locally available food grains are consumed along with curries. The staple food of the Kotia is ragi and sama(*Panicum Miliare*). They are meat eaters who eat beef and pork. They consume all varieties of pulses, vegetables and seasonal fruits.

Traditional drinks:

In this area we can observe various alcoholic drinks extracted from various trees and self prepared in their households. They are "*Geeluga kallu*" called as "*solop*" in their language which is extracted from a tree called as "*Caryota urens*". They prepare a special drink called as "sara" which is highly distilled liquor and they call it as "*modh*" in their language. Another alcoholic drink called *maddi kallu* "is prepared from ragi it is called as "pendom" in their language. These drinks are seasonally extracted or occasionally prepared. They do not use milk and milk products. Men and women smoke beedi and cigars. They smoke *dolla* (loose tobacco). The old are addicted to *lambi* (reverse smoking).

Flora and fauna:

This land is fully covered with green carpet of various plantations, crops and greeneries. Mainly here we can find paddy, ragi, maize, dals, mango, tamarind, guava, jack fruit, silver oak, pine oak, peepal, bamboo. And vegetables like cabbage, carrot, beetroot, tomato, potato, capsicum, onions, drum sticks, sweet potato, banana, beans, lady's fingers, and pumpkin and bottle guards. Firstly we can observe



the main cash crops like coffee, silver trees, sugar cane, bamboo are cultivated. The Kotia domesticate various animals such as cows, buffaloes, sheep, goats, birds like "guvva", fowl and several pets like dogs, parrots, mynahs etc.,

Living styles:

The village is divided into various streets as we find special segregation of households based on the ethnic groups. Each house has its own boundary which includes a small garden, place for cattle and a small place for placing the fire wood. Many houses have television, tape recorders and various other electrical gadgets.

Forest produces:

This region is highly rich in forest products like honey, tamarind, bamboo, fire wood, groceries, and mushrooms are gathered, consumed and even sold. " *Bautina valilia*" called as " *Adda* " leaves are collected and used in the preparation of " *Dhonna*" which is a leaf bowl for eating food. This climber gives seeds called as " *Siyadi* " which are consumed and also sold . Bamboo tender parts called as " *Kordi*" or "veduru *kommulu* "are gathered for consumption. The bamboo sticks are split up to prepare special baskets used for storing their grains and articles. These baskets are sold in the shandies.

Traditional dances:

Here in this area the Kotia perform folk dance called as " *Dimsa*" which is very popular in the agency areas of Visakhapatnam district of Andhra Pradesh. Young and old, people of every tribal community participate in this community folk dance gathering. Being the significant recreational activities of tribals, they spend countless hours of dancing in the nights. Dhimsa brings relaxation and gaiety to the tribal communities who otherwise face strenuous challenges of rigorous habitat.



This dance is generally performed on chaitra festival or “Etukala panduga”, marriage celebrations and on any festive occasions. The men and women gorgeously adorn themselves with the traditional ornaments and new clothes. They form into a closely knitted long line by holding the hands of each other and dance in tune with music played by men. They move swiftly in serpents coil and cry “hey and hooi”.

Traditional calendar:

January	- Pushmass
February	- Magmass
March	- Pogun
April	- Choit
May	- Boisag
June	- Landijet
July	- Ashad
August	- Bandapon
September	-- Vasa
October	-- Dasara
November	- Diyali
December	-- Pond

Religion:

Kotia have their own tribal religion. They are neither aware nor claim to belong to any existing religions. However they are aware of Hindu deities such as Simchalam appanna , purijaganath, etc.. The tribal deities such as Peddademudu, sanku demudu , etc .., are worshipped for the overall welfare of the people, animals and crops . These deities are worshipped during field festivals. Kotia believe that supernatural power controls all activities on the earth, and hence worship both living and inanimate objects in nature such as trees, hills, streams, stones, etc.. They often offered food to dead ancestral spirits and soul during death ceremonies and some festivals. They also believe



that god punishes the people for the sins they have committed. They believe in soul (animisim) and evil spirits.

Family and kinship:

Father is the head of the family and the majority are nuclear families consisting of father, mother and their children. Kotia is of patrilateral and patriarchy society. After marriage, couple live with parents for a couple of years and then they establish a separate family by erecting a house of their own. Avoidance relationship is not observed among Kotia. While joking relationship is observed between cross cousins, sister- in-law and brother – in –law, etc... Also the relationship is observed between young men and a woman belongs to marriageable clans.

Life cycle ceremonies:

Birth:

The delivery is attended by an experienced elderly lady in the street. They observe post natal pollution for five to eleven days. After the pollution period the new born child and mother are given sacred bath and dressed with new clothes. The villages will be served with a feast.

Naming:

The name giving ceremony will be performed on the same day when the baby is given sacred bath. Name will be given by the guru or the priest. They name the child based on the day he/she is born. Giving ancestor's name is not observed.

Menarche:

The menarche is observed by confining the girl at a secluded place in the house. They observe post puberty pollution for five to seven days. On the last day the guru or the priest performs ceremony in front



of the house by planting a banana plant. The girls take the purificatory bath in the stream and wear new clothes. After the ceremony the family hosts a feast to the relatives and the people of their village. The menarche is considered as one of the important event and usually the tribes celebrate the occasion especially with fun and joy.

Marriage:

Majority of marriages are through negotiation. The incidences of marriage by elopement are negligible. In case of a married woman is eloped the man has to pay compensation to the first husband. The marriage process will be initiated by sending some elderly persons to girl's house. They inform the girl's parents about the desire of boy or boy's parents for an alliance with their daughter. After taking the consent of the girl and her parents, they consult the guru or priest who fixes a suitable day and time for the marriage. The marriage will be held at boy's house. All the relatives of bride and her parents are invited to the boy's house. The bride's party reaches the out skirts of the groom's village and wait on the other side of the stream to be welcomed by the bridegroom's parents. In front of the groom's house, marriage ceremony will be performed by guru or priest. The boy or his parents will provide all the requirements for the marriage and cash will be presented to guru or priest. The marriage ceremony will be followed by a non – vegetarian feast hosted by the groom's parents.

Divorce:

The divorce is permissible among Kotia people. Either of the spouses can demand divorce. The village council consisting of head man other elders sanction divorce after probing proper reasons such as mal adjustment, adultery, sterility, etc.. In case if the wife deserts her husband, her parents should pay back the bride price received from the boy. If she gets remarried the former husband collects the money from



proposed husband. This rule applies to eloped cases also. The children of divorced couple will stay back with father.

Death:

After the death of an individual, the news is informed to the close relatives through messengers. The corpse is given bath and carried to burial ground by relatives on a stretcher made of bamboo sticks. The relatives and villagers bow down before corpse and pray for the peace to departed soul. Usually, the adults are cremated and children are buried. However, during in rainy season even the adults are also buried. The pollution is observed for nine to twenty one days. On the last day, ceremonies of last rites are performed by guru or priest. A non – vegetarian feast is served to all the relatives. Sometimes the ceremony is performed after few days or one or two years after the death depending on the economic status of the family.

Political organization:

Traditional village council exists headed by Naidu with a committee of members representing elderly people and head man of each tribe inhabiting in the village. Naidu is the leader of the village assisted by a messenger (Bariki) and village announcers (salan). This council solves the inter tribal, inter village and individual disputes. The council has right to impose fine, usually in the form of cash or few litres of wine on the guilty. This finds either in the form of cash or kind is shared by all those elders attending the meeting. The salan and bariki assists naidu to convene the assembly of people and also for collection of money for common rituals and festivals. The salan helps villagers for conveying messages. The gurus perform the role of priest and fix the auspicious dates for various ceremonies and rituals. He gives country medicines to various diseases, and sometimes performs the role of witch doctor and drive away the evil spirits from individuals and the village.



The villagers give grains and other agriculture produce to guru or priest, bariki, salan on different occasions.

In addition to these traditional bodies, constitutionally elected bodies such as village panchayat, mandal prajaparishad, etc.. are also existing in their society. these bodies over see the overall development of the area and implementation of welfare schemes.

Economy:

Kotia cultivates rice, jowar, ragi, maize, etc.. and also few vegetables in their fields. The major occupation is agriculture while minor occupation include collection of forest produce like leaves for meal plates, fiber, hill brooms, honey, etc.. They carry these produce to sandies and sell them in weekly markets or to Girigan co-operative corporation (GCC) or private merchants, and buy essential commodities like kerosene, cooking oil, clothes, etc..

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INCREASING SUICIDE RATE AMONG YOUNG INDIANS AND PREVENTIVE STRATEGIES

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India has one of the world's largest youth populations. Every third person in Indian city today is a youth. By 2020, India is set to become the world's youngest country with 64 per cent of its population in the working age group while the West, Japan and even China aging. On one hand India is looking this century with lots of hope and optimism and even dreaming big to become superpower basing on its young population, but on the other hand, these dreams are getting tested by the same youth by committing suicide at the early age. The younger generations are highly vulnerable to the day to day challenges of modern life and succumb to the pressure of highly competitive environment and modern life style. Surprisingly suicide is the second leading cause of death in young people of both genders. Increasing suicide rate among young Indians posing real threat to the nation.

Over 1, 15,000 people commit suicides in India every year on an average. The number of suicides in the past decade has recorded an increase of 21.6 per cent, said a government report¹. According to the National Crime Record Bureau report,² the number of suicides increased to 1, 34,799 in 2013 from 1, 10,851 in 2003. NCRB³ data reveals, nearly 34 persons out of 100 who ended their own lives fell in the age-group 15-29 years. The total number of suicides in the age

¹ Ministry of Statistics and Programme Implementation's (MoSPI) report entitled Statistical Year Book of India 2013.

² Accidental Deaths and Suicides in India 2013.

³ National Crimes Records Bureau.



group 15-29 years increased from 38,910 in 2001 to 46,635 in 2012, demonstrating a jump of 19.9 per cent.

The highest incidents of 16,622 suicides were reported from Maharashtra in 2013, followed by 16,601 suicides in Tamil Nadu. Both account for 12.3 per cent each of the total suicides. Andhra Pradesh (14,607 suicides), West Bengal (13,055 suicides) and Karnataka (11,266 suicides) accounted for respectively 10.8 per cent, 9.7 per cent and 8.4 per cent of the total suicides reported in the country, said the NCRB report. These five states together accounted for 53.5 per cent of the total suicides reported in the country. The remaining 46.5 per cent suicides were reported from the rest of the 23 states and seven union territories.

States with higher percentage share of suicide during 2011 to 2013			
S.No	Year		
	2011	2012	2013
1	West Bengal(12.2)	Tamil Nadu(14.0)	Maharashtra(12.3)
2	Maharashtra(11.8)	Maharashtra(13.4)	Tamil Nadu(12.3)
3	Tamil Nadu(11.8)	Andhra Pradesh(11.8)	Andhra Pradesh(10.8)
4	Andhra Pradesh(11.1)	Karnataka(10.6)	West Bengal(9.7)
5	Karnataka(9.3)	Madhya Pradesh(8.1)	Karnataka(8.4)

Source: The Register General of India

Among the 53 mega cities, Chennai tops the list by witnessing 2,450 suicide cases in 2013, followed by Bangalore 2,033, Delhi 1,753 and Mumbai 1,322 cases. These four metro cities have contributed more than 35 per cent of the total suicides reported from 53 cities⁴.

⁴ NCRB data 2013



The National Crime Bureau report attributed family problems and illness to be the main reasons for committing suicides. The two reasons account for 24 per cent and 19.6 per cent suicides out of the total suicides. Unemployment, debt and drug abuse are the other factors that compel a person to take their own life.

It is pointed out that the number of married men (64,098) committing suicide in 2012 was double the married women (29,491). The incidence of married men committing suicide mainly due to family stress is on the rise. Studies conducted by the CRISP⁵ said the married men committed suicide mainly due to alleged misuse of Section 498 (A) of the Indian Penal Code (IPC) and the Domestic Violence Act of 2005. Section 498 (A) only deals with harassed married woman. When a married man faces the domestic violence in the form of verbal abuse, mental abuse and economical abuse, there is no provision in law to seek justice.

World Health Organization data reveals that rate of suicide incidence is higher than NCRB data.

WHO estimates that nearly 900 000 people worldwide die from suicide every year, including about 200 000 in China, 170 000 in India, and 140 000 in high-income countries⁶. The Government of India primarily relies on its National Crime Records Bureau (NCRB) for national estimates, and these report fewer suicide deaths than is estimated by WHO. The reliability of the NCRB data is questionable because they are based on police reports and suicide is still a crime in India, which might affect the veracity of reporting.

Most public attention in India has focused on suicide in farmers.⁷ The age-specific and sex-specific death totals, rates, and risks, as well as the mode of suicide in India's diverse socio demographic populations, are

⁵ Children's Rights Initiative for Shared parenting.

⁶ WHO. The global burden of disease: 2004 update. Geneva: World Health Organization, 2008.

⁷ Mishra S. Farmers suicide in Maharashtra. Economic and Political Weekly 2006; 41:1538-45.



not well understood. Reliable quantification of the suicide deaths is timely because the Government of India's 12th Year Plan for 2012–17 includes strategies to tackle chronic disease and mental health⁸.

Incidence of Suicide, Growth of population and Rate of Suicides During 2009 to 2013.

S.No	Year	Total Number of Suicide	Estimated Mid-year population(in Lakhs)	Rate of Suicides**
1	2009	1,27,151	11694.4	10.9
2	2010	1,34,599	11857.6	11.4
3	2011	1,35,585	12101.9	11.2
4	2012	1,35,445	12133.7	11.2
5	2013	1,34,799	12287.9	11.0

Source: The Register General of India

**Rate of Suicide= Incidence of Suicide for one lakh population

Law in India

Section 309 of Indian Penal code lays down that whoever attempts to commit suicide and does any act towards the commission of such offence, shall be punished with simple imprisonment for a term which may exceed to one year.

There have been several high court and Supreme Court judgments that dealt with section 309. Whether a person has a freedom to take his own life? The question whether the right to die is included in Art. 21⁹ of the Constitution came for first time before the Bombay High Court in *State*

⁸ Patel V, Chatterji S, Chisholm D, et al. Chronic diseases and injuries in India. *Lancet* 2011; 377:413–28.

⁹ No person shall be deprived of his life or personal liberty except according to procedure established by law.



of *Maharashtra v. Maruty Sripati Dubal*¹⁰. The Bombay High Court held that the right to life guaranteed by Art. 21 includes the right to live as well as the right to end one's own life if one so desires, and consequently the court struck down section 309, of IPC. The judges felt that the desire to die is not unnatural but merely abnormal and uncommon.

Similarly, in 1985 Delhi High Court in *State v. Sanjaya Kumar*,¹¹ while acquitting a young boy who attempted to commit suicide strongly advocated for deletion of section 309, IPC from the statute book and said that the continuance of sec 309 of the Indian Penal Code is an anachronism unworthy of a human society like ours.

However, in *Chenna Jagdishwar v.State of A.P.*¹², the Andhra Pradesh High Court held that the right to die is not a fundamental right within the meaning of Art. 21 and hence, section 309 of IPC is not unconstitutional.

In 1994 a Division Bench of Supreme Court comprising of Justices R.M. Sahai and B.L. Hansaria in *P.Rathinam v. Union of India*¹³, while allowing the petitioners upheld the verdict given by the Bombay and Delhi High Courts and overruled Andhra ruling. The two petitioners assailed the validity of Sec 309 of the IPC by contending that the same is violative of Articles 14 and 21 of the Constitution. The right to live in Art.21 of the Constitution includes the right not to live, i.e., right to die or to terminate one's life.

However, in 1996 a five member Constitutional Bench of the Apex court comprising of justices J.S. Verma, G.N.Ray, N.P. Singh, Faizuddin and G.T. Nanawati in *Gyan Kaur v. Union of India*¹⁴,

¹⁰ 1987 Cr LJ 743(Bom)

¹¹ 1985 Cr LJ 931

¹² 1988 Cr LJ 549.

¹³ (1994)3 SCC 394.

¹⁴ (1996)2 SCC 648



overruled its decision of 1994 in *P.Rathinam v. Union of India*. The Apex court said that as regards section 309, IPC is concerned the 'right to life' guaranteed under Art 21 of the Indian Constitution did not include the 'right to die' or 'right to be killed' and therefore attempt to commit suicide under section 309, IPC is within the constitutional parameters and are not void or *ultra vires*. The 'right to die with human dignity' cannot be construed to include within its ambit 'the right to terminate natural life', at least before the natural process of certain death. The 'right to die', if any, is inherently inconsistent with the 'right to life', as is death with life.

The Law Commission has also recommended the scrapping of section 309. In 2008 it suggested that the law be done away with following in the footsteps of North America and Europe. Earlier too, in its 42nd report submitted in 1971, it recommended the repeal of section 309. The Indian Penal Code (Amendment) Bill, 1978, passed by the Rajya Sabha, did, in fact, provide for the deletion of the section. But before it could be passed by the Lok Sabha, Parliament was dissolved and the bill lapsed.

However, it is also a fact that the conviction rate under section 309 is negligible in India, there's almost no official all-India data on this. There may be a handful of section 309 cases in India and they are hardly taken up to the prosecution stage.

"The apex court recently opined that, time has come to delete the section 309 by the Parliament as it has become anachronistic. A person attempts suicide in depression, and hence he needs help, rather than punishment."

Recently elected NDA government is also seriously planning to decriminalize attempt to commit suicide and effacing Section 309 of IPC.



Methods adopted for committing suicides

According to *Lancet* study (2012) about half of suicide deaths were due to poisoning (mainly ingestion of pesticides). However, the Accidental Deaths & Suicides in India 2012 disclosed that in 37 per cent of suicide death cases during 2012, hanging was the predominant method chosen; poisoning by consumption of insecticides (29.5 percent) came next. The other methods adopted across all ages and genders are: fire or self-immolation (8.4 per cent), drowning (5.8 per cent), coming under running vehicles or train (3.1 per cent) etc.

Causes for Suicide

Love affairs, failure in examination, family problems, illness, poverty, unemployment and passion related depression were among the major reasons for suicides, a new trend seemed to be emerging out of ideology causes/hero worshipping.

Through rapid urbanization, India has witnessed a change in family structure, with people moving out of joint families into nuclear families. Although the effect of this change has not been studied in detail, some experts believe this has impacted India's suicide rate.

Although social networks like face book, twitter etc facilitates social interaction and sharing, many have found that it often leads to unexpected alienation. Face to face human interaction has largely been replaced with interaction on social networks. A recent study from the University of Michigan showed online social media, rather than making us feel connected, contributes to loneliness and reduces overall life-satisfaction¹⁵.

Disconnect between the virtual world and real world is what causes the change in the behavioral pattern among net addicts. The major problem

¹⁵ Ethan Kross. Face book Use Predicts Declines in Subjective Well-Being in Young Adults. DOI: 10.1371/journal.pone.0069841



is virtual 'friendships' don't match up to real expectations, which is causing depression and loneliness. At the time of real need no one is really available to these young generations to share, interact, support or guide which creating so much of stress and ultimately leading them to panic and take the adverse decision.

There is a lack of specialist mental health experts and psychiatric clinics in rural India, where more suicides occur. According to The Lancet report, suicide rates in rural India are about twice as high as in urban areas. The problem is exacerbated by the easy availability of pesticides and a lack of emergency care, the report noted. Clinics addressing mental health issues like depression have opened in cities in recent years. But there is a stigma in getting psychiatric treatment, doctors and experts say.

According to Dr. Roy Abraham, former president of the Indian Psychiatric Society, we can only guess broadly at what might be behind it. He says partially the rapid changes on society that has come with globalization, the breakdown of the families behind the cause. Many experts find that, mental health is not a priority in India and many people are not aware of the fact that mental health is behind suicide.

Psychiatrists too say that in a country like India where 15 suicides take place every hour and where one in three suicide victims is a youth (15-29 years), the state or society cannot possibly overlook the big picture. If a state cannot give proper support to depressed people who try to end their lives, how can it victimise them by promulgating cruel laws like Section 309.

There are few facilities in India for mental health problems, and stigmas prevent many people from seeking support. Telephone help lines are often not adequately staffed, and many schools do not have counsellors. People continue to have a closed mindset related to mental illness. Mental illness is still understood as a form of disease which will



be 'fixed' by faith healers, a divine intervention or through rituals or prayers.

Preventive measures and road ahead

Suicide is an important cause of avoidable deaths in India, especially in young adults. The problem is however a difficult one. A complex array of factors such as poverty, low literacy level, unemployment, family violence, breakdown of the joint family system, unfulfilled romantic ideals, inter-generational conflicts, loss of job or loved one, failure of crops, growing costs of cultivation, huge debt burden, unhappy marriages, harassment by in-laws and husbands, dowry disputes, depression, chronic physical illness, alcoholism/drug addiction, and easy access to means of suicide.

The task of suicide prevention is daunting. Although suicide attempters are at increased risk of completed suicide, about 10% of attempters persistently deny suicidal intent. This group may continue to be vulnerable. Though restricting availability of lethal means appears to be a possible solution. India needs to regulate access to lethal methods such as pesticides. Stringent laws required to restrict the availability of lethal as advocated by the WHO. The country is required to impart life skills to the vulnerable sections and promote mental health in schools and colleges.

More clinics to be opened in the cities and rural areas to address mental health issues like depression and loneliness. Regular awareness programs to be conducted to get rid of the stigma associated with psychiatric treatment because people suffering from mental health conditions hide their illness to avoid discrimination.

The early identification and immediate treatment of vulnerable sections with risk factors for suicide is one strategy. Since there is a direct correlation between negative life events in early childhood and



suicide risk, it is important to identify those sections exposed to traumatic childhood experiences, such as sexual abuse and parental domestic violence. It requires associative approach with active participation from teachers, health care professionals and the legal system. Promoting positive health and instilling adaptive coping strategies among the youngsters, improving awareness among parents, teachers and medical professionals also important. At the community level, the establishment of social programs such as child and family support programs and programs aimed at achieving gender and socio-economic equality may prove useful.¹⁶

The need for a strategy which would raise awareness and make suicide prevention a national priority has long been recognized.¹⁷ Such a national strategy will need a comprehensive approach that encompasses the promotion, coordination, and support of activities to be implemented across the country at national, regional, and local levels. The program would need to be modified to suit the populations at risk. For example, prevention programs aimed at children and young adults would have to address issues related to gender inequality, physical or sexual abuse, violence and mental illness. Universal, Selective, Indicated (USI) prevention strategies,¹⁸ 'gatekeeper training'¹⁹ and emergency outreach²⁰ may also be relevant to India. The USI model outlines 'universal' preventive strategies for the population as whole, 'selective' strategies targeting at-risk individuals and 'indicated prevention' strategies targeting suicide attempters. Gatekeeper

¹⁶ Sharma BR, Gupta M, Sharma AK, Sharma S, Gupta N, Relhan N, et al. Suicides in northern India: Comparison of trends and review of literature. *J Forensic Leg Med.* 2007;14:318–26.

¹⁷ Manoranjitham S, Abraham A, Jacob KS. Towards a national policy to reduce suicide in India. *Natl Med J India.* 2005;18:118–22

¹⁸ Nordentoft M. Prevention of suicide and attempted suicide in Denmark. *Epidemiological studies of suicide and intervention studies in selected risk groups.* *Dan Med Bull.* 2007;54:306–69.

¹⁹ Isaac M, Elias B, Katz LY, Belik SL, Deane FP, Enns MW, et al. Gatekeeper training as a preventative intervention for suicide: A systematic review. *Can J Psychiatry.* 2009;54:260–8.

²⁰ Soomro GM. Deliberate self-harm (and attempted suicide) *Clin Evid (Online)* 2008;2008.



training focuses on skill development to enable community members such as teachers, coaches and others in the community to identify signs of depression and suicide related behaviors among youth. It encourages individuals to maintain a high index of suspicion and to inquire directly about distress, prompt suicidal individuals to accept assistance, and serve as a link for local referrals. Such approaches would also require a coordinated team approach involving psychiatrists, psychologists, academia, social workers, and non-governmental organizations.

The role of the media is becoming more and more significant. A delicate balance needs to be maintained between press freedom and responsibility of the press to minimize the harm to vulnerable individuals. The judiciary and legislature need to play major role and especially judicial activism is the need of hour. NGOs can play an important role in advocacy as exemplified by the proactive stance taken by the NGO Sneha in Tamilnadu which found that the suicide rate was highest among students who had failed in one subject. Subsequently, the then State Government of Tamilnadu introduced a new scheme in 2002 wherein students who fail in one subject can rewrite their examination within a month and can pursue their further studies without losing an academic year.

The solutions to suicide prevention may prove to be more complex than the problem of suicide itself.



BANKING SECTOR REFORMS IN CHINA AND INDIA: A COMPARATIVE ASSESSMENT

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1. INTRODUCTION

A sound and vibrant banking system is sine qua non for the overall economic development of any country because of the inter-dependence of banking sector and economy for their functioning and growth. That is why banking sector reforms occupy the centre stage of economic reforms in all the emerging economies of the world. China and India, the two emerging superpowers of the Asia, are no exception of that. And there is no denying the fact that banking sector reforms have contributed immensely in the accelerated economic progress of these two countries particularly in the post-reform period.

Economic system in both the countries is more or less similar. Both the countries have pursued planned economic model for decades. Presently, both China and India are in the midway of transforming their economies towards market based economies. From banking system point of view as well, both China and India have many overlapping areas. Both the countries have a dominant public sector banking systems which suffer from similar problems (e.g. low level of capital, low level of operating efficiency, state intervention in lending decisions, high level of NPAs, etc.). In order to overcome these problems and to increase competitiveness of state owned banks, banking sector reforms were undertaken in both the countries. Though there is a difference in the initiation of reforms among the countries – China started reforming its economy since 1979, India started lately from 1992 – the intense banking sector reforms in both the countries began from 1993 onwards.



Because, in the initial phase of Chinese banking reforms (1979 – 1993), the emphasis had been on the substitution of monopolistic banking structure with two tier banking system. India, on the other hand, had established two tier banking system in way back 1934 when RBI came into force as the Central Bank entrusted to formulate monetary policy and to supervise and control the overall financial system of the country. Viewing from this angle, both the countries have adopted a comprehensive banking sector reforms from the year 1993.

Since then, several developments have taken place in the banking sector in both the countries in the name of reforms. In this paper, we are going to present the reforms measures initiated in China and India over the years in a brief and organised manner along with the impact of such reforms on basic banking sector indicators.

2. Methodology of the Study

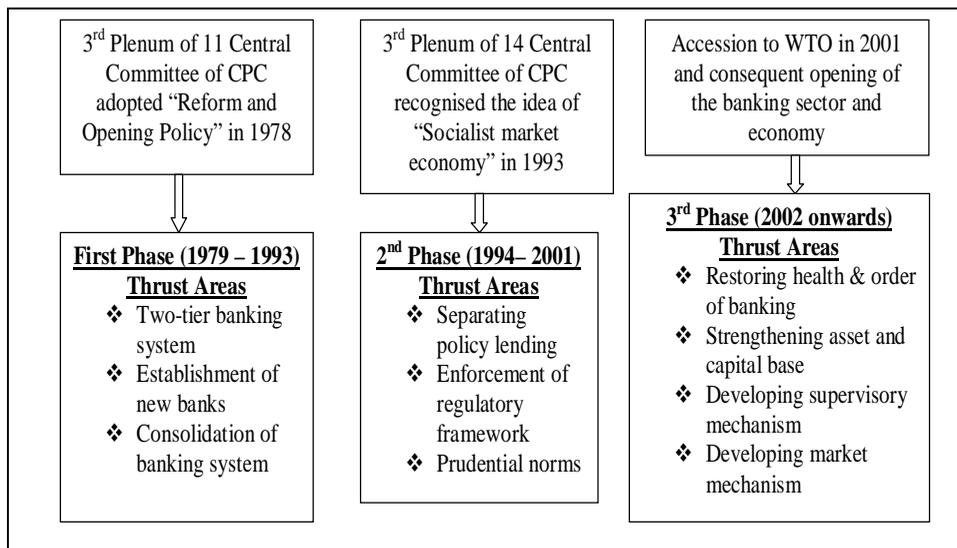
The present study is both descriptive and analytical in nature. It aims at describing the development and implementations of reform measures, over the years, in the banking sector both in India and China in a systematic and coherent manner so as to facilitate the comparison between the countries. The study also analyses the effect of those reform measures to the basic banking indicators in India and China over a period of 1994-2013. The data are collected from secondary sources, mostly from various publications of RBI, China Banking Regulatory Commission (CBRC) and IMF.

3. BANKING SECTOR REFORMS IN CHINA

The Government of Peoples' Republic of China has embarked on a series of banking sector reforms since 1979. The reform measures can be broadly categorised into three phases as shown in Figure 1. The reform measures in the first phase (1979 – 1993) were directed towards institution building. Core banking reforms, however, started in the 2nd phase (1994 – 2002) during which emphasis was given on enforcement

of regulatory framework and restoration of the order of the banking system. The major thrust areas of the ongoing or 3rd phase (2002 onwards), on the other, have been to strengthen the asset and capital base of banks, and to develop supervisory and market mechanism. The major developments in these phases are discussed under the following sub-sections:

Figure 1: Stages of Banking Sector Reforms in People’s Republic of China



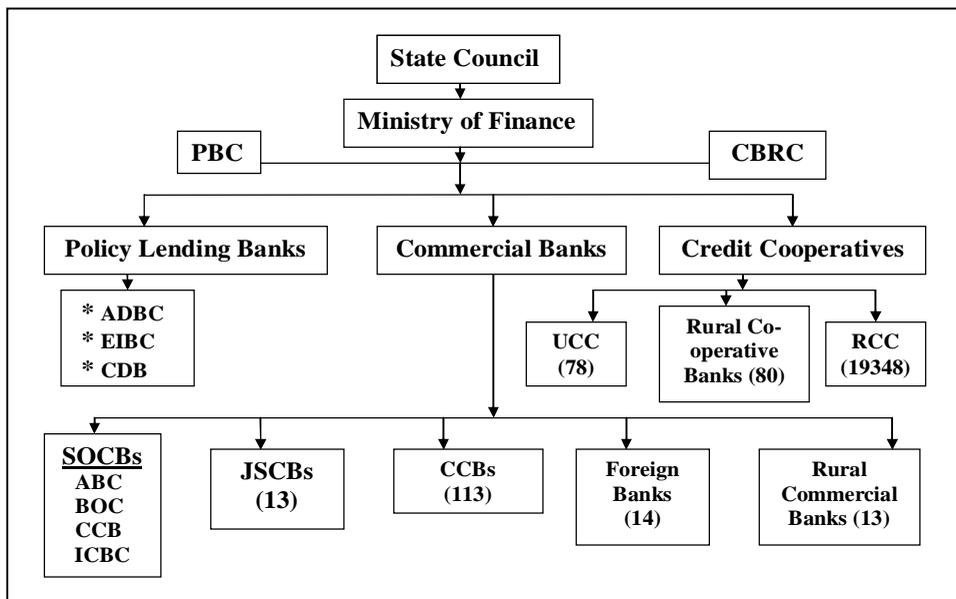
Idea Source: Okazaki, K. (2007)

3.1 Internal Restructuring

Institution building occupied a major part of the Chinese banking reform. Though much of the institutional restructuring was done in the first phase, the same even continued in other phases as well. Prior to reform and opening up of China, the country’s banking system consisted of one financial institution, the People’s Bank of China (PBC). PBC took care of monetary policy, forex management, commercial banking and financing of developing projects. The

introduction of two-tier banking system is a milestone in reforming banking sector of China. In this process of establishing two-tier banking system, the Government first removed the monopolistic position of PBC by establishing Agricultural Bank of China (ABC), Bank of China (BOC) and China Construction Bank (CCB) in the year 1979. The process was completed with the establishment of Industrial and Commercial Bank of China (ICBC) in the year 1984. All these four banks were fully owned by the state and hence, known as State Owned Commercial Banks (SOCBs). Thus, PBC acquired the status of Central Bank of China with some infirmities which was removed after the enactment of new Central Bank Law in 1995.

Figure 2: Structure of Banking System in China as on 31 March 2006



Idea Source: CBRC Annual Report, 2006 (Note: numbers within bracket indicate No. of banks under the category)

Since 1984, new banks were permitted to operate alongside the four SOCBs. As a result, many commercial and cooperative banks started



their operations. Joint Stock Commercial Banks (JSCBs) were set up by local governments, State Owned Enterprises (SOEs) and private parties. These banks operate at the national or regional level. During the same period, Rural and Urban Credit Cooperatives (RCCs and UCCs respectively) were established to diversify the financial system and to finance projects in areas where resources were scarce.

The very beginning of the 2nd phase of banking reform saw the separation of commercial lending from policy lending which gave birth to three specialised policy lending banks in the year 1994 – Agricultural Development Bank of China (ADBC), Export Import Bank of China (EIBC) and China Development Bank (CDB). With this, SOCBs were freed from policy lending and confined to commercial lending business only. During this mid-1990s, City Commercial Banks (CCBs) have been created by restructuring and consolidating UCCs.

The creation of China Banking Regulatory Commission (CBRC) in the April 2003 was a great leap forward so far as institution building is concerned. CBRC is entrusted with the regulatory and supervisory functions of the banking sector so that PBC could concentrate on monetary policy matters. During this third and ongoing phase, foreign banks and foreign players are invited to strengthen the foundation of banking sector. All these institution building measures undertaken in the three phases of reform ultimately lead to a broad base banking system in China as shown in Figure 2.

3.2. Strengthening of Regulatory System and Enforcement

Strengthening of internal foundation in terms of enforcement of regulatory framework, adoption of prudential regulation and liberalisation of banking norms were given top priorities. Accordingly, new commercial banking law was passed in 1995 which laid the foundation for commercially oriented banking in China. At the same time new charter for the PBC was approved with three main



responsibilities: monetary stability, banking supervision and oversight of the payment system. Later, banking supervision was transferred to CBRC in 2003 (Herrero and Santabarbara, 2004).

The introduction of capital adequacy requirement in 1995 marked the beginning of prudential regulation in Chinese banking sector. The loan classification system was reformed in 1998 by introducing an internationally accepted five-tier classification system¹ based on recognition that banks' poor management was the fundamental cause of the East-Asian Crisis (Shirai, 2002). Prudential regulation and accounting standards are further tightened after China's accession to the WTO in the year 2001. CBRC also issued a new regulation on risk management in line with the three pillar approach of the Basel II accord. Expectations are that the large banks will build in their own internal credit risk rating system within three to four years time period.

Chinese authorities started liberalizing banking norms in the last half of 1990s. Liberalisation efforts include reduction in reserve requirement, deregulation of interest rate and forbid of Government intervention in commercial lending. In 1998, reserve requirement was reduced from 20% to 8% and again to 6% in November 1999 (Herrero and Santabarbara, 2004). Besides, banks were discouraged to keep excess reserve by lowering the return to excess reserve. During the same period, some flexibility was introduced in setting interest rates in the wholesale market, the interbank market was unified and the ceiling on interbank rates was lifted (Shirai, 2002). More recently the ceiling on banks' lending rates was lifted in several occasions. For example, in 2002 banks were permitted to charge borrowers upto 1.3 times the central lending rate. In January 2004, it was raised again to 1.7%. An

¹ Loan assets are classified into standard, special mention, sub-standard, doubtful and loss heads based on risk perception. Earlier loans were classified under four heads based on length of overdue – standard, overdue, doubtful and bad.



important step in liberalisation, however, was taken in 1999, when Government interference in commercial lending was explicitly forbidden by abolishing the credit quotas on SOCBs, which made SOCBs responsible for their lending decisions.

3.3 Stabilization Efforts

In the wake of the East-Asian Financial Crisis of 1997, Chinese authorities recognised the importance of sound banking system to withstand the external shocks. Based on this realisation, the Government undertook several stabilisation measures to address the problem of low capital base of banks and resolution of NPAs in SOCBs. In order to strengthen the capital base of SOCBs, recapitalisation in the form of capital injection was resorted. To promote this objective, the Government injected RMB 270 billion (US \$ 32.5 billion) in capital of SOCBs by issuing special government bonds in August 1998. This recapitalisation raised the capital of the SOCBs to RMB 478 billion from RMB 208 billion (Mo, 1999). Later, Central Huijin Investment Company (Huijin) injected as a whole RMB 499.6 billion (US \$ 60.4 billion) to four banks: US \$ 45 billion into BOC and CCB in December 2003, RMB 3 billion into BOCOM in June 2004 and US \$ 15 billion in April 2005. The funding source for this capital injection were the official foreign exchange reserves for the US \$ investment (Okazaki, 2007).

Table 1: Splitting of NPAs from the SOCBs through AMCs

Good Bank (After separation of NPA)	Respective AMCs (Bad banks with NPA)	Modus operandi
Bank of China (BOC)	China Orient	The AMCs acquire 20% of gross loan book
Agriculture Bank of	China Great	



China (ABC)	Wall	consist of NPAs mainly advanced before 1995 and which were overdue for more than one year by the end of 1998 through outright purchase at original face value. Thus, the responsibility for resolving the bad loans had been passed to the respective AMCs
Industrial and Commercial Bank of China (ICBC)	China Huarong	
China Construction Bank (CCB)	China Cinda	

Source: Bhowmik, G. (2014)

In addition to replenish capital, the Government established four Asset Management Companies (AMCs) in 1999 – one for each SOCB – to acquire NPAs of the respective SOCBs (as shown in Table 1). This so-called split between the good bank (one with performing loans) and the bad bank (essentially, the AMCs with NPAs) was done with a view to clear the balance sheet of the banks in one hand and to provide a focused approach to NPA resolution on the other. The ultimate loss incurred by the AMCs in resolving these NPAs is expected to be covered by the Central Government.

These AMCs remain under the supervision of PBC and financed by the Ministry of Finance (MOF) and PBC. Together, they acquired US\$ 170 billion of NPAs in 1999, which enabled the four SOCBs to reduce NPAs by 10 percentage points from 35% to 25% (Shirai, 2002 and NPL Asia, 2006). Subsequently, SOCBs transferred RMB 1252 billion worth of NPAs in the year 2002 and RMB 456 billion by ICBC in the year 2005 (Okazaki, 2007).



Meanwhile, China improved its loan classification system, income recognition and provisioning norms. In the past, Chinese banks had only limited discretion when it came to loan provisioning² (Mo, 1999). After the issuance of comprehensive guidelines on provisioning of loan losses in the year 2002, the provisioning norm and practices improved a lot³ (Bhowmik, 2008). Besides, foreign investment and strategic participation are explored to improve the capital base of banks in one hand and managerial competence on the other.

2.4 Development of Market Mechanism

Finally, China's accession to the WTO, led authorities to place emphasis on opening up its banking sector to foreign competition. As such, several measures were taken to establish a market oriented banking system. As a part of developing market mechanism, SOCBs are listed on stock exchanges through IPOs so as to improve their corporate governance practices and management efficiency. The first ones listed were BOC and CCB in the year 2004 and 2005 respectively. Later ICBC and BOCOM were listed in the year 2006 (CBRC Annual Report, 2006). Further, banks are approved to issue subordinated bonds to supplement their capital base.

On NPA resolution front, Government encouraged disposal of NPAs through AMC's and introduced auction based selling of NPAs. Foreign players are invited to develop the NPA disposal market in China. On the other hand, allowing foreign strategic investors to buy shares of domestic banks marked the drastic policy change in China so far as developing market mechanism is concerned. Accordingly, CBRC issued

² Starting from 1993, commercial banks were required to make bad loan provisions of 0.6% of outstanding loans at the beginning of the corresponding year. Thereafter, the ratio was allowed to rise by 0.1% every year until it reached 1%.

³ Chinese banks now required to make general provision @1% on total loans and special provision @ 2%, 25%, 50% and 100% on special mention loans, sub-standard loans, doubtful loans and loss loans respectively.



a rule in December 2003, where under foreign equity participation limit is increased to 20%. The word 'strategic' implies that foreign investors are expected to bring new expertise and managerial techniques to improve corporate governance and managerial competence of the commercial banks. According to CBRC, by the end of 2006, about 30 foreign financial institutions had purchased stakes in 21 commercial banks through strategic-investment agreements. Finally in 2006, foreign banks were allowed access to local currency business through local incorporated subsidiaries.

4. BANKING SECTOR REFORMS IN INDIA

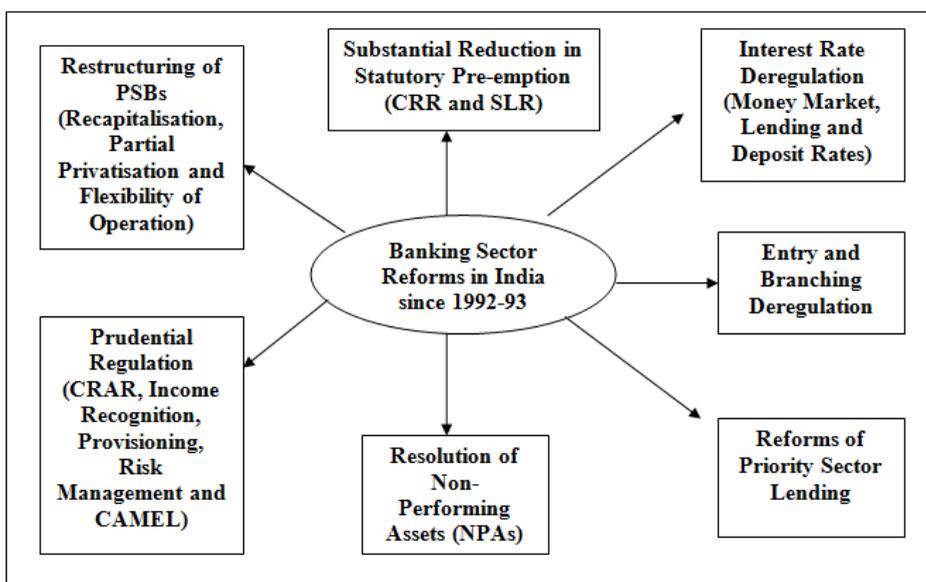
Banking sector reform in India was started in the year 1991–92 as an integral part of overall economic reform. The main purpose of such reform in banking sector is to create an enabling environment for banks to overcome the external constraints and operate with greater flexibility (Rajgarajan, 2007). Two committees under the Chairmanship of M. Narasimham (1991 and 1998) laid the foundation of two stages banking sector reforms in India. The reform measures undertaken as per the recommendation of these two committees can be broadly summarised into the seven areas as shown in the Figure 3.

4.1 Removal of Statutory Pre-emptions

Banking system in India in the pre-reform era (prior to 1991) was burdened with a high level of statutory pre-emptions in the form of Cash Reserve Ratio (CRR) and Statutory Liquidity Ratio (SLR) as readymade tools for financing fiscal deficit. Since the beginning of the reform process, efforts have been made to reduce these statutory pre-emptions gradually. As a result, SLR was reduced from 38.5% in 1991 to the level of 25% in 1997 and currently stands at 22%. CRR also has been reduced from 15% in 1991 to 4.5% in 2003-04. Currently, it stands at 4% which is one percentage point higher than the minimum 3% prescribed in law. Reduction in pre-emptions helps banks to deploy

their funds in more profitable avenues and thereby improve their profitability position.

Figure 3: Broad Areas of Banking Sector Reforms in India since 1991-92



Idea Source: Batra, S. (2003)

4.2. Interest Rate Deregulation

Deregulation of interest rate (money market, lending and deposit rates) is one of the key features of the Indian banking reform. India followed a gradual approach towards liberalizing interest rates based on prudential regulation, market behaviour, financial opening and above all, the underlying macroeconomic conditions. Interest rates have now been largely deregulated except in the case of: (i) savings deposit accounts; (ii) NRI deposits; (iii) small loans upto Rs. 2 lakh and (iv) export credit (Leeladhar, 2006). The motive behind the deregulation of interest rate was to allow banks more flexibility and encourage competition. After deregulation, banks now determine their respective



BPLRs (Benchmark Prime Lending Rates) with due consideration of actual cost of funds, operating expenses and minimum margin to cover prudential provisioning norm and profit requirement.

4.3 Entry and Branching Deregulation

Another policy objective of banking sector reforms has been to enhance efficiency and productivity through increased competition (Leeladhar, 2006). With this end in view, RBI issued a policy guideline in January 1993 where under private banks and foreign banks were permitted more liberal entry. Ten new private sector banks were opened during the post-reform era. Recently, a roadmap for the presence of foreign banks in India was released which sets out the process of the gradual opening-up of the banking sector in a transparent manner. Accordingly, foreign investment upto 74% from all sources in the form of FDI and FII is allowed in private sector banks (Rangarajan, 2007).

4.4 Reforms in Priority Sector Lending or Directed Credit

Priority sector lending requirement has attracted several criticisms from different quarters. Even the first Narsimham Committee (1991) expressed its dissatisfaction with the directed lending policy and recommended for its gradual reduction from 40% to 10%. But the recommendation for gradual reduction of priority sector advances to 10% of net bank credit could not be implemented partly because of economic and partly because of political consideration. However, the composition of priority sector has been broadened with the inclusion of many new areas. Besides, some flexibility is introduced within the system so that the shortfall in target could be met up by investing funds in NABARD/SIDBI, which means that banks need not lend to commercially non-viable activities. Thus, the scope of the PS has been expanded quite dramatically in the post-reform era with more flexible terms attached with them.



4.5 Prudential Regulation

Prudential norms relating to capital adequacy, accounting, income recognition, provisioning and exposure were introduced in 1992. These prudential norms have been tightened gradually as the reforms process advances so as to align them with the international standards. Besides, Asset Liability Management (ALM) and Prompt Corrective Action (PCA) have been introduced to manage risk in banks on an ongoing basis. Moreover, banks have been subjected to increasing disclosure requirement in order to increase transparency in their operations. Several areas like capital adequacy, movement of NPAs and provisions against the same, lending to sensitivity sectors, etc have been included under the statutory disclosure requirement.

RBI has prescribed regulatory limits on banks' exposure to individual and group borrowers to avoid concentration of credit. In addition, banks are required to observe certain statutory limits in respect of their exposure to real estates and capital market. Above all, RBI has decided to migrate to Basel III accord with effect from March 31, 2018 with a view to achieve international standards in the sphere of risk based supervision and risk management.

4.6 Institutional Restructuring

In order to improve the capital base of PSBs, Government made capital injection out of budgetary support. The Government injected Rs. 40 billion and Rs. 164.5 billion for recapitalisation of 19 nationalised banks during 1991 – 1993 and 1993-99 respectively (Shirai, 2002). Moreover, equity participation by private investors in these banks is permitted up to a limit of 49% of paid up capital so as to impart more market accountability and improve efficiency. Many PSBs have successfully raised tier I and tier II capital from the capital market in the post-reform era, which led to diversification of ownership while retaining public sector character of these banks.



In the sphere of supervision and legal environment for banking operations, India made significant progress in the post-reform period. An independent Board for Financial Supervision (BFS) was established in the year 1994 for effective supervision of banks and FIs. The legal environment for banking operations has improved a lot with the enactment of new legislations. Recovery of Debts due to Banks and Financial Institutions Act, 1993 and Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002 (SARFAESI Act) have strengthened creditors right to a large extent. Prevention of Money Laundering Act in 2003 to combat the abuse of financial system for crime related activities and the Credit Information Companies (Regulation) Bill 2004 to enhance the quality of credit decision have contributed immensely in the improvement of operational environment for banks.

4.7 Management of Non-Performing Assets (NPAs)

It is during the post-reform period and particularly in the 2nd stage of reform that resolution of NPAs has occupied the centre stage of banking reforms. Sustained efforts on the part of RBI and Government of India led to a well balanced NPA resolution framework that addresses the recovery of hard-core NPAs in one hand and prevention of fresh NPAs on the other. Banks have been provided with a range of options for recovery of NPAs. They can recover NPAs through Debt Recovery Tribunals (DRTs), Lok-Adalat, Corporate Debt Restructuring (CDR), Asset Reconstruction Company of India Ltd. (ARCIL), sale or takeover of secured assets, actions under SARFAESI Act, 2002 and compromise or one time settlement. Establishment of Credit Information Bureau of India Ltd. (CIBIL), strengthening of internal processes including loan appraisal and monitoring system and introduction of early warning signals and PCA along with risk based supervision has strengthened the Prevention mechanism to a great extent.



5. ASSESSMENT OF IMPACT OF REFORMS IN INDIA AND CHINA

The abovementioned reform measures have had major impact on the overall improvement of the banking system in both China and India. As per the Annual Reports of CBRC, the followings can be cited as major achievement in the reform of SOCBs in China:

- ❖ Improvement in corporate governance driven by more diversified ownership structure;
- ❖ Maximization of shareholder value and or price/book value have been embedded in the operating strategy in place of the old scale and market share driven strategy;
- ❖ Share of fee based income rose to 10% of gross income because of product innovation and better risk management;
- ❖ Introduction of market-based and value-driven incentive structure and accountability system;
- ❖ Post reform period witnessed notable progress in the business performance and asset quality of SOCBs. Average Return on Assets (ROA) reached 0.9% in 2006 from 0.1% in 1994. ROA further improved to 1.2% at the end of March 2012. Cost to Income ratio decreased to 42.35% in 2006 from 85.9% in 1994.
- ❖ CRAR reached 13.31% in 2006 and NPA ratio decreased to 7.51% in 2006 from 28% in 1999. The NPA ratio further decreased to 1.6% as on March 2012 and provision coverage ratio stood at 34.3% in 2006 as compared to only 0.55% in the year 1994. The ratio improved significantly to 295% by the end of March 2012.



- ❖ Significant progress in the frequency and quality of information disclosure in accordance with the listing agreements, which improves transparency level to a great extent.

Indian banking sector also witnessed a major transformation over the two decades of reforms. Banks have become more market driven and market dependent for fixation of interest rates, raising of capital from capital market, product innovation, delivery of services, management of affairs, etc, which increases competition in the market place. Enforcement of Prudential regulations, improved corporate governance practices and stringent disclosure requirement raised the standards of banking in India towards international level. There has been marked improvement in the financial performance of banking sector during the reform phase.

- ❖ The overall capital adequacy ratio of banks at the end- March 2013 was 13.88% as against the regulatory requirement of 9% which itself is higher than the Basel norm of 8%.
- ❖ Asset quality has shown mixed trend in the post reform period with the Gross NPA ratio declined to 2.3% at the end of 2008 as compared to 23 % in 1991–92 (Report on Trend and Progress of Banking in India, various issues). Post 2008 GNPA ratio started to increase and reached 3.2% at the end of March 2013.
- ❖ However, a marginal Improvement is evident in provisioning against NPA. Provision coverage ratio of entire banking system increased to 49% in 2013 from 43% in 2002.
- ❖ Profitability of banks have also showed mixed trend with ROA increased from 0.4% in the year 1991-92 to 1% at the end of 2005-06. The cost to income ratio of 0.5% as on end-March 2006 and then started to decline and reached 0.8% as on March 2014.



6. CONCLUDING OBSERVATIONS

The above discussions, clearly points out that banking sector reforms in China and India were not driven by any immediate crisis as has often been the case in several emerging economies. Both the countries adopted a gradual approach in pursuing various reform measures with due regard to their macroeconomic considerations. Both the countries have made significant progress in establishing a market oriented banking system. All the areas of banking operations starting from internal systems and processes, enforcement of prudential regulation, risk based supervision, legal and operational environment to asset quality and capital adequacy have shown significant improvement over the period of 1994 - 2013. As a result of which banks in China and India are now operating in a more competitive environment with more flexibility and autonomy.

In some spheres, however, Indian banking reform outperforms Chinese reform such as transparency of operations, corporate governance, risk based supervision, prudential practices, etc. Possible factors that may explain the better performance of the Indian banking sector are less difficult institutional legacy since India has no mono-banking system and a lower concentration, which may lead to a higher degree of competition (Roland, 2006). But China is catching up very fast as evident from the financial performance of the banking system and recently China surpassed India in the areas like reduction of NPAs, provision coverage and profitability of banking system.

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PREPARING VIZAG- AS INVESTMENT READY CITY

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By keeping in view of the Vizag City competency among the tier-II cities in India, its growth trends since post liberalization, and its contribution to Country's GDP, GoI, GoAP and city Authorities have been tying up for several major initiatives, with an objective to introduce Vizag as the '**next Gen**' city to the World. Thus the City have been emerged in a decade of time, 'The Jewel of East Coast' has some special geographical features, which constantly making the city front runner in Investment tapping. Although its potential and investments are mismatching during the time, now authorities desiring to tap the untapped potential of the city.

As such Govts initiating several Infrastructure project investment proposals focusing on Private investments, the major discussion point is '**whether the city is ready for huge investments and fit for big ticket projects**', which can help the city to acquire the strategic position on Globe.

By considering the several factors, the following study intended to investigate the strategic steps for preparing Vizag as 'Investor friendly City'.

Critical Factors consideration:

Vizag today is motivated by its need to drive economic growth, increasing investments and adding jobs, allowing for better standards of living, and the financial capability to manage the city infrastructure that serves the wider urban environment.



To do this, it needs to understand the fundamental concept of sustainable development to provide confidence to investors that the emerging challenges are understood and can be managed.

Delivering effective, efficient and sustainable urban infrastructure is essential to provide the city backbone, from which economic success and prosperity can grow – critical infrastructure such as:

- A fast and efficient transport and mobility infrastructure with sufficient capacity to cater for growing and changing population.
- A robust and reliable energy infrastructure providing power to meet the most critical needs
- A clean and plentiful water supply Sanitation to deliver modern standards of hygiene efficiently and sustainably
- A safe and secure environment in which people can live and work with confidence.

Delivering the above, City requires huge capital investments, years to clear the investment proposal from Govt due to its quantum of investment and; level of risk involved, Additional Tax burden may cause complete dissatisfaction from the nonusers; but in view of its essentiality Municipal body & GoAP is encouraging private investment to cater the needs of people which is the suitable way; in providing amenities to improvise the standard of living in the city.

Public Private 'People' Partnership approach:

Success of any project always includes engaging stakeholders from Govt, to the Citizens/Users, creating **win-win** situation for all the stakeholders and will have ability to attract and retain private mobile capital.

With public-private sector collaboration being one of the most proven effective approaches to major infrastructure delivery today, city



administration one of pioneer, having the considerable experience in dealing with Private investments and other dept viz tourism, health, Education not as much grown in tapping the investment as compare to the other cities in India.

City need to demonstrate visibly how infrastructure will deliver value to both users and investors. City authorities are therefore having to work harder to understand the private sector approach to doing business. Certainty in policy and legal regulation and long term planning are essential to attracting investment and creating joint working approaches.

The Vision of development not only constrains to the Govt, but also evolves from commitment of Politician, Business houses, residents. All need to show strong leadership in developing and selling their city vision. To achieve the development Vision, Vizag must be more and more innovative with how they raise finance: where domestic financial markets are insufficient, international finance often needs to be found. Investment therefore comes not only from domestic banks, institutions and capital markets, but also from overseas sovereign wealth, pension funds, bilateral and multilateral institutions, equipment suppliers and through public-private partnerships.

As Such there is no universal blueprint that can be applied to urban development and the adoption of infrastructure solutions particularly with the onset of new and rapidly evolving technology. Each city had plotted its own pattern of development according to the geography on analysis of its SWOT. One thing is clear City Development Vision is not achieved till without being intelligently phased and sequenced and without addressing the underlying governance, legal and financing requirements.

Future Vizag Big Ticket Projects and Strategies:

Realizing Vizag Metro Dream:



Vizag has a no track record in delivering large, complex, infrastructure projects as such and the success of the Vizag metro is likely to have a significant bearing upon the reputation of the local ruling political party.

Financing the new metro is relatively high capital Intensive, with the majority of raising funds from 'soft' loans as well as equal-sized grants from the Government of A.P and Government of India. Around 10-15 percent of the total contribution came from commercial property development around the new stations, many of which were situated in popular locations; a technique previously used in other cities such as London, Hong Kong, New York, Delhi and Now in Mumbai.

The success of the project is majorly dependent on 'Autonomy of the Authority', independence from larger bureaucracies and political interferences.

Desalination Project- Endurance to the Vizag Industry:

Visakhapatnam Industrial Water Supply Company Ltd. (VIWSCO) an example of perfect handshake between GVMC and Private, to cater the endless water need of Vizag Industry. Later the model was replicated in many cities of India. As growing the need of water supply and the continuous failing efforts of Govts to land up Polavaram Project, Desalination Plant at sea shore is a suitable option to cater the future peak needs of the Industry. Despite it is a capital intensive project can be viable under Public Private Partnership Mode as in Chennai.

Adopting a suitable pricing strategy from the industry, Choosing Innovative Technology to can create a frugality and energy efficiency, reducing the dependency on grants, engaging private partner and facilitating him can land up the project with in the time.

Above is few, LED street lighting, Tourism cluster, Making Vizag as A.P's Education Hub, Research & Development City, Information



Technology Investment Region in sub-urb, Financial Hub of East Cost, PCPIR, Industrial Corridor between Vizag to Chennai are some other envisagements by Govts;

Future Directions for Vizag:

Renowned Urban Economist Edward Glaeser said “the real city is made of flesh, not by concrete,” and that cities succeed or fail due to human capital, rather than physical capital. However, the right physical capital—thoughtfully tailored infrastructure—increases the efficiency of cities, allowing for more and better innovation.

Perhaps bifurcation simply given the big boost to the City; New Government with new policies, policy reforms, assurance to Private investments, recent joining of 24X7 power supply club of cities, abundant availability land, International connectivity through air, Major and Non-Major ports which are predominant in development in fact Gateways to Eastern India, huge unmatched industrial hinterland, Existing infrastructure systems, its Tourist attractions, Low cost in doing business, Speeding in decision making, abundant ready Human resources.... Add ons for City. There are no doubts in it. But **Shaping Vizag as Competitive City** is required mixed approach, assuring it can be efficient, safe, environmentally, and economically sustainable is a time taking task. Following are the few mixed approach challenges the city should achieve.

- Robust, Comprehensive Policy framework.
- Rejecting the dichotomy.
- Major focus on Infrastructure System, with Convergence rather divergence
- More Autonomy and accountability of Municipal Administration.



- Adopting a inclusive and long term perspective.
- More emphasis on Urban Poor Strategies.
- Unlocking land markets.
- Special focus on Women empowerment and gender equality.
- Engaging private sector as a partner.



SHELTERS FOR THE ELDERLY: A SOCIO-ECONOMIC STUDY OF OLD AGE HOMES IN ANDHRA PRADESH IN A COMPARATIVE PERSPECTIVE

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INTRODUCTION:

Ageing population is an obvious consequences of demographic transition. In a globalizing world , the meaning of old age is changing across cultures and within countries and families (Bergeron 2001). Now-a-days , the role of families in taking care of older people has been declining due to structural changes in the India society and the concomitant disintegration of joint family system , which results in the neglect of the aged (Dubey et al 2011). The National Policy on Older Persons (NPOP) (GOI 1999) and The Maintenance and Welfare of Parents and Senior Citizen Act (GOI 2007) were the major initiatives of the Government of India in favour of the welfare of the old age people. Aged people now forced to look to alternative accommodation for their life-ends living. Old Age Homes are thus become a societal necessity to take care of the elderly and they are flourished in many parts of the country. Andhra Pradesh is not an exception.

Kerala ranks highest In India in relation to social development indices such as alleviation of poverty, primary education and health care. This resulted from significant efforts began in 1911 by the erstwhile princely states of Travancore and Cochin to boost health care and education among people followed by the yeomen efforts made by the Christian missionaries. This was carried over by the democratic governments during post-independence era in Kerala.

Objectives of Study

1. To study the socio-economic implications of Old Age Homes in the transforming society of Andhra Pradesh.
2. To study the structure and functioning of Old Age Homes in Andhra Pradesh in contemporary perspective.
3. To assess the profile of the existing old age homes in Andhra Pradesh with reference to their governance and administration.

Review of Literature

The very concept of old age homes is new to India. An old age home is usually the place, a home for those old people, who have no one to look after them or those who have been thrown out of their homes by their children. The place is of course like home where the inmates get all the facilities for a routine living like food, clothing and shelter.

A host of studies on old age homes and their inmates are available for consult at academic circles and elsewhere. Ageing of Global society and its impact on human development is a major concern of 21 st century. In its varied ramifications ageing has acquired unprecedented significance both nationally and internationally. IshwarModi (2001) produced seminalwork titled“Ageing and Human Development”. The work is the outcome of the academic euphoria generated by the International Year of Older Persions, 1999, and reflect voices of scholars focusing their attention , analysis and discourses on as many as 19 countries across the globe.

The National Policy on Older Persons formulated by Government of India (GOI, 1999) aims at the well being of the older people by strengthening legitimate place for them in the society so that during the last phase of their life they could live with purpose, dignity and peace. Care of elderly is a challenge faced by societies around the world as medical advances enable people to live longer lives. How do we



ensure that seniors enjoy the benefits they deserve in their last years? Kunissery Ramakrishnier V (2002) in his work " Ageing with Dignity" highlights the plight of the elderly people in the present context of the collapse of the joint family system and the flight of the enterprising young men to greener pastures in cities and abroad.

The Social Significance of Old Age Homes in India.

The Indian culture in which the aged parents and grand parents were loved, respected, recognized and protected used to make Indians proud. But the situation has now virtually changed. The break up of joint families, and the migration of younger people at large from rural areas to urban centres, and also to other states and abroad are the major reasons for this societal transformation.

Today's world has become so much mechanical that there is little time for the younger generations to take care of their parents and grand parents. The elderly people deserve to spend their rest of lives in dignity, peace and tranquility. Senior health care is the ultimate solution of this problem (Simon 2012).

According to a Help Age India Study elders are willing to work and contribute to society if given equal opportunities and societies. Aged people have advantages of their rich experiences, wisdom and patience. They have better skills for conflict resolution as well. The Study shows that appropriate institutional mechanism, skills and capacities need to be brought into place to address the issues of older persons in an effective manner. The speed of population ageing has, thus, implied that the government policies need a greater reorientation in respect of their pension schemes, health care, livelihood opportunities and economic growth. Older people must have the access to necessary food, safe shelter, better clothing and good health care. The families are, therefore, to take responsibility to look after the elderly people. But in



present days youngsters are abdicating their responsibilities. They would like to lead independent lives with their spouse and children.

Old Age Homes in India.

Development of institutional care for the old age people in India has a history. The first old age home in India was supposed to have been started in the early 18th century. But information is available only of those from 1782 (Rajan 2000). Today old age homes are mainly run by non-governmental agencies, particularly the religious charitable organizations. The Central and state governments are playing a negligible role in providing such services of societal importance. According to the survey conducted by the Madras Institute of Ageing, there were 529 old age homes in India in 1995 (Nair 1995). Help Age India provided the figure of 700 old age homes (Help Age India 1998). This discussion is based on the data made available by Madras Institute on Ageing.

India had only 96 old age homes before 1950. Another 94 were added in the next two decades, 1951-70. During the next two decades (1971-1990), there was a rapid expansion in the number of old age homes in the country. As of 1995, Kerala had the highest number of old age homes with 103 old age homes in the country. Tamil Nadu was in the second place with 94 old age homes and Maharashtra was in the third place with 65 old age homes. Kerala housed one out of every five old age homes in India. Greater number of old age homes, that is 275 old age homes, which accounted 52% of total old age homes in the country were flourished in South India comprising Andhra Pradesh, Tamil Nadu, Karnataka and Kerala.



Old Age Homes in India: 1950-1995

State	Before 1950	1951-70	1971-80	1981-90	1991-95	Total	%
AP	6	4	14	20	2	46	10
Delhi	3	4	2	0	1	10	2.2
Goa	5	6	6	4	1	22	4.8
Gujarat	5	8	4	3	2	22	4.8
Karnataka	7	6	8	6	0	27	5.8
Kerala	24	19	28	18	2	92	19.2
MP	2	2	4	6	0	14	3.0
Maharashtra	16	12	13	10	3	54	11.7
TN	16	14	20	34	6	90	19.4
UP	1	5	1	4	0	11	2.4
WB	5	7	9	13	0	34	7.0
UTs/Others	6	7	11	18	0	41	8.9
India	96	94	120	136	17	436	100

INSTITUTIONAL CARE FOR ELDERLY LIVING:

A CASE STUDY OF OLD AGE HOMES IN KERALA

Kerala is one of the most welfare states in India. The quality of life is highest in Kerala. In contrast to other states in India and many other low income countries, Kerala's educational and health care achievements are on par with the developed countries in the world. Kerala has the highest literacy rates, highest life expectancy and lowest maternal and infant mortality rates¹. Kerala attains high quality of life in spite of its low per capita income. Kerala has highest human



development index, but it has had low industrial, manufacturing and agricultural development profile.

Kerala ranks highest In India in relation to social development indices such as alleviation of poverty, primary education and health care. This resulted from significant efforts began in 1911 by the erstwhile princely states of Travancore and Cochin to boost health care and education among people followed by the yeomen efforts made by the Christian missionaries. This was carried over by the democratic governments during post-independence era in Kerala.

Number of Private Old Age Homes in Kerala: District wise.

District	Number.
Thiruvananthapuram	14
Kollam	4
Pathanamthitta	10
Alappuzha	3
Kottayam	35
Idukki	2
Ernakulam	34
Thrissur	25
Palakkad	6
Kozhikode	5
Kannur	15
Kasaragod	7
Total	162

Source: Research Survey

Among the total 162 old age homes in Kerala, 114 old age homes offer services free of cost. 18 old age homes offer services on pay and stay basis. 10 old age homes are running on both free as well as pay and stay basis. Among the total old age homes, 82 admit both



male and female inmates, 40 old age homes admit female persons and 20 old age homes admit male people.

Old Age Homes and Their Service Deliveries

1. Total Old Age Homes in Kerala:	162
2. Free service	114
3. Pay and Stay	18
4. Free; Pay and Stay	10
5. N A	20

Source: Research Survey

All the old age homes are having telephones in Kerala. 80% old age homes are having library facilities and all of them have newspapers for the benefit of the inmates. 90% old age homes provide recreational facilities and 90% had the services of medical attendants. 20 % old age homes have vehicles.

Admit Status of Old Age Homes in Kerala

1. Number of Old Age Homes for Males.	20
2. Number of Old Age Homes for Females.	40
3. Number of Old Age Homes for Both	82
4. N A	20

Source: Research survey

Among the elderly people living in old age homes, 6% have own houses. 7% of males and 6% of females own houses of their own. In addition to houses, 5% of males and 3% of females own landed properties. It is, therefore, presumed that it is not poor and destitute people that are always living in old age homes, but the middle or the upper class people, who are forced to live alone for various reasons, also used to



occupy the private old age homes. Business ventures of running old age homes with modern amenities are found growing in many parts of Kerala in recent times.

Reasons for Joining Old Age Homes by Inmates.

Sl.No Inmates	Reason	% of
1.	No one to take care	69
2.	Children are away	2
3.	Problems with children	9
4.	Own preference	20

Source: Research survey

THE SOCIO-ECONOMIC STUDY OF OLD AGE HOMES IN ANDHRA PRADESH.

Andhra Pradesh, the state popularly known as the "Rice Bowl of India", is situated in south eastern coast. It is India's 8th largest state by area and 10th largest by population. Andhra Pradesh is bordered Telengana and Chattisgarh in North, Tamil Nadu in South, Orissa in North East and Karnataka in the West and the water body Bay of Bengal in the East. There are two regions in the state of Andhra Pradesh viz., Coastal Andhra and Rayalaseema. The two regions are commonly referred to as *Seemandhra*. There were 14 districts in united Andhra Pradesh. Andhra Pradesh is bifurcated as two states as Andhra Pradesh and Telengana Hyderabad is the joint capital of both Andhra Pradesh and Telengana states for a period of ten years. The size of population of Andhra Pradesh as per 2011 Census is 84,665,583. Of the total population, 66.5% are rural population and 33.49% are urban population. The literacy rate is 67.665 among which male literacy rate is 75.56% and female literacy is 59.74%.



Number of Elderly People in Select Districts in Andhra Pradesh: Sex Wise.

District	Old Age People		
	Men	Women	Total
Guntur	86	211	297
Anantapur	146	170	316
Prakasam	63	143	206
Vizag	132	120	252
W. Godavari	148	126	274
Chittoor	129	127	256
Nellore	124	167	281
Total	828	1094	1882

Source: Research Survey.

Mode of Services in Select Old Age Homes.

District.	Payment	Free	Payment and Free
Guntur	2	7	1
Anantapur	3	7	
Prakasam	3	7	
Vizag	9	1	
W. Godavari	4	6	
Chittoor	1	8	1
Nellore	2	5	3
Total	24	41	5



Source: Survey research

Entertainment in Old age Homes in select districts in Andhra Pradesh

District	Old Age Homes	Entertainment (TVs)
Guntur	10	10
Vizag	10	10
Chittoor	10	6
Prakasam	10	4
Nellore	10	2
W.Godavari	10	6
Anantapur	10	1
Total	70	39

Source: Research survey

Medical Services in Old age Homes in Select Districts in Andhra Pradesh

Districts	Old Age Homes	Doctor's Services
Guntur	10	Regularly 10
Vizag	10	Regularly 10
Chittoor	10	Any Time 10
Prakasam	10	Regularly 4 /any time 6
Nelloore	10	Regularly 2/Any time 8
W.Godavari	10	Regularly 6/ Weekly 4



Anantapur	10	Regularly 8/ Any time 2
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Total	70	Regular 40/ Anytime 26/Weekly 4
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Source: Research survey

The Societal Implications of Old Age Homes.

Old age homes are necessarily meant for the elderly living . The inmates in old age homes are those who are unable to stay with their families or are utterly poor. There are old age homes in almost all states in India and Andhra Pradesh is not an exception. There are 114 old age homes in Andhra Pradesh as per Help Age India Directory of old Age Homes in India, 2009. The total inmates in old age homes in Andhra Pradesh are 1029 of which 410 are males and 619 are females.

Most of the old age homes offer free accommodation. Some old age hoes work on payment basis depending up on the types and quality of services offered. Apart from food, shelter and medical facilities, many old age homes also have the provision for physical exercises such as yoga to senior citizens. Old age hoes also provide access to telephones and other forms of communications so that the inmates can keep in touch with their dear ones. For elderly people, who have nowhere to go and no one to support them old age homes are a better solace. In old age homes the inmates get the family like atmosphere. Elders experience a sense of security and friendship. They share their joys and sorrows with each other. In the twilight of their lives, the old aged people are neglected by their relatives or elder children, who are either unable to care for them or hardly take responsibility to look after. The elders are thus destined to suffer at their fag end of their days.

Nature and Working of Old Age Homes in Andhra Pradesh



All old age homes in Andhra Pradesh are managed and controlled by private trusts or non-governmental agencies or registered societies. No old age homes are run by the government. Certain religious organizations are also running old age homes in Andhra Pradesh. The working conditions of the old age homes and facilities available with them are found less comfortable for the inmates. Old age homes run by certain religious institutions are found comfortably satisfactory. Old age homes running on payment basis are giving services satisfactorily. One of the most important problems that old age homes in Andhra Pradesh are facing is that of funds. Old age homes are invariably running on contributions donations received from general public. They are not getting any financial assistance from government authorities. The siblings of inmates are hardly providing any assistance to fend their relatives occupied in old age homes. Usually the relatives are allowed to visit their old aged parents or relatives stayed in old age homes. But they are not lending any helping hand to care givers.

Old Age Homes in Andhra Pradesh and Kerala: A Comparison

Old age homes are a common phenomenon in all the states in India. The societal transformation in the states of India is tending to find favour with the flourishing of old age homes in large number. Loneliness, insecurity, chronic illness and emotional alienations are the common problems of elderly people in India. We examine the nature and functioning of old age homes in Andhra Pradesh in a comparative perspective. There are 162 old age homes in Kerala, and 114 old age homes in Andhra Pradesh. Institutional cares are a private affair in Andhra Pradesh, while government is running 13 old age homes in Kerala. Old age homes are run by private agencies, non-governmental organizations and religious institutions in Andhra Pradesh. In Kerala except 13 old age homes, all old age homes are managed and controlled by private, religious organizations and non-governmental agencies in



Kerala. Majority of old age homes are run by Christian missionaries and institutions in Kerala.

Both in Andhra Pradesh and Kerala, services in old age homes are provided free of cost, on payment basis and both. In Kerala, destitute are not the only inmates in old age homes. Old age people of middle income groups are also joining the old age homes in Kerala for various reasons. The payments of the well to do inmates are made out of their past savings or pensions. Comparatively better facilities are offered in old age homes in Kerala than that in Andhra Pradesh. Government is taking care to protect the old age people, though not in a greater extent, in Kerala. All districts in Kerala, except one are having government run old age homes with better facilities of food, accommodation and medical assistance. The siblings of inmates in old age homes in Andhra Pradesh are less helpful as they are destitute in all senses. But in Kerala, non-destitute inmates in old age homes are getting assistance from their children or relatives. Almost all the old age homes in Kerala are having facilities such as vehicle, telephones, medical assistance, libraries and recreational facilities. But in Andhra Pradesh old age homes are having meager facilities. Many of them have no vehicles, but majority of them have televisions. Running old age homes becomes a business venture in Kerala. The problems of the inmates in old age homes in both the states are of the same nature. Feeling of loneliness, alienated from families, forced shifting from native places, feeling of insecurity, poor health conditions, chronic illness reluctance to depend up on others and lack of emotional support from family members and relatives are common to all elderly people living in old age homes in Andhra Pradesh and Kerala.

CONCLUSION:

As far as the institutional care for the elderly is concerned, financial assistance to be provided to those who are running the old age homes



by the government. All the old age homes surveyed are found difficult to run the old age homes for lack of funds. All are depending up on donations or voluntary contributions by the philanthropists and general public. Health care expenditure in India is low as compared to other countries. The public and private expenditure in India is 3.9% of GDP, while that of other BRIC countries it becomes to the extent of 8.5 % to 9 % of GDP. So public expenditure for providing health care for the citizens as whole to be enhanced to the extent of 6% of GDP. Elderly people are prone to chronic illness. Therefore long term medical care is an incessant necessity. Lack of medical personnel and poor medical infrastructure are a grave concern. The hospital –bed density in India is currently 9 beds per 10,000 population, which is significantly lower than the global norms prescribed by WHO (World Health Organization) of 30 beds per 10,000 population. Many a number of elderly people stay in old age homes in Andhra Pradesh. Though elderly care is the sole responsibility of a welfare state, old age homes are largely managed and controlled by the private agencies, non-government organizations and religious institutions. Government agencies are playing a limited role in providing elderly care only by establishing few state old age homes in Andhra Pradesh. There are less studies on the plights of elderly living in old age homes in Andhra Pradesh. A comprehensive study is, therefore, highly imperative to underscore the transformational dimensions of elderly living in care homes and the consequential implications of old age homes in Andhra Pradesh.

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