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CHAIRPERSON'S MESSAGE

The current issue of the Journal of Indian Research carries several papers by woman scholars. What a better way to celebrate the International Women's Day, than to read and listen to their multiple voices. Farah Yassen Durani who teaches at Makkah, Saudi Arabia writes an exploratory essay on "The *Life-Cycle of Fiat Money: An Insight into Its History and Evolution*". She argues on the basis of the historical evidences as to how societies shunned the paper money experiment either by voluntarily returning to commodity money, or succumbing to the inflationary meltdown of money with ill repercussions on economy and society. The policy of quantitative easing under the macroeconomic prudence followed by the U.S. for last few years imitated subsequently by large nations like China has brought the global financial system on the brink. Such crisis is inherent if the governments continue to pursue with the policy of the oversupply of the fiat currency. Rigzin Chodon, a scholar from Ladakh traces the Ladakhi literature from its early formation during the Tibetan Kings, thence the introduction of the early English literature, followed by English Literary Works done by the Moravian Missionaries from 1900 A.D. onwards and the blooming of contemporary Ladakhi literature into several spheres. Shuchita Sharmin, a Professor in Dacca University presents an exploratory study based upon sample survey to reveal and identify the perceptions of the Child Domestic Workers (CDWs) about their working life, the factors contributing to CDWs' wellbeing and ill-being in the city of Dacca. Rajni Bala highlights the role of groundwater irrigation in attaining food security. Anju Tyagi traces the Indian judicial perspective on live-in-relationship. Sangeeta Malik and Dr. Usha Sharma explores the fragmented components which act as learning obstructions, and aims to propose a solution for the unification of these fragmented components of learning. Archana Sharma and Dr. Chakrabarti makes an attempt to apply the principles of multiculturalism to a few selected novels in English written in post-independent India.

We have been receiving appreciation and quality papers from all over the world. In the New Year we hope to continue with our endeavour to make the Journal more interdisciplinary and widen catchment area for the contributing scholars. Happy New Year 2016!



Dr. Ashok Kumar Gadiya

EDITORIAL

The founding father of communist China, Mao Tse-tung is credited with heralding the gender equality in China. He used the ancient dictum of *Woman can hold up half the sky* (fù nǚ néng dǐng bàn biān tiān , Ch. 妇女能顶半边天) to emphasize that the women have an equal part to play in society. The opening of fissures in the Confucian mindset of patriarchy provided fertile ground for the Chinese women to take the strides to reach the high positions in business and politics of Asia.

Women dons the robe of business and financial leaders; political and spiritual leaders. But, hardly does one come across an authoritative female philosopher in Asia. It is not that the women get sufficient space in the Western world. Only a handful of female philosophers like Ayn Rand, Hannah Arendt, Simon de Beauvoir, Rosa Luxemburg, or the French school of *l'Écriture féminine* (Hélène Cixous, Luce Irigaray, Julia Kristeva) can be listed in the annals of western philosophy. In contemporary Asia, only a few female philosophers are active- Vandana Shiva is one of them, though she may not be included as a “hard” philosopher.

The marginalization of women in the realm of abstract thinking appears only after the advent of the Great Religions. In the Vedas, names of 27 woman seers can be found. Ghosha, Lopa, Maitreyi, Gargi, Sulabha are seen debating with the leading male counterparts. Maitreyi, the wife of sage Yajnavalkya is known as a “*brahmavadini*” (Knower of the Brahma Vidya or the absolute knowledge). Gargi, the daughter of sage Vachaknu challenged Yajnavalkya during the “*brahmayajna*” in the court of Janaka. They ruminated over the nature of the universe and the origin of elements. They debated man, nature and consciousness. They were co-creators of the central tenets of the civilizational wisdom.

This was before the crystallization of Great Indic religions. Then came Buddhism. There were women of substance like Amrapali, Sumangala, Subha during Buddha’s time. But, Buddhism denigrated the women’s capacity for abiding wisdom.

The Buddhist bhikshunis(nuns) were reduced to composers of the songs of spiritual realization and the age of gender-biasing dawned. The Therigatha section of the Khuddaka Nikaya contains 522 stanzas of such compositions. But, very few women could emerge as thinkers. All the transmission lineages of East Asia or Tibet list man after man. Buddhism in Asia turned into an absolutely gender biased tradition with very limited opportunity for women to reincarnate as tulku/ rinpoche or even to elevate herself in the role of khenpos(scholars).

In China, there were woman scholars like Ban Zhao(45C.-116 CE). She is also known in Chinese history as Huiban. She is credited with completing “*The Book of Han*”. She was an astronomer, a mathematician and a librarian at the Han Court. But, as Buddhism, a Great Religion started to exert influence over the Chinese court, hardly a female scholar could receive such prominence. During the Golden Age of the Chinese history when the Tang Dynasty was in power, again there is dearth of female scholars. Even though Wu Zetian (625-705A.D.) became the only female in Chinese history to rule as emperor, there is no trace of effervescence of female scholarship in her court. She is rather credited with elevating Buddhism over Taoism.

One of the last great female thinkers of ancient Alexandria was Hypatia (370-415 A.D.). She propagated secularized wisdom. She taught mathematics, astronomy and philosophy. She assisted her father, Theon of Alexandria, a mathematician and curator of Alexandria Museum, in writing his eleven part commentary on Ptolemy's *Almagest* and the new version of Euclid's *Elements*. But, the new Great Religion of Christianity targeted her for her pagan scholarship. On March 8, 415 A.D.; a mob of Christians led by one Peter, the Lector dragged her from a woman's carriage. She was stripped naked and beaten to death. Her body was torn apart and burnt. Her martyrdom for wisdom coincidentally is commemorated as the International Women's Day (Fù nǚ jié 妇女节).

The advent of another Great Religion, Islam further pushed female scholars into liminal zone. During the early phase of growth of Islam, we do come across female scholars like Fatima Al Batayhiyyah (8th century) who taught the celebrated work of Sahih al Bukhari in Damascus or Sutayta Al-Mahāmalī (10th century), an expert in *hisab* (arithmetics) and *fara'idh* (successoral calculations), credited with inventing several mathematical equations. Labana of Cordoba (Spain, ca. 10th century) is known for her contribution to mathematics. There were female engineers and technicians. Zubayda pioneered the project of digging wells and building service stations all along the pilgrimage route from Baghdad to Mecca. Al-'Ijliya who worked in the court of Sayf al-Dawla in Aleppo (Regnum:944 to 967 A.D.) made an astrolabe. [Mohammad Akram has prepared a 40-volume biographical dictionary (in Arabic) of the women scholars in Islam. An introduction of the book has been published in English under the title, *Al-Muhaddithat: The Women Scholars in Islam* (2007)].

But, expansion of Islam and marginalization of female scholarship occurred in tandem. Muslim women could only dream to excel as good nurses or as expert in religious scripture.

Similarly, among Hindus, women scholarship in secular branches of knowledge was totally on the wane. They could excel only as composer of mystic songs. No woman could ever crave to the exalted position that Bhartrihari or Shankaracarya or Abhinavagupta could attain. *Where have all women philosophers gone?*

The advent of modern scientific tradition did provide opportunities for female scholarship to flourish in the realm of secular knowledge. Pioneering scientists like Marie Curie or Barbara McClintock have left everlasting imprint over mankind. But, as mentioned above, even modernity despises the blooming of female philosophers.

Can we have a Simon de Beauvoir in Islamic world? Can we have scores of Gargi in India? Can we have avatars of Hypatia in the West? Can Asia produce a female Confucius? Until and unless, the academic world provides opportunity and space to female scholarship, no longer we can revolutionize the knowledge tradition further! The world is at a standstill and in dire need of infusion of fresh ideas.

Women hold two-third of the heaven! The heaven is depicted as the place where rivers, streams and nectar flow in bounty. It is a place of liquidity. Women's body like heaven is the dynamic system of motility. Within the amniotic fluid, she holds up the heavenly womb and nourishes the new born with nectar flowing from her body. The future of humanity depends upon the thought-currents gushing forth from the wisdom-wombs of female philosophers.

Sooner the Great Religions and the modern knowledge tradition reform to provide ample opportunity for female philosophers, better it shall be. The world does not require the plethora of New Age Goddesses, Dakinis, Khandroma, and Devis. Women scholarship has to be freed from the simulacral prison of literature, art, mysticism and management. More and more female scholars need to be groomed in “hard” philosophy and “hard” sciences. New woman scholarship should carve fusion of the spirit of Ban Zhao, Hypatia and Gargi. The day female philosophers of contemporaneity ascend the academic thrones of the leading Universities, the fresh breeze of change will begin to blow.

The current issue of the Journal of Indian Research is publishing several papers from the pen of woman scholars from Makkah to Dhaka. It is a small step towards carving a grand vision. But, as is said, the first step howsoever small, is always the right step. We wish the readers of the JIR all the best in the year ahead and invite female scholars to contribute in this growing academic current.

– **Niraj Kumar**

THE LIFE-CYCLE OF FIAT MONEY : AN INSIGHT INTO ITS HISTORY AND EVOLUTION

*Farah Yassen Durani**

ABSTRACT

The paper aims at providing a complete history of fiat money and its time line of evolution in practice. The paper also explores how paper money found its first use and a repeated trajectory that it followed in every period, place and authority. Paper money is basically fiat money with no intrinsic worth unlike metallic currencies. Fiat money has attained a unique status in our contemporary world. All governments issue it, and all businesses, organisations and individuals rely upon it. Mandated by law, fiat money is generally accepted as a convenient mode of exchange. Since fiat money is devoid of any intrinsic value, its value is based on the government fiat. The future exchange remains vaguely secured by an empty promise. The historical evidences discussed in the paper show how societies shunned the paper money experiment either by voluntarily returning to commodity money, or succumbing to the inflationary meltdown of money with ill repercussions on economy and society. The paper helps understand the context of the current debate on geoeconomics of finance and currency crisis.

Keywords: *Assignats, Bank Ducats, bu, Chiao-tzu, Chin Empire, Continental currency, credit, depreciation, Fiat money, fei-ch'ien, Great Depression, hard money, Hui-tzu, hyperinflation, mon, national paper currency of sen and yen notes, oban, paper money, shu, worthless national currency.*

INTRODUCTION

Mankind used commodity money in the form of precious metals like gold and silver for 2500 years, for its unique characteristics of homogeneity, durability, divisibility and relative scarcity. The supply of these commodity monetary units remained essentially fixed. These metals could be mined at a considerable cost. It was not possible to increase the supply of such metals due to severe constraints like technology of extraction, exploration and refining.

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Therefore history witnessed an inelastic supply of money for considerable period of time. Money after barter is reported to have found its first use in Lydia around 640 B.C (an ancient kingdom located in what is now Turkey).The very first coins were made of an alloy of gold and silver called *electrum*.

The government symbols inscribed on the coins were to signify the attestation of the weight and purity the coins carried. These coins facilitated ancient trade to a greater extent as the traders were able to fend off the difficulty of weighing the coins in each transaction. Coin form of money dominated the scene for around 2500 years because of serving the true functions of money as measure of value, means of transferring and preserving wealth and ready acceptability for exchanging goods and services.

Paper seems to have come to serve as money because people found it cumbersome to carry heavy metal coins for larger transactions, paper bridged this gap. The requirements of the paper money are very simple, Paper was invented in China in 105 A.D; Fluid Ink again of Chinese origin was invented few centuries later in 400 A.D. In 600 A.D.,Block Printing was invented by Buddhist Monks again in China. The paper money first appeared as receipts for strings of iron or copper cash coins in 11th century China. Despite its functionality in facilitating exchanges, the very characteristic of ease of its creation makes it prone to abuse and easy destruction of purchasing power. History has witnessed a roller coaster ride of trade and commerce ever since inception of paper money and the trajectory that paper money is seen to follow most of the time.

Paper money has an inherent capacity to facilitate the trade initially, however after it matures, it usually is subject to abuse by its issuing authorities that derails the entire economic state of affairs.This paper provides a complete account of how paper money originated in China, was used by five major Chinnese dynasties, caused the fall of entire empires, was abandoned by Chinese. How this money travelled to the west and its acceptance in almost every nook and corner of the western world will be discussed in subsequent sections. The most amusing learning about the paper money is the repetition in the fate of fiat currencies, observed in all ages, places and eras. Following is the broad outline of the objectives of this paper.

- To provide an elaborate account of the origin, growth and annihilation of fiat currency systems of the world;
- To relate the similarity of the path followed by the value of paper money in various eras and regions;
- To provide a detailed description of failed fiat currencies.

1. Emergence of Paper Money

Paper Money emerged first in China serving various purposes which were all exchange related. The various pre-existing forms before paper money found in use , are given as follow:

1.1 Deerskin Money: The earliest use is reported to be about 2000 years ago, when a Chinese Emperor created a notorious way to fill his empty treasury with the use of Deerskin Money. Noblemen wishing to visit the Emperor were directed to buy an embroidered piece of Deerskin from the Royal Treasury to be presented to the King. The embroidery affirmed

authenticity of the Deerskin piece, which cost about 400 strings of copper cash coins.¹ Deerskin money filled Emperor's ailing coffers and also earned the loyalty of noblemen.

1.2 Ghosts, Rituals and Paper Offerings: A long dated culture of sending gifts and offerings to deceased ancestors in China took a form around 600 A.D., wherein religious papers were used as substitute for the material offerings. Four grades of paper money corresponding to gold, silver, copper and silk were offered. These paper notes did not circulate among masses, however were exclusively used as offerings to the deceased.²

1.3 Credit: Three kinds of credit institutions existed in China at the beginning of 5th century: the pawn shop, the cooperative loan society and the money shop. Pawn shops were the early conceivers of credit in China, started by Buddhist monasteries. These lent money against rolls of silk, animals etc. Cooperative loan societies were formed by pooling of family wealth. These societies extended credit to general masses at an interest rate less than pawn shops and sometimes required no collateral. A closer looking credit institution to a modern day bank was the money shop, which not only acted as a credit source but also innovated new media of exchange. Merchants relied a lot on money shops for transacting large sums over great distances. Among the services that they offered were convertibility of various means of money and the most important of all was the conception of paper promissory notes and commodity vouchers. A promissory note allowed the holder a redemption of the specified sum from any money shop and the commodity voucher vouched for the Merchant's ownership of various commodities.³ These paper notes and vouchers issued by money shops laid a foundation for the use of paper currency in China. These early credit institutions familiarized people with the process of credit and also enhanced their trust and acceptability for paper money.

1.4 Flying money: As reported by Yang in *Money and Credit in China* (1952), the historians are convinced enough to deem Flying Money as the conceptual beginning of paper money. First emerged in 750 A.D., this new form of money started as a negotiable draft note, which was denominated in strings of cash coins. This form of money initiated to facilitate the long distance trade and was called *fei-ch'ien* which means *flying money*. Flying money was used rampantly by tea merchants who would carry tea to far distances and deposit whatever they earned with money shops against *fei-ch'ien*. The tea merchant could redeem this *fei-ch'ien* upon reaching home with any money shop. This method of money transference became one of the safest ways by which merchants could get away carrying huge amounts of cash coins over long distances. *Fei-ch'ien* became so popular that in tenth century, Emperor used it to collect taxes from various provinces. *Fei-ch'ien* though a credit instrument, found its ready acceptability as money anywhere, to an extent that government had to take over the control of its issuance.⁴

1.5 Szechwan (Sichuan), the Birthplace of paper money: For the first time in history, paper notes emerged for reasons other than the business convenience. Szechwan faced shortage of copper which was the metal used for minting coins. The authorities started looking for alternatives. Iron served to be the best alternative as it was present in abundance. But iron was far less in value than copper. Officially a copper coin was exchangeable to three iron coins, while the intrinsic value of copper was nine times more than that of iron. Daily transactions became very cumbersome, as shoppers found themselves burdened with carrying nine times

more weight in cash than before. It is reported that a housewife needed to carry one and half pounds of iron to the market just to buy a pound of salt.⁵

Paper seemed to be the panacea to all money problems; people started getting paper receipts against iron money from money shops. Sixteen merchant houses collaborated in 1011 A.D., agreed to accept and honor each other's receipts and later initiated a single uniform paper note. *Chiao-tzu* was the name given to them; these were block printed carrying a watermark to identify the issuer. Thus paper money made its historic debut as formal money in mainstream trade and commerce. This money became widespread in use by masses as it differed from commodity vouchers in that it got redeemed always in a commodity called *cash*.

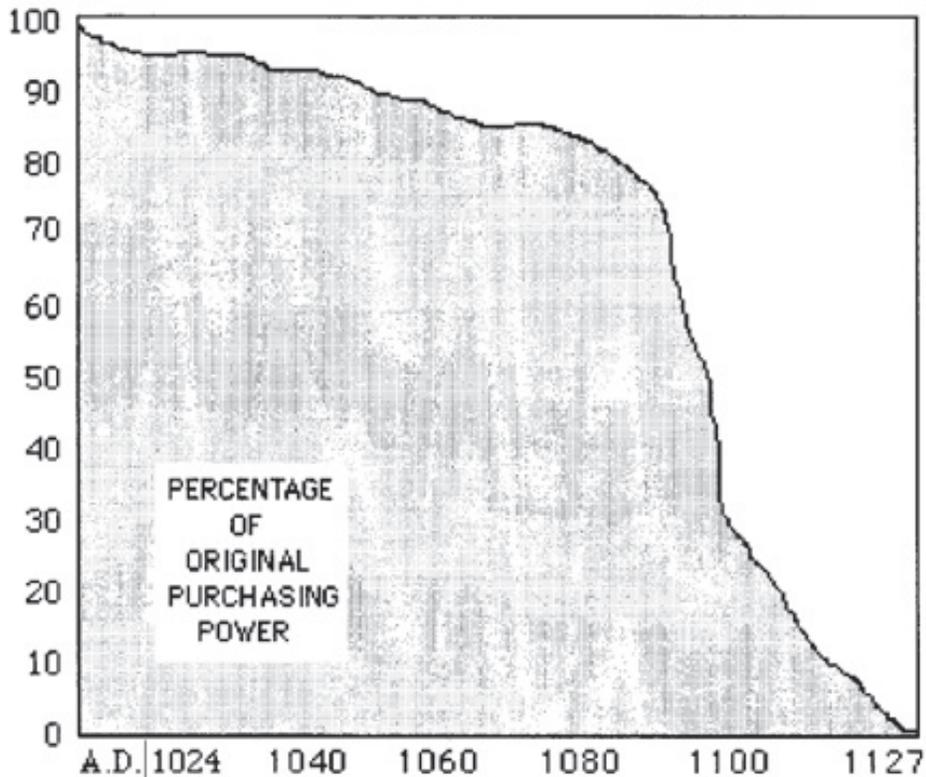
Unfortunately, the very first paper money met the fate that its successors have been facing so far. The Merchants not so prudent always, overissued the notes. This was the beginning of the problem which became chronic when a number of money shops were unable to redeem the notes, leaving their depositors ruined. The situation worsened when iron cash coins themselves were subject to frequent valuations leaving the linked paper money to adjust in value quite often. The sixteen merchants lost their confidence and name in the market and in 1022 A.D., loss of trust in the system made government authorities announce the closure of many money shops.⁶ This era in Szechwan not only witnessed the emergence of paper money but also instigated a major breakthrough of giving the authority of issuing paper money to the government alone. As the system had failed at the hands of private money shops, a threat of economic crisis brought government officials together to discuss a new monetary system. It was envisaged that the problem could be curbed only if merchants were prohibited from issuing currency notes and sole authority of printing was given to the government. On January 2, 1024 A.D., a directive was passed from Sung Court to Imperial Treasury to issue national paper money for use by all.⁷

2. EARLY PAPER MONEY SYSTEM OF CHINA: THE ERA OF NATIONAL PAPER MONEY

2.1 The Sung Dynasty (960-1126 A.D.): As Sung dynasty took the credit of issuing first national paper money, its imperial treasury began to circulate *Chiao-tzu* in 1024 A.D. in the province of Szechwan. The new currency was convertible to ten strings of copper cash and was decreed to circulate for three years. After three years, either the money would be redeemed to coins or converted to new cash. Proper regulatory system was put in place to see the quantity and printing needs of paper money.⁸ The widespread use of paper money entailed that large quantities be printed, however treasuries soon realized that the confidence in paper money made the redemptions very infrequent. What followed next, was the temptation of authorities not to back the circulation by 100% cash coins. It is reported that only 29% of the new issues were backed by cash strings.⁹

Confidence in the business sector strengthened because of the new payment system and economy in Szechwan experienced a boom. Besides providing smooth payment system that supported economic growth, the new paper money *Chiao-tzu* also served government in handling easy collection of taxes which if pursued in coin strings would be laborious and cost-

ineffective. Tax revenues also improved because of prosperous economic activities. The major incentive to the government for printing new issues of money was the conversion fee that it bagged everytime a new note was issued. *Chiao-tzu* became so popular that it flourished to other parts of the empire. Termed as an economic breakthrough in payment system *Chiao-tzu* retained its value for seven decades. The very first paper money began to see its demise due to the abuse that it always becomes prone to, which is none other than its ease of creation. The paper money created, hardly followed the schedule of its retirement. The beginning of the 12th century marked the twenty fold increase in the volume of paper notes as was authorized in 1024 A.D.. Prices of commodities and services skyrocketed with the downfall of stability and wealth in Szchewan, and hence the beginning of the demise of *Chiao-tzu*.¹⁰ Adding to the misery, Chin Tartars attacked the Sung Empire. The paper money that had already started losing its value, further deteriorated when government printed more money to finance its war expenses. Inflation soared, people completely lost confidence in *Chiao-tzu*, rendering it worth after a few years.

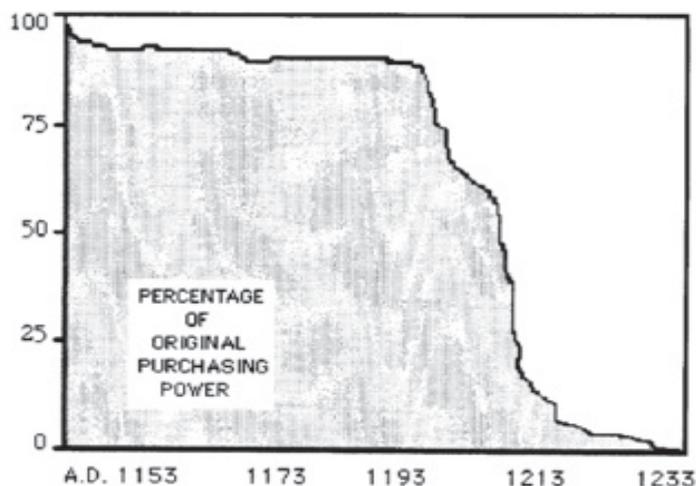


Graph 1: Value of *Chiao-tzu* at different points of time (1024 and 1127 A.D.)

Source: Adopted from Ralph T. Foster (2010)

2.2 The Chin Empire (1127-1234 A.D.) : The Chin Tartars after defeating Sung Empire from south took over its northern region and established a new state whose capital was Chung-tu (Present Day Beijing). Borrowing the idea of paper money from Sung dynasty, the Chin started issuing paper currency called *Chiao-Ch'ao* in 1153 A.D. It was for the first time that a currency was issued without setting a time limit, and secondly the laws were enacted against refusal of state currency. This precedent testifies the fact that paper money though originated due to its virtues, however earned acceptability among masses by command and not by its economic benefits. *Chiao-ch'ao* retained its value for forty years. Though short of cash coins and precious metal, the Chin emperor falsely committed itself to backing and redemption of fiat notes against cash. In reality, the Chin paper money was supported by the government authority only. Like its predecessor, Chin Empire also got trapped in financing its defense expenses by over-printing the paper money. Inflation pursued as the laws to maintain the value of *Chiao-Ch'ao* could not defy the laws of economics. *Chiao-Ch'ao* depreciated drastically in value. Government not knowing what to do responded to escalating inflation by printing more unbacked money with larger denominations. Copper ceased to be minted and the paper money started appearing worthless, merchants resorted to silver to sustain trade. Silver was considered superior form of money during this era and was used to support large transactions.¹¹

Chin administrators after discerning the market reaction to the paper money, tried many gimmicks to make paper appear valuable in the eyes of traders. One such effort was to associate paper currency with silver. Laws were enacted to realize small transactions with paper money; however larger transactions were required to be settled with silver in one third and the rest with paper money. Huge resistance was extended by traders, merchants and general public against such laws and mostly these decrees were ignored.¹² Fearing deepening of the hostile resistance, Chin government stopped printing any new issues. The first example of mismanagement and failure of a currency leading to the collapse of the State was set. As Mongols attacked Northern China through Chin route, Chin further got disorganized and finally collapsed in 1234 A.D.

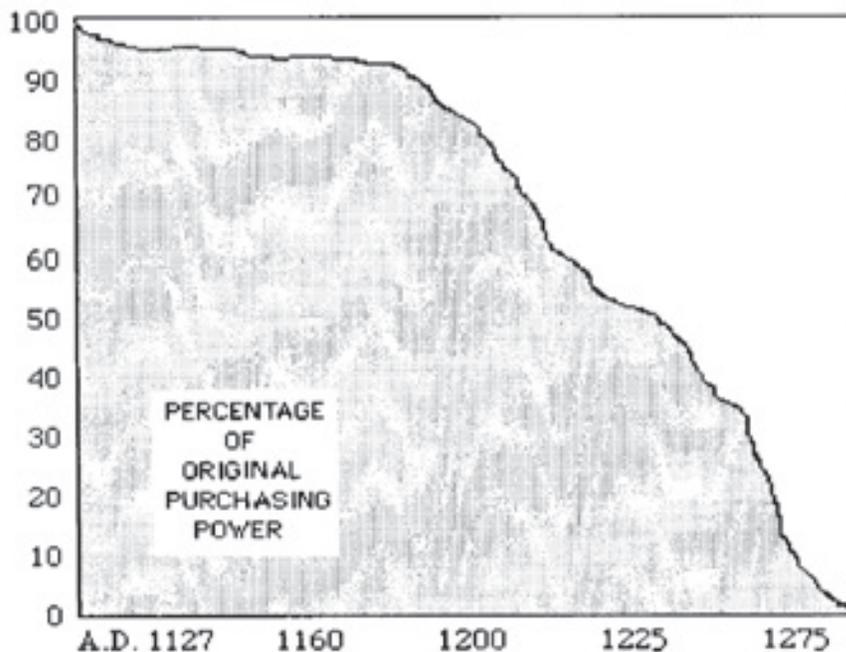


Graph 2: Life cycle of the purchasing power of Chin Paper Currency

Source: Adopted from Ralph T. Foster (2010)

2.3 Southern Sung Dynasty (1127 – 1275 A.D.): Hangchow(Hangzhou), the new capital of Southern Sung Empire, introduced a new currency note, the *hui-tzu*. *Hui-tzu* steadily spread to other parts of empire and became one of the important factors to support flexible payment system. For over 60 years, *Hui-tzu* was used in banks and clearing houses. Eventually the government like all other governments became negligent in managing the circulation and printing of money. The pace with which the money was printed outnumbered the absorption capacity of the economy and hence *Hui-tzu* started falling. Government tried to appeal to the senses of people by making paper notes more attractive and giving rebates on payments made by paper money. However these efforts were not enough to restore public confidence and the chances of paper money regaining its acceptability among masses were grim. Such discontent led many philosophers of the time to comment on the issue, Ye Shi (1150-1223 A.D.) termed paper money as “empty money”, upon discerning how its inflationary tendencies could hurt the economy. Hu Zhiyu (1227-1295 A.D.) said that only backing with real assets gave paper value, paper money the child is dependent on the precious metal, the mother. Paper without backing is like a child who has been orphaned at the childbirth.¹³

Yet southern Sung currency did not fall abruptly as its predecessors did. The decline was prolonged partly because of the size and economic strength of this great nation. The other reason was its location which delayed Mongol’s approach to this land. By the time the Southern Sung fell at the hands of Mongols, their currency had already become worthless.



Graph 3: Life cycle of Southern Sung Paper Money.

Source: Adopted from Ralph T. Foster, *Fiat Paper Money, the History and Evolution of our Currency* (2010)

2.4 The Mongol's money: After conquering Chin and Sung empires, Mongols issued currencies that were similar to the ones existing formerly in those places. A Mongol Commander is reported to have issued paper money backed by silk while fighting Chin from 1227 to 1228 A.D. This paper money was given the same name as notes in Hangchow, i.e. *hui-tzu*.¹⁴ Kubal'ai Khan's most renowned advisor warned Khan of inflationary spiral that paper currency had initiated and doomed the Chin empire. It was first time that someone in the advisory council strongly recommended a conservative ratio of paper to the commodity it was backed with.¹⁵ In 1260 A.D., *chung-t'ung* was ordered to be printed as new paper money and was backed by silver. This money circulated throughout China. By now, Chinese officials seem to have come to senses about the woes of paper money. To maintain its stable value and confidence, government established Stabilization Bureau known as Equitable Ratio Treasuries in 1268 A.D. These bureau located in each provincial capital, made sure that these *Chung-t'ung* was easily redeemed in coin or gold or silver bullion.

Yuan personnel minister Liu Hsuan, though a tough analyst of the paper money commented positively on stabilization bureau:

*"If there was a slightest impediment in the flow of paper money, the authorities would unload silver and accept paper as payment for it. If any loss of popular confidence was feared, then not a cash's worth of the accumulated reserves of gold and silver in the province concerned would be moved elsewhere. At that time still very little paper money was issued without a reserve to back it, and it was therefore easy to control...For seventeen or eighteen years the value of the paper money did not fluctuate."*¹⁶

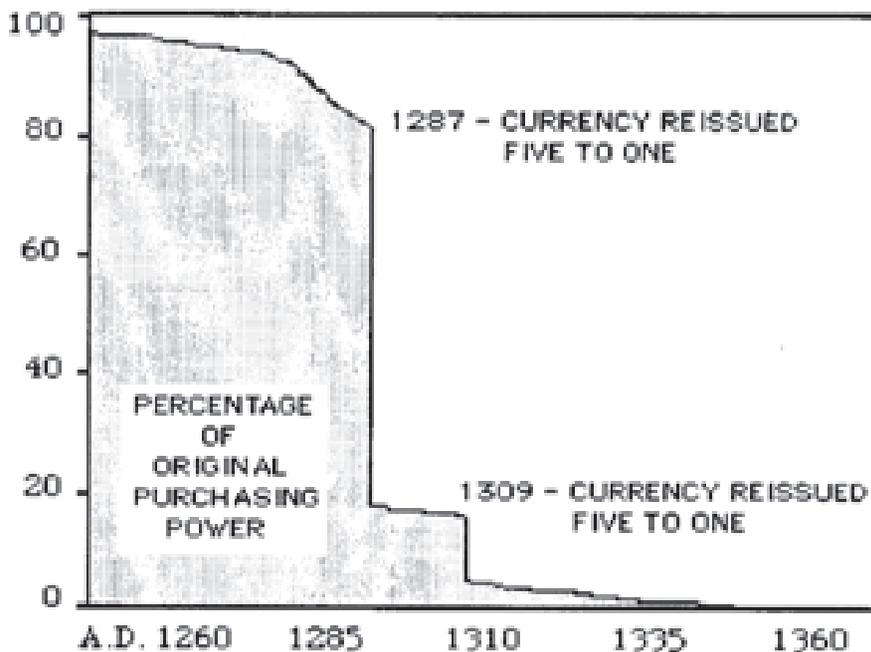
As Mongol's obsession with conquests urged them to expand to Persia and conquer it, one of the Persian officials namely Izzuddin Muzaffar suggested in 1294 A.D. to issue paper money to restore the finances of the government. To introduce the new paper currency gala preparations were made, offices administered by experienced Chinese officials were set up to oversee the currency issues. The new notes were printed with Arabic and Chinese text. Since Persians had used precious metals for centuries as their currency, they could not accept the change well. There were riots, traders ceased their business activities, commodities were not offered for sale, traffic stopped and the economic and social disruption went to the highest leading to Izzudin's persecution by the public.¹⁷ The aversion towards paper money was so intense in Persia that Mongols were forced to withdraw the diktat of paper money and it was never issued again in Persia for next 596 years.

2.5 How Yuan turned Fiat: Mongol's lure of expansion and the desire to rule the entire world demanded humongous investments, and this placed heavy financial burden on Yuan of China. Government's desire to overspend on their desired projects is always the trigger that starts financial problems. Since fiat money can easily meet the requirements of expanding money supply for vested interests of the government, it is what authorities resort to at the end and hence the spree of financial crises begins. The same sequence of events is seen for Chinese Yuan. Mongol's investment in building of 1100-mile long Imperial Canal that connected Hangchow with Khanbalik(Beijing) to control the Yellow river plus a couple of unsuccessful attempts to conquer Japan, burdened Mongols and they ran out of funds. Printing more money was the only apparent solution. But people were already aware of increasing prices, and they

resorted back to coins as inflations rose enormously leading to closure of the Stabilization Bureau. The paper left with people was no more backed. An insightful suggestion by Liu Hsuan is presented below to show how paper money's woes were brought to light:

*“The only way to relieve the situation is to stop any further printing of paper money of denominations of a thousand cash or over, and to print merely the smaller denominations. The latter should be issued to the various treasuries so that they may give them in exchange for notes that are worn out or illegible. This will facilitate the making of small payments by the people. It is necessary to reassure the public by having due regard to our basic reserves of gold and silver when issuing these notes....National expenditure should be calculated with reference to governmental income. Thus, if the annual yield from taxation amounts to a value of one million ingots of silver then annual expenditure should be set somewhere between 500,000 and 700,000 ingots. The remaining surplus of old paper money should be destroyed by burning. If we act on these lines for the next ten years, then prices will be reduced to half their present level, even if they do not sink to their original level. There is no short cut. Producing a new kind of paper money in order to bolster up the old would only amount to a change of names. It would in no wise be comparable to creating a gold and silver backing and so preventing further damage to military and administrative finances”.*¹⁸

This advice though full of wisdom and vision was not paid any attention. The treasury continued printing excessive money amounts until the point when *Chung t'ung* lost all credibility and was rendered worthless.



Graph 4: Declining pattern of *Chung-t'ung*, the currency of Yuan Dynasty

As debates about paper currency went on between politicians and scholars, common man continued to feel the brunt of the failed currency. People's ages long saving was wiped out by enormous inflation, discontent, riots and social unrest became common. The Yuan Dynasty fell in 1368.

2.5 Reintroduction of Paper money by the Ming Dynasty (1368-1644A.D.): Ming dynasty's physical wealth was scanty due to squandering and its copper reserves were not sufficient enough to meet the demand for coins which were used in very low denominations. Ming were forced to rely on paper and they introduced *Ta-Ming Pao-Ch'ao*, "*Precious Note of Great Ming*" in 1375 A.D. It was first time that symbols, seals and signatures were inscribed on thick paper notes, which gave Ming notes significant importance. The Ming notes were not convertible to specie; hence it was the very first time when an attempt was made to base economy completely on fiat currency.

Initially, Ming notes were enthusiastically welcomed in the wake of nationalism about new China; soon counterfeit notes were seen circulating in the market, which was tackled by issuing warnings of harsh punitive actions. As enormous paper notes were being printed and circulated, Ye Ziqi, one of the critics of paper money warned Ming in 1378 A.D. that its currency was adopting a similar trajectory that 'failed Yuan' had a few decades earlier. He strongly suggested backing the paper currency with silver or cash coins; however this was not doable by the government.¹⁹ It was seen that in 75 years (1375-1450 A.D.), the value of an ounce of silver changed from one to 1000 paper strings.²⁰ The depreciation of currency was skyrocketing; this made government ban the ownership and use of precious metals. By 1400 A.D., the laws were in place to mandate the exclusive use of paper money in transactions. Despite these laws, the public had lost all confidence in the paper money and had already started resorting to silver for transactions. All decrees authenticating paper were rescinded in less than a century and masses moved back to silver for trade.

2.6 Paper Money During The Manchu Government (1645 – 1911 A.D.): The Ming dynasty was succeeded by Manchu dynasty in 1645A.D. Manchus known for their liberalism in trade, introduced many reforms in law, taxation and administration. The Manchus were of the opinion that a reliable medium of exchange is vital for a progressing economy. Though they realized the benefits of paper money, but avoided it on account of its abuse and failure in the former dynasties. Though silver ingots are reported to be dominant medium of exchange in Manchus dynasty, a small amount of authorized paper notes issued as an emergency measure are seen in 1650 A.D.. Paper money was completely abolished in 1661 A.D.²¹.

In summary, it took paper money seven centuries in China to be innovated, to form its stronghold and then to get completely vanished. Paper money after 16th century was reduced to academic debates only. There was a school of thought that despised paper money while others had reservations for commodity money. Huang Zongxi suggested in '*A Plane Awaiting a True Prince*' (1662 A.D.), that paper can be useful if bolstered with coins system, however he strictly said against basing the entire economy on it for reasons related to its abuse. Tang Zhen (1630-1704 A.D.), in his writings claimed that commodity money does not serve as an efficient means of payment because it has a tendency to become scarce and its intrinsic value incentivizes hoarding, leaving little or no money for circulation. He advocated base

alternatives and other substitutes, without paying any attention to the fact that value of the base alternatives can be influenced by the governments. Paper money in China, moved across five dynasties for 600 years. From Sung, Chin, Yuan, Ming to Manchus, all witnessed the emergence of money as an easy short cut to solve problems by virtue of the use of printing press. The repetitive pattern that was seen after paper money was introduced is that authorities looked at paper money as a source of quick liquidity and an apparent source of wealth. The economies flourished in the beginning, however the very virtue that paper money is cherished for i.e. its elasticity, becomes the vice. Those who held paper money as store of value found it becoming worthless. On the trough of the money cycle, collapse of the payment system became inevitable, followed by political unrest and in many cases the downfall of the empires.

3. PAPER MONEY TRAVELS TO THE WEST

During the times paper money dominated the payment systems in China, many European travellers, merchants and courts men who had expeditioned to China for reasons of trade, had witnessed widely its presence in payment for transactions. More than being impressed they were taken by surprise on account of how these worthless pieces of paper could be used in place of real species like gold and silver. Ruysbroeck sent by King Louis IX in 1253 A.D. to a Mongol camp in China, to investigate Mongol's intent towards invasion on Europe, discovered the presence of paper money in this vast land and acknowledged that to be a concept which would not be applied in Europe for another four centuries.

*“The everyday currency of Cataia is of paper...the breadth and length of palm, on which the lines are stamped as on Mangu's seal. They write with a brush...of the sort painters use, and in a single character make several letters that comprise one word”.*²²

In the West the exchange was made with units of commodity which could be a precious metal like gold and silver. They could not comprehend an exchange made with paper, rendering it similar to specie. Roybroeck reports that use of paper currency in China appeared as mysterious as the Chinese Language itself, to Louix IX.

An English translation of Marco Polo's observations in the East, *“The Book of Ser Marco Polo, The Venetian, Concerning The Kingdoms and Marvels of the East”*, gives an exciting account of how Chinese used paper to purchase anything they wanted. His writings are elaborate with respect to manufacture, emission and circulation of Yuan paper money. He gives complete account of institutions in place to maintain confidence and instill fear: the signatories, emblems and threat of punishment. What Marco found the most interesting was the ability of paper money to make all gold and silver go in the royal treasury, while leaving masses happy about the receipt of paper in exchange.²³

Many of the European merchants in 14th century went to live, work and trade in China. Most of these trade expeditions were driven by profit motive, little of these remain recorded in written form. Yet a few merchants have related their experiences, which clearly indicate that they were very well acquainted with kind of money Chinese were using.²⁴ Unfortunately the trade link to China broke for couple of centuries due to the plague called Black Death²⁵,

that erupted in China in mid of 14th century and wiped out its two third of population; reached Middle East and Europe through Silk Route and claimed 40 to 70 percent of the European Population. Land trade discontinued and all communication got severed, expedition to China remained quiet for almost a couple of centuries. Much to the advantage of the world trade, the sea link was established to China in early 16th century by Portuguese navigators. They discovered the sea route to China, while Spanish navigators discovered Philippines which became the hub of trade between the West and the Orient. From 1573 A.D., millions of ounces of silver were carried by Spanish galleons to Manila; these galleons were reloaded there with silk, porcelain, spices, rugs and other goods brought out by Chinese traders and then finally carried to Mexico.

3.1 The Emergence of Bankers: As the volume of trade started growing and markets were overwhelmed by Chinese goods and Spanish Silver, a need was felt to develop new book-keeping and accounting practices. Providing financial services appeared a lucrative business, so a group of bankers who were specialists in accepting deposits, clearing drafts and processing bills of exchange initiated the first Banks. They charged some fee for handling these activities. As this form of banking took off, bankers started adopting the Chinese innovation on bank money. These banks introduced standardized units called *Bank Ducats*, to which all accounts were transformed. *Ducats* made recording, balancing and transferring very easy, but it was the first time that the possibility of money being nothing more than a column of numbers, hit the minds of westerners. Newly formed merchant banks were hardly prudent in keeping people's funds; they would invest the entire balance of bank *ducats* in risky commercial start-ups. This led to the failure of many merchant banks. Rialto Bank was formed in 1587A.D., as a measure to formalize the clearing house activity for the merchants and the currency exchange. The Rialto Bank happened to be the first circle bank, where merchants would deposit gold and silver and transfer the ownership rights among themselves. This transfer took place in the form of transferring notes drawn against deposits.²⁶ The peculiarity of this bank was that it accepted deposits but did not make loans, a condition necessary to rebuild trust with banking system that was shaken by the spree of bank failures in Venice. In 1609 A.D, another formal initiative was taken to form Exchange Bank of Amsterdam. It soon gained enormous power and was labeled as the Europe's clearing house. The new bank refined all gold and silver that was deposited with it, issued deposit receipts expressed in units of bank money. The bank became the master of its own bullion market, and every receipt that went from the bank doors was fully backed by metal, a backing that was not influenced by any authority or ruler to alter the value of coins. The Bank of Amsterdam remained popular and prudent bank for all and attracted specie from all over the Europe. However its stability came to be tested in France's invasion on Netherlands in 1672 A.D. when all other banking businesses went out of the business, Bank of Amsterdam lived up to its reputation by honoring all redemption demands. This could not have been possible, had the bank bent low on standards of maintaining hundred percent backing.

3.2 First Paper Money in the West: The first paper money in the West emerged as a solution to immensely heavy copper currency that were used as medium of exchange. Responding to the difficulty of transport of such heavy money, a Dutchman named Johan Palmstruch in 1656

A.D., established the Bank of Stockholm, Sweden's first chartered bank. The basic function of Bank of Stockholm was to accept deposits and extend loans. His goal was to earn interest on depositor's money by lending it out as loans.²⁷ The tons of gold lying idle in deposit banks, waiting for their redemption, were a concern to Palmstruch. He proposed to adopt deposit receipt system of Bank of Amsterdam. He argued that transactions made with bank paper money can ease the difficulty of transport of heavy metals. So with government consent, in 1661 A.D., Palmstruch succeeded in issuing the first official paper currency in the west. The currency was backed hundred percent by metal until the point the bank began to give them out as loans. Ironically a depositor would obtain the bank note after depositing the hard money with the bank, but a borrower would get the same note without any security at all. So the bank notes issued to the borrower had no backing at all. One can say that the Bank of Stockholm was issuing multiple claims on the same hard specie. By 1663 A.D., the bank had already started printing paper bills irrespective of the corresponding copper reserves. When people started noticing the exorbitant volume of paper bills, they asked redemption for their notes. People had a run on bank for copper against the bank notes; nobody wanted to hold this paper currency. The panic started and resulted in the Bank failure and Palmstruch's imprisonment. What remains a question to be pondered is that despite its very first and terrific failure, the paper currency was not abandoned. In 1668 A.D., the Parliament of Sweden established the *Sveriges Riksbank*, an official state bank surviving to date. Initially strict regulation against issuance of paper currency were put in place, however the very inherent cause of state's financial issues forced Riksbank to issue paper money. When paper money in circulation exceeded reserves over thirteen times, the currency was declared inconvertible in 1745 A.D. and general public was required to accept it. The vulnerability that had put Palmstruch behind the bars became an official policy now.

Countries in the West were never financially independent. Kings whose expenditures on war outweighed the income coming from taxes made them resort to foreign borrowing. England was heavily indebted to other nations as it had no money of its own to finance the wars that it carried out with other nations for centuries. The financiers of England were primarily foreign; first Jews, then the Italians, the Flemish and the Dutch. The common impression of these foreign lenders was a pack of thieves out to ruin England. Sir Thomas Gresham, Chief Financial Strategist to Queen Elizabeth (1558-1603 A.D.) urged her not to borrow from foreign lenders and rely more on loyal and trustworthy citizens. Though Greesham had an idea of establishing an '*English Bancke*', but could not settle down on the type of money he would wish England to have. Banking remained predominantly in private hands.

3.3 The Goldsmith's Pledge: I promise to pay: Goldsmiths of 17th century had developed an art of picking up coins with highest content of gold and silver, and debasing these coins which created secondary market for them. Goldsmiths committed these acts to an extent that Charles I complained, "*the Goldsmiths have left their proper trade, have turned exchangers of plate and foreign coins for our English coins*".²⁸ Goldsmiths issued deposit receipt against the coins deposit made with them. These deposit receipts were considered as good as king's own money. So much trust was associated with these receipts, which later came to be called as "Goldsmith's Notes" that they started circulating far and wide in England. These notes

were 'a promise to pay', to a specific person, later became 'or bearer', which meant anybody possessing these notes could redeem them for coin or metal upon presenting to the goldsmith. Soon goldsmiths realized that they could make loans of coin and promissory notes. The goldsmiths played safe, taking lesson from Bank of Stockholm. They did not lend paper notes more than the reserves they had. Since they were earning interest on loans, it seemed a profitable business. Driven by the desire of having more profit, goldsmiths started paying interest on deposits to attract more capital. Thus, safekeeping one's gold and silver with the goldsmiths became an interest bearing phenomenon.

England faced a sequence of deteriorating political situation for almost three decades. The treasury was not full enough to serve the spending desires of king, prompted him into unscrupulous sources of funds. Much of the religious and political upheaval was triggered in this era, which resulted in the civil war. When all other newly innovated modes of payment were shaken and thrown out of the window by masses, goldsmith's money still retained its value, trust and reputation. Merchants, traders, clergy and widows all safeguarded their savings by depositing with goldsmiths. England again witnessed the prosperity on account of its foreign trade and colonization ventures abroad. Joint Stock Companies appeared very promising, whereby the company easily raised enormous capital while limiting the individual investor's risk. William Potter proposed the employment of Joint Stock Idea to the creation of much awaited "Great British Bank" in his book, *The Key to Wealth* (1650A.D.). He said, "The agreement of a few tradesmen could generate sufficient credit that merchants could double their stocks without money, without risk and without paying interest. Inspired from Potter, Samuel Lambe presented Cromwell an essay titled "*Seasonable Observations Humbly offered to his Highness the Lord Protector*"(1651). Lambe suggested having a public bank founded as the Joint Stock Company. He proposed that a few men of fortune and credit from the society should join hands in a joint stock, lending the imaginary money at interest. Private bills will take the form of this imaginary or credit money. He went on and on, how this credit money could be the panacea to all ailments of the economy.²⁹

3.4 The Bank of England: A group of English Merchants headed by William Paterson proposed a Joint Stock Bank. The proposal was unique; it offered to advance £2,000,000 as the fund for perpetual interest to the government at five percent yearly interest forever. This was a kind of loan which would never be paid back, was an amount to the crown to spend, with obligation of repayment being forwarded to future generations. This plan was opposed by many including, goldsmiths, parliament and even Exchequers. They found this plan of perpetual fund extension at a rate much lower than the going rate, quiet unreasonable. The Merchant group was seeking the right to issue paper money (current bills): the money that could circulate without any restrictions from the government and needed no endorsements.³⁰ They also demanded a monopoly status with respect to issuing paper currency, and a clearing house position for all transactions in England. Initially met with the heavy resistance from all circles, the proposal started knocking again the doors of parliament when King William embarked on a costly war with France. Parliament was left with no other choice than passing the Tonnage Act of 1694. This Act granted the king control over import and liquor revenues, with which he could repay those, who loaned him funds for his war. The proposed Bank

of England stood as the major lender, hence earned the legal justification for its existence. Again, it was the government’s disability to manage its war expenses that led to an idea very well opposed formerly, be not only accepted but become the official decree endorsed by the government itself.

3.5 Paper money and the National Debt: Something new was happening throughout Europe. The king’s debt was getting transformed into the public debt. The debt that was personal to the royalty was being put on the shoulders of the nation, payable by the people. This was achieved by the creation of Central Banks through issuing paper money. Austria stood on top of the list of countries adopting this technique. The Bank of Austria was founded in 1703 that was responsible for funding the public debt by issuing paper money in exchange for deposits. Following the historic trend of paper money, the bank and its currency failed due to over-issuance of notes on deposits. In 1759 A.D., an innovative attempt was made by an Austrian official to bring the government debt on all people and not just the depositors. Austria’s first paper notes as loan instruments with interest coupons were issued; these resembled the present day bonds. The misled government issued and reissued these paper notes by mistaking their ability to catalyze economic activity for the eternal prosperity. A panic was provoked in 1797 A.D. The times ahead were very difficult; Austria witnessed wars, over-spending and a currency which was nearly worthless that had lost 90% of value.³¹ Most regions of the Europe were going through the same fate, as wars which were formerly financed by taxes and treasury funds, came to be funded by an apparently inexhaustible resource of the national debt. Kings and treasury no longer struggled to find finances for the army, it was conveniently provided by the Central Banks. This convenience led the national debt grow very sharply. National debt showed a hand in hand correlation with the quantity of paper money issued. As shown in the chart below, England’s national debt rose to figures which could never be paid back. The governments easily resorted to printing more money to reduce the debt, or lower the value of money to make the repayment of their debt with cheap money.

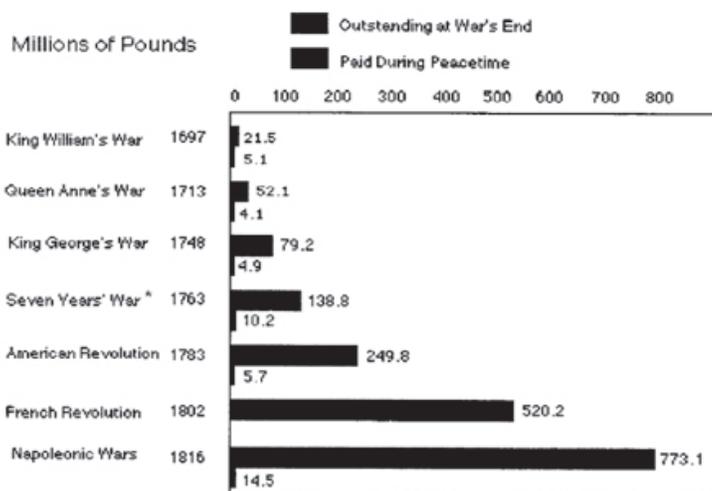


Figure 1: English National Debt :1697 to 1816 A.D.³²

Renowned scholars of this time like Adam Smith and Italian Issac de Pinto warned governments of the ill effects of using printing press in money creation. They clearly deemed the new payment system as a machine of manufacturing the exorbitant debt. By the time their writings were published, paper money had already proven its virtue as well as the vice. Though national debt and paper notes brought economic progress and prosperity, yet many currencies collapses reduced people's lifelong savings to worthless pieces of papers. Even then, there was no sign of abandoning the paper money; the trend was obviously in favor of it.

3.6 American Colonial Currencies:In the 17th century, the British managed to cross the Atlantic to have hold of the vast expanse of available land of America. The bounty of this massive landform instigated opportunism and accumulation of wealth among its discoverers. The Britishers, by Royal Charter easily sold vast chunks of this land to their elite social classes. Thirteen Colonies were established in America, which were governed by England itself. The colonies generated wealth for their motherland. Colonists for their own needs were permitted to trade with England by way of bills of exchange or bartering produce or raw materials. Colonists were not allowed to have their own mint or coin their own money. So even though these colonies acquired gold and silver in trade, they still did not have the authority to create their own medium of exchange. Massachusetts Bay Colony emerged as the first rebellious society to find a loophole in the law by making coins with the date 1652 A.D. Three kinds of money were seen to circulate in British American Colonies: the commodity money, specie and paper money. Commodities like tobacco, beaver skin and wampum were widely used as money.³³Cash in these colonies came to be denominated in pounds, shillings and pence. The value of the paper money varied from colony to colony, however was always lower than the mother British pound sterling. The Portuguese and Spanish coins circulated in these colonies. Such was the prevalence of Spanish dollar that the money of the United States was denominated in dollars and not pounds. Notwithstanding the financial burden of King William's War, America created its first paper money on December 10, 1690 A.D. The Massachusetts Bay Colony passed the legislation, creating public credit bills which came to be known as "*Bills of Credit*". Other colonies followed the lead by printing their own money in subsequent military conflicts.

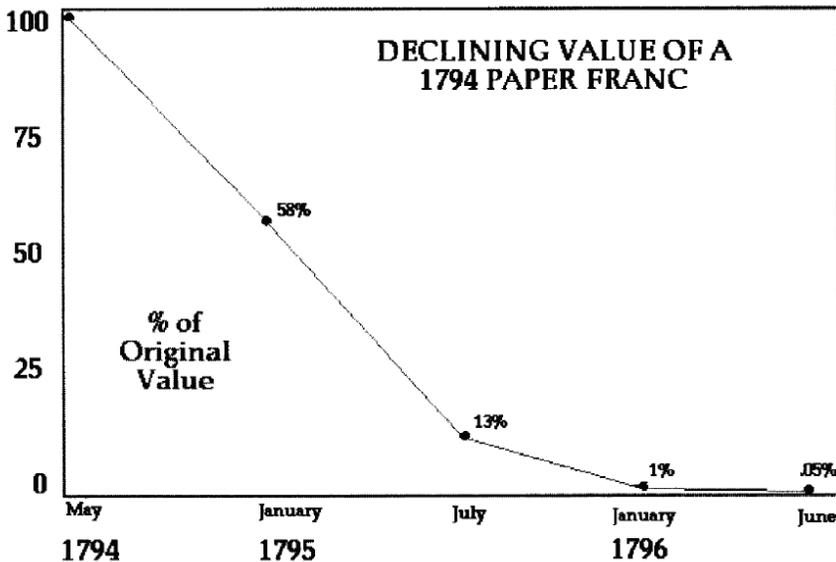
These bills of credit were essentially fiat in nature; they were not backed by any gold or silver and hence could not be redeemed in that kind. These bills were issued by colonial governments to pay the debts, were also accepted as payment of taxes. That is how governments retired these bills. When colonies over-issued them and were scarcely returned back in taxes, inflation resulted. The phenomenon of inflation at its peak was observed in New England and southern Colonies for reasons of being at constant war, hence being at constant affairs of printing paper money. The depreciated currency was not received very well by the Great Britain for its payment of goods. British economist Adam Smith in 1776 opposed the payment of goods in the form of colonial bills of credit. He wrote in his famous work, *The Wealth of Nations*, "The inflationary nature of the currency, was a violent injustice to the creditor; a scheme of fraudulent debtors to cheat their creditors" (Book II, Chapter II). To curb the ever falling value of colonial money, the British Parliament passed several Currency Acts. The Currency Act of 1751 restricted the emission of paper money in New England. The Act

permitted the already existing bills to be used for paying taxes i.e. for paying public debt, but rendered it non-functional for paying merchants i.e. private debt. Another Currency Act was passed in 1774, that allowed New England to issue its paper currency, however prohibited its use as a legal tender for paying public and private debt. This Act sparked tension between the colonies and the motherland. In 1773 A.D., this Act was amended and colonies were allowed to designate their paper currency as legal tender for paying public debt. All rebel colonies printed their own paper money to pay for military expenses in The American War of Revolution.

3.7 Continentals as Joint American Currency: As the War of American Independence broke and individual colonial paper currencies had already failed, there was a sudden need to meet war expenses. Though paper money had failed in most of the colonies recently, yet it remained the only workable option. On June 22, 1775 Congress issued \$3000,000 in new paper bills called “*Continental*s”. The new currency was the Joint American currency that circulated in all thirteen colonies and was specifically meant to provide for army³⁴. The United States’ expenses and pursuit for independence was such that a single issue of continentals would not suffice. The congress repeatedly had to print many issues of continentals that were constantly losing their value. The currency depreciated so much that it gave birth to a famous saying “not worth a continental”. By the end of 1778, Continentals had already lost 6/7 of their face value. As the printing continued, by 1780 the bills were worth 1/40th of face value. By May 1781, Continentals had become so much worthless that they ceased to circulate as money³⁵. Robert Morris appointed as superintendent of finance after the collapse of continentals, advocated the creation of the first Bank of North America, in 1782. France loaned specie to United States to make up the funds for the newly formed bank. The war that was nearing its end was financed by Morris by issuing notes in his name, which were backed by his own money. The Bank of North America also issued paper notes convertible into specie like gold, silver etc.³⁶ The painful lessons learnt of the runaway inflation and collapse of the Continental dollar urged the delegates to the Constitutional Convention to pay a serious consideration to the clause of inclusion of the gold and silver into the United States Constitution. This was to deter individual states to issue bills of credit or allow only gold and silver Coin a Tender in Payment of Debts³⁷. This restriction of issuing bills of credit was even extended to the Federal government, since the power to “emit bills” according to the Articles of Confederation was abolished. The Congress was left with no other choice to generate funds except “to borrow money on credit.”³⁸

3.8 Assignats of France: Assignats was a name given to paper money issued by the National Assembly in France during the French Revolution (1789-1796). The National Assembly came up with an idea of confiscating the property of Church and turning that into revenue, to solve the financial problems of the nation. The Assembly saw only paper money accomplishing this turn around to save the bankrupt government.³⁹ The first issue consisted of the notes of 200, 300 and thousand livres.⁴⁰ The church lands came to be known as *biens nationaux* (“national goods”). *Assignats* were accepted as the legitimate means of payment by domestic and international creditors, therefore were used successfully to retire significant portion of the national debt. It took only a few months to spend the first assignate issue of 400 million livres. After much opposition, the second issue was authorized in 1790 A.D.,

whose denomination went as low as 50 livres. The land that backed the *assignats* went lower and lower in value, as more and more land was being seized to support the *assignats*. Real estate prices went low and sales crippled. Buyers frequently defaulted on payments, fearing that these purchases would be declared void if French Revolution failed. The convertibility link seemed to be diminishing and paper notes began to lose value. With inflation moving continuously in the upward direction, people started seeking to hold alternative money forms. Merchants and traders preferred to transact in coins, lenders started to get rid of depreciating *assignats* at a loss. Those who still had some confidence left in the recovery of *assignats*, lost everything and eventually became beggars.⁴¹ The uncontrolled printing of paper money led to massive hyperinflation. A fresh issue of *assignats* was pushed into the markets in 1793A.D., followed by another two. By the time Robespierre seized power; 7.3 billion livres had already been printed. At this point the total amount of money estimated to be outstanding was over 45 billion Livres.⁴²



Graph 5: Rapid depreciation of assignates.

Source: Semen Falkner et al. *Das Papiergeld der französischen Revolution 1789-1797*,p 49.

Numerous reforms took place as the nation faced continuous strife. The new regime also renamed the money. *Franc* was the new name given to the paper money of this republic. Paper franc brought no better situation than its predecessor. Its number had grown six fold in just two years of time. An official end was meted upon the printing of *assignats* in February 1796. It was ceremonised by the destruction of printing plates and a resolution that no more will be printed. *Mandats Terrotoiriaux* was a new system of paper notes, somewhat similar to *assignats* that was issued to support the ailing financial system of France. This currency was doomed from the very beginning and could not win the trust of people as they were already skeptical about any currency of paper form. In a few years of time, *Mandats* were eaten up by runaway inflation. Not able to control the situation, government finally gave up attempts

to regulate money. On July 16 1796 A.D., government declared that “everyone might transact business in whatever money he chose.....”⁴³ The end of fiat money and the French revolution went hand in hand. The failure of *assignats* and *mandats* contributed to the fall of the radical government. It was Napoleon the Great, who in 1797 A.D. rejuvenated the nation’s financial system with new gold standard comprising of coins in denominations of 20 and 40 francs. French citizens victimized by fiat currency for a decade now, welcomed the return to hard money with warm hearts.

3.9 Flight from Hard Money to Paper Currency in the United States of America: 1781-1900 A.D.

The United States of America was moving towards having a proper democratic government. As debates went on between the delegates regarding the articles of new constitution, the subject of paper money was somewhat clear. On account of their former experiences with colonial money, all delegates unanimously agreed upon banning the state-issued paper money. The power to coin nation’s money was assigned to Congress only and all forms of money but gold and silver coins were forbidden to be considered as a legal tender. It is worth paying attention to how all the founding fathers of the United States negated the paper money in unison. James Madison called it unjust and unconstitutional.⁴⁴ Thomas Jefferson argued that the federal government should never be given the power to print paper money as a legal tender.⁴⁵ Thomas Paine presented an interesting analogy to describe paper money. He said, “Paper money is like dram drinking; it relieves for a moment by deceitful sensation, but gradually diminishes the natural heat, and leaves the body worse than it found it”.⁴⁶ Alexander Hamilton said,

*To emit the unfunded paper as the sign of value ought not to continue a formal part of constitution, nor even hereafter to be employed: being in its nature, pregnant with abuses, and liable to be made the engine of imposition and fraud: holding out temptations equally pernicious to the integrity of government and to the morals of people.*⁴⁷

The constitutional debates over paper money were considered implicitly forbidden as the provision for national money did not include paper. The first official money of the United States was Spanish milled dollars authorized by the Congress. The United States also established its own mint in Philadelphia in 1792 AD. The first coins mined were half dimes made out of silver donated by George Washington. As the U.S became open to business after the revolution, prosperity grew in the country. The flourishing trade demanded widespread circulation of money. Minted coins were falling short to support the newly prospering trade and commerce. A group of financiers came forward to propose the establishment of a national bank to issue paper money. The bank would be exclusively privately owned to honor the constitutional provision of prohibition of governmental issuance of paper money. In 1791 A.D., Congress passed legislation permitting to create first bank of the United States, with a charter to operate for twenty years. When its charter expired, it was not renewed. The organizers of the first bank pressed Congress to create the second bank of the United States in 1816 A.D. for another twenty years. Between 1812 and 1860 A.D., the federal government issued interest bearing treasury notes. These notes did not circulate as legal tenders, however were receivable for taxes, debts and government duties. By the year 1830 A.D., private banks budded like mushrooms in the United States. Around three thousand banks were established

throughout the Midwest, the South and the major Eastern cities. The notes from these private banks were backed by minimal specie reserves. For example, the specie deposit ratio at all banks in Illinois was 1: 25.⁴⁸ Many banks had to face runs when people lost confidence and asked for the redemption of the notes they held. When banks collapsed, their notes earned the title of “*broken bank notes*”.

The civil wars in the United States reversed the course of American history. In 1860 A.D., a division emerged between the north and the south of America on account of states' rights and slavery. As the civil war broke, it came to test the resources and resolve on both sides. Resources available to pay for war needs and soldiers were continuously getting exhausted. By 1861 A.D., the North was heading towards the financial collapse. Not enduring the pressure, President Lincoln decided to get away with six decades long constitutional prohibition against national paper money. On February 25, 1862, Congress passed the First National Currency Act, with Lincoln's endorsement. The first issue of \$ 150,000,000 was circulated in legal tender notes. Since the reverse side of these notes was printed in green, they came to be known as '*greenbacks*'. Notes and gold entered into the circulation side by side. The accounts were managed separately by the banks. A gold dollar was fixed to the value of metal in gold coins, while paper dollar was only redeemed for a greenback. Even the new greenback had no mention of the specie; it declared itself redeemable for a dollar, but failed to define what that dollar was. The value of greenback was mainly maintained by the public confidence and elusive promise of redemption. The Battle of Chancellorsville in 1863 A.D. triggered the depreciation of greenback. By 1864 A.D., \$1000 in greenback was able to buy \$387 in gold or silver in the open market. Union victories restored the greenbacks value to a larger extent in 1865 A.D. As the confidence in greenbacks was restored, Congress decided that it was time to nationalize the currency and culminate the age of broken banks. The failure of broken banks had made it clear that only the United States Government could be given the authority to issue paper money. The National Bank Act of 1863 established a new national currency system, not permitting the private banks to issue their own notes. Many private banks were converted to chartered national banks to issue the new currency. The new currency was of a standardized design that differed only in the name of the city of issuing bank. The quantity of money was strictly restricted and was backed by treasury bonds.⁴⁹ The banking standards improved largely due to new national paper currency.

Even though paper money was well circulated in all circles of society, yet the majority of Americans did not identify with it. They could not still remember the failure of continentals, broken banks and the vulnerabilities of greenbacks during war times. As the greenbacks started depreciating, it triggered agitation among general masses for the retirement of some of the greenbacks or not printing any more to keep the current amount constant. They were averse to paper money due to its bitter repercussions in the past. In April 1874 A.D., President Grant took a step further and; he vetoed the emission of more bills and called for a need to have a sound medium of exchange. On December 21, 1874, Congress passed the Specie Resumption Act. So greenback came to be redeemable at its face value in gold and silver in 1879 A.D. New issues were printed at limited levels. The new paper money backed by specie was supported by people's confidence in it.

4. PAPER MONEY IN THE NINETEENTH CENTURY WORLD

The world with open lines of communication and better modes of transport had become a place of flourishing trade and commerce during 19th century. Massive Industrialization occurred prompting people to move to cities in search of work. As new nations were emerging in Europe and Latin America, their economies were nationally managed and the easiest form of credit considered was the issuance of paper money. Paper money circulated far and wide, all citizens became accustomed to transacting in paper money.

By now, paper money was not new to Europe, America and Latin America. In Asia and Africa, though it was long forgotten in China, the colonial and mercantilist shifts reintroduced the paper currency. Nineteenth century witnessed a remarkable changeover of empires, governments, economies and national currencies. In this century, almost all countries of the world had started to rely on the weak foundation of the paper currency. The national currencies instigated sentiments of pride and nationalism. Initially all currencies were backed by gold and silver, however many nations could not stand the test of discipline in the wake of overspending and squandering money. Much attention was being paid by scholars to highlight the issue of specie backing the paper money. Many of the financiers of the world were interested in knowing this relationship of money and specie. In 1875 A.D., English economist, Henry Dunning Macleod came up with the currency principle, specifying that banks should maintain enough specie reserves to redeem all its paper money. Though banks used to back the paper notes, but it was not accomplished in full, as it demanded a total restraint on government's spending discipline. Only a few countries adhered to the currency principle, including England, the United States, France, Germany and Switzerland.⁵⁰ Others only backed a portion of their currency with gold and silver. To avoid the redemption crisis, about 30% of backing was considered enough. Interestingly the paper currency was nothing but a promise of redemption. As long as people had confidence that the promise would be fulfilled by the government, the currency survived. The confidence itself was very fragile; any suspicious move from the government could shake it. Usually prompted by overprinting of paper money, the confidence would evaporate on account of disturbed *specie to paper ratio* resulting into panic. Following its inherent trajectory, most of the paper money in panic would flow to its issuer for redemption for anything of value. Not having enough specie to attend to the people's call, these banks closed their doors on them. This was when the specie payment link was suspended; people were left with nothing in their hands but worthless fiat money. In those times wars and revolutions exacerbated this very cycle of paper money. Many nations would resume the link after normalcy was attained. Almost all countries in Europe had resorted to issuing paper money in 19th century, yet only a few could maintain its value with dignity.

Latin America, colonized by two European countries (Spain and Portugal) for three decades, was robbed of the most of its resources. The colonial administration explicitly made the decisions to the advantage of their motherland. Not only were these nations deprived of their indigenous produce, but also were kept underprivileged with respect to learning sciences like polity and economics.⁵¹ To the best advantage of European colonies, as Napoleon disrupted the social order of Europe, the mother countries more entrenched in their native management threw the colonies in disarray. The wave of colonial independence moved from Venezuela, Columbia,

Ecuador to Peru. In the south, Argentina fought for the independence of Chile, Peru and its native Argentina. Though all the countries of South America attained freedom in early 19th century, yet they were mostly unprepared to handle the ground. Precarious as it was, the quest of independence was not very easy, mismanaged by Presidents, dictators and military Juntas who were all power hungry. The freshly formed governments relied on foreign lenders to keep their economies afloat. Unfortunately these nations had nothing to offer as security other than their natural resources. They borrowed funds from foreign lenders, giving them authority on their mines, land, property and other sources of revenue. The quick-fix of borrowing money had harsh repercussions in future. Continuous borrowing did no good to these nations except leaving them constantly impoverished and drained. They were left reliant as major industries and natural resources went to the coffers of foreign lenders. These countries had no resource to pay back their debt; though rich in natural resources their wrong decisions pledged them to those who had granted debt at first place. National governments resorted to unscrupulous financial practices.

Most of the Latin American countries depended on the issuance of large amount of unbacked currencies for running their nations. Initially, some of the nations showed some conservatism with respect to the paper money (Argentina, Guatemala), the rest went through a roller-coaster ride of issuing paper money, printing enormous amounts and finally abandoning the link. This resulted in abundance of large amounts of depreciating paper currency. Latin America has dubious distinction of having maximum number of currency crises that no other continent on the face of earth can match.

In Asia, China had been following an unbeatable fiscal policy since it had abandoned paper money in 1661 A.D. Disturbances came from Taiping Rebellion (1850-1864 A.D.) that shook China to its very foundation. The Manchu government did not have enough funds and it resorted to issuing paper money to pay its army. The new unbacked paper money (*Tael* notes) rapidly became valueless, in just eight years of time they were selling at 3% of their face value.⁵² As the territories like Korea, Vietnam and Taiwan were lost in uprisings, foreign authorities carved '*spheres of influence*' within China. Foreign influence established their stronghold to a greater extent in early 20th century. There was a sudden increase in the number of foreign banks conducting business in China. Many banks were authorized to issue paper notes, which is how paper money made its acceptance again in the Chinese society.

Japan became heavily industrialized. It relied on its traditional copper, silver, and gold coins and ingots called *bu*, *shu*, *mon* and *oban*. After prolonged confusion on evolving payment system, the Emperor finally nodded for introduction of national paper currency of *sen* and *yen* notes in 1872. In 1882, The Bank of Japan was established to restore dwindling confidence in yen that had already lost 50% of its value. The bank maintained high specie to note value⁵³ that helped drive unbacked paper money out.

The wave of paper money travelled to all other countries in Asia either by colonial influence or by the perceived need of governments to wage wars, flourish or to industrialize. The end of 19th century saw the dominance of credit in the form of paper money all around the world. What remains interesting is that paper money never stuck to its original value over the period of time, its purchasing power reduced drastically. Precious metals vanished from the scene of trade and commerce.

Table 1: Ratio of specie to paper money in 1895

(in millions of Dollars)

	Specie	Reserves	Notes	Backed by specie (in %)
Argentina	6	4	306	1
Austria-Hungary	251	182	343	53
Belgium	107	26	90	29
Bolivia	2	0.8	1	80
Bulgaria	8	2.5	0.3	100
Brazil	13	10	285	3
Canada	19	13	49	26
Central America*	8.5	2	6	33
Chile	24	15	47	32
China	760	-	-	-
Colombia	5	3	16	19
Denmark	20	17	23	76
Ecuador	2.4	0.7	2.2	32
England	719	211	207	100
Finland	8	5	10	50
France	1566	661	736	90
Germany	840	262	300	87
Greece	2	1	55	2
Haiti	5	2	4	50
Italy	147	129	292	44
Japan	168	101	187	54
Mexico	55	31	29	100
Netherlands	86	55	91	60
Norway	9	6	14	43
Ottoman Empire	90	6.5	4.2	100
Paraguay	0.6	0.3	7.3	4
Peru	4.5	-	-	-
Portugal	40	12	59	20
Romania	2.3	10	22	45
Russia	521	462	986	47
Serbia	5	2.2	5	44
Siam	24	-	1	100
Spain	220	95	182	52

Sweden	11	12	30	40
Switzerland	32	19	35	54
Uruguay	13	1	10	10
Venezuela	7	1	2	50
* (Costa Rica, El Salvador, Guatemala, Honduras & Nicaragua)				

Source: Adopted from Maurice Muhleman (1895)

5. PAPER MONEY DURING TWENTIETH CENTURY: FROM PRINTING TO DEPRECIATION TO DEPENDENCY

As the 20th century dawned, paper currency became widely accepted means of payment, replacing specie throughout the world. Though fresh anecdotes from the Latin America were not in favor of fiat money, yet its use by the two advanced nations (England and America) of the world justified its adoption by the rest. England exerted exorbitant influence over rest of the world with respect to finance and development of raw materials through mesh of its huge colonial control. Dollars and Pound Sterling were immensely trusted currencies and acted as ideals to follow in terms of stability. Ironically, with time, these model nation-states became complacent about paper money .

5.1 Spree of Hyperinflation

World War I exhausted gold reserves of warring nations, leaving them with no choice but to resort to debt and paper money. The year the war began, Germany had to suspend the specie backing of its currency Mark to issue the contingency currency called State Loan Currency Notes. Austria and Hungary also followed the lead by issuing emergency paper money through War Loan Banks. The war- led financial crises were somewhat similar throughout the world. The currencies of all warring nations were losing value. Not only the West, currencies in the Ottoman Empire, Russia, and the Balkans was also collapsing. After long years of war, finally when peace returned, Europe was not prepared enough to handle the aftermath of war. Germany particularly suffered financially the most after the war. Defeated Germans had to pay huge amounts of gold and other commodities in compensation, large tracts of productive land were awarded to France, Denmark, Belgium and Poland. Germany was able to bolster only 15% of its expenditure by taxes; the rest came from loans, treasury bills and printing money. Initially people's confidence in government was intact, therefore German bonds continued to be sold to the outside world and huge amounts of marks still remained privately held.⁵⁴

By 1920, markets came to sense. Jittery finance of the nation triggered the ugly hyperinflation. All of a sudden the loaf of bread that cost a mark was selling for 700 marks. The commodity prices skyrocketed. This happened almost overnight, its horrifying speed did not give people time to act to save their wealth. As Germany continuously was in the state of printing money due to its political differences with France, the crisis had already ensued. Foreign investors pulled back their investments, leaving Germany high and dry. In 1923A.D., hyperinflation went even worse; prices were touching limits, the same loaf of bread cost 100,000 marks in

July of the same year. In September it was selling for over 2000,000 marks. People needed to carry marks in suitcases, carts to make basic purchases. To keep pace with the market, government printed more and more money with higher denominations. The million mark note was printed, that gave way to 10 million, then a hundred million and then a billion. Imagine the extent of hyperinflation, mailing a letter would cost 21,500,000,000 marks. After continuing for months, the hyperinflation spiral finally broke when government abandoned the mark on November 18, 1923. A new currency called *rentenmark* was issued. Though not convertible, the new currency was welcomed by desperate Germans terribly wanting to hold a currency of any value. The sad epic of hyperinflation was not specific to Germany only, other nations like-Austria, Greece, Hungary, Poland, Romania, Russia, the Balkan nations and Turkey –met the similar fate. The sequence of events was very much similar, larger denominations were printed until they became worthless. Governments were insolvent and millions of people reduced to being beggars. Not only were people financially traumatized, but also harsh memoirs of suffering lingered in their psyche for decades. Hyperinflation left people psychologically sick and terrified. As in Germany, repudiation of the ailing currency was the only solution; other allies of misery followed the same course. Fresh notes with brighter promises were issued, but the damage could not be undone. Dearth of confidence was seen across Southern and Eastern Europe.

5.1 The Fate of Paper Money after the Great Depression: On October 28, 1929 A.D., an unbelievable financial calamity struck the United States. Its stock market suddenly crashed due to its very own speculative tendencies. U.S stock lost 29 billion dollars in value. It was the beginning of a trap whereby liquidity was evaporating, only a handful were left with any money. Great Depression had just begun. Businesses failed, industries fell, and banks faced collective loan defaults. Between 1930 and 1933 A.D., almost 9000 banks failed, causing savings of millions of people to turn worthless. People were left in misery, poverty and unemployment. Still in the grips of the Great Depression, the United States, in 1932, elected Franklin. D. Roosevelt as its President. Within three months panicked people ran to banks to redeem their paper money with cash or gold. Redeeming everyone's deposits was an impossible task and brought many banks to the brim of collapsing. On March 6, 1933, Roosevelt ordered the closure of all banks and declared a three day historic Bank Holiday. Roosevelt declared that all banks would be examined by the governments, banks found solvent would be reopened and the rest will be closed down. He assured the people that new currency would be issued to help good banks meet redemption calls. This currency will be not backed by the gold but by the security of 'good assets'. Roosevelt established a dependency on Federal Reserve that subsequently became all powerful in handling monetary policy issues. Thousands of insolvent banks were closed, yet many banks reopened as the immediate crisis passed. On April 5, 1933 A.D., Roosevelt made it unlawful for American public to own gold in the form of coins, bullion or certificates in excess of \$100. Exporting gold was also considered illegal. People, companies and all other organisations were required to hand over gold to Federal Reserve. Many big international companies also suffered at the hands of this act and lost huge wealth to Federal Reserve⁵⁵. On 31st January, 1934, Roosevelt reduced the dollar's official value from \$20.67 per ounce of gold to \$35.00 per ounce. This was meant to combat the falling commodity prices by inflating dollar, as deflation was a major problem during the Great Depression. This

was not a winning situation for everyone in America; some companies had an overnight loss of 40% of their holdings.

Three types of money circulated in the United States after the Bank Holiday. The United States Notes issued by treasury, had a red seal and were not backed by anything. These notes were fiat currency and were called legal tender notes. Silver certificates redeemable for coins and bullion, and Federal Reserve Notes formed the rest of the currency in circulation.

Meanwhile, in 1929, the Second World War erupted in Europe and Asia. Germany and Japan occupied nations after nations and replaced their national currencies with fresh issues pegged to the Reichsmark or Yen. As the war ended in 1945, Europe was again devastated. Fiscal reforms were adopted by various nations to undo the spending on wars. Old money was demonetized and new paper issues were introduced. The brunt of repudiation was borne by common people who had held national currency as a store of value. Those who had succeeded in converting their money to specie were spared from heavy losses. Many of the new currencies that came to existence after the war immediately collapsed. The countries that witnessed the collapse of new currencies include China, Germany, Taiwan, Italy, Indonesia and Greece. In Hungary the denomination of notes went as high as 1000,000,000 pengos.

To get the money back on track, in July 1944, forty four nations met at Bretton Woods, New Hampshire. This conference was labeled as a ground breaking development in the history of money. The World Bank and the International Monetary Fund were established in this assembly. The biggest accomplishment of this conference was Bretton Woods Agreement that stated each country's currency value should be fixed with respect to some international reserve to avoid its fluctuation and instability. Gold was initially proposed as the reserve asset, but was immediately opposed by some eminent economists on account of impracticality. U.S dollar seen as the second best alternative required participating countries to convert their trade reserves in the U.S dollars which could be redeemable for gold at \$35 an ounce. After Bretton Woods's agreement, the virtue of currency stability and growth continued for three decades only. Government spending in U.S. was on upward scale. Millions of dollars circulated offshore to rebuild post-war Europe and Asia. Finally the American War in Korea and Vietnam required the U.S to acquire huge public debt and led to greater printing of paper dollars. This led to higher inflation rates. As other countries started sensing trouble, they steadily began demanding redemption of dollars in gold. In 1948 A.D., the United States held almost 25 billion dollars in gold, which reduced to less than 20 billion dollars worth of gold by 1959. France made a hefty withdrawal of 300 million dollar in gold. Great Britain requested redemption of 3 billion dollars in gold. By then the U.S gold reserve had shrunken to a total of 10 billion dollars. Not in the capacity of honoring the redemptions any more, President Nixon declared the collapse of Bretton Wood's agreement on 15th August 1971. Thus the era of freely floating currencies started, whereby the currency value was determined by relative factors like interest rates, inflation rates, demand, growth, trade and foreign investment. In 1967, silver was removed from circulation. Even the silver certificates and red seal United States notes were discontinued. The only money that dominated the scene was the Federal Reserve notes. These notes circulated as the only legal tender which were fiat currency of unique nature as they were not the direct obligation of the government. The notes had no value in themselves,

except for what they were able to buy.

As the world set on the path of fiat currency regime permanently, the currency collapses and crises became rampant. The second half of the 20th century stood witness to frequent currency collapses. The list includes Argentina, Bolivia, Brazil, China, Congo, Greece, Peru, Russia and Yugoslavia. As the issuing governments printed exorbitant amounts of money, the currency rapidly lost its value. Higher and Higher denominations of paper money appeared, repudiation of money became inevitable. New pesos, rubles, yuan and dinars were issued at new values to replace the old ones, and the cycle repeated itself. Some countries even went to the extent of giving up their own currency and adopting other country's currency as legal tender. What caused these collapses-the root cause remains the same (i.e. the elasticity of paper money), however triggering instincts were different, e.g. overwhelming debt or financial mismanagement, war or occupation, change of government, printing press inflation etc. Probably the worst of the currency collapses was due to hyperinflation in Yugoslavia. In 1990, after the Yugoslavian war, new currency was issued; the new dinar was equivalent to 10,000 old dinars. A spree of revaluations and reissues followed. Surprisingly, in just one year the currency fell to one millionth of its value.

The wealth and value that people lost with these withering currencies, was lost forever. No government, King or any Central Bank has ever restored the losses that people made when these currencies vanished. The brunt of loss is always borne by people. The following table adopted from Ralph Foster's, *Fiat Paper Money, The History and Evolution of Our Currency* (2010), shows the list of currencies that have turned worthless in each decade. The worthlessness is defined as the 75% value reduction overnight or 13% per year over the period of 10 years.

Table 2 :National Notes that Became Worthless in Each Decade⁵⁶

1900-1910	1911-1920	1921-1930	1931-1940	1941-1950	1951-1960	1961-1970
Brazil, China, Colombia, Guatemala, Haiti, Korea, Mexico, Nicaragua, Puerto Rico, Ottoman Empire, Paraguay, Portugal, Z.A.R,	Armenia, Austria, Azerbaijan, Belgium, Brazil, Bulgaria, China, Estonia, Finland, Germany, Ger. Africa, Ger. N. Guinea, Ger.S.W. Afr., Guatemala, Haiti, Hungary, Italy, Kiau Chau, Latvia, Lithuania, Marshall Is., Mexico, Montenegro, Nicaragua, Ottoman Emp, Poland, Portugal, Romania, Russia, Serbia, Turkey , Ukraine, Uzbekistan,	Armenia, Austria, Belgium, Brazil, Bulgaria, Danzig, Estonia, Finland , Georgia, Germania, Greece, Guatemala, Hungary, Latvia, Lithuania, Memel, Mexico, Poland, Portugal, Romania, Russia, Ukraine	Albania, Andorra, Austria, Belgium, Bolivia, Bulgaria, Chile, China, Czech, Danzig, Denmark, Estonia, Ethiopia, France, Latvia, Lithuania, Luxemburg, Netherlands, Norway, Nicaragua, Poland, Spain Rep.	Albania, Algeria, Austria, Belgium, Boh & Moravia, Bolivia, Bosnia & H, Brazil, Bulgaria, Burma, Chile, China, Colombia, Croatia, Czech, Estonia, Finland, France, Germany, Greece, Hong-Kong, Hungary, Indo China, Indonesia, Iran, Iraq, It. E. Africa, It. Somaliland, Italy, Japan, Korea, PDR, Korea, South, Laos, Latvia, Lebanon, Lithuania, Luxembourg, Malaya, Manchukuo, Marshall Is., Netherlands, Neth. Indies, Norway, Paraguay, Peru, Philippines, Poland, Romania, Russia, Sarawak, Serbia, Slovakia, Slovenia, Syria, Thailand, Transdneistra, Tunisia, Turkey, Ukraine, Vietnam, Yugoslavia,	Argentina, Austria, Bolivia, Brazil, Bulgaria, Chile, China, Colombia, Eq. Guinea, Finland, France, Greece, Guinea, Indo-China, Indonesia, Israel, Korea, Korea, PDR, Korea, South, Laos, Paraguay, Romania, Tibet, Turkey, Uruguay, Vietnam	Afganistan, Algeria, Angola, Argentina, Biafra, Bolivia, Brazil, Bulgaria, Burma, Chile, China, PRC, Colombia, Congo, Guinea, Chile, Colombia, Congo, Guinea, Finland, Indonesia, Katanga, Laos, Paraguay, Peru, Tunisia, Turkey, Uruguay, Vietnam, Vietnam, North Vietnam, South Vietnam, Yugoslavia, Zaire

6. FUTURE OF FIAT MONEY

As our current generations discern the use of coins gone vintage, their minds are programmed to accept money as something to be created, controlled, regulated, and distributed by the government through the exercise of authority called fiat. Today, most of us do not want to think genealogy of how paper acquires value or how it has changed its course within a couple of centuries. Another terrific leap in the financial aspect of the 20th century has been the extension of credit. In 1970, while 16 percent of Americans held credit cards, by 1995 this number reached to 65 percent, and in 2001 it climbed to even higher of 73 percent.⁵⁷ The introduction of credit cards brought about a drastic turn in the mindsets of people. People started to spend money which they didn't have yet earned and in certain instances didn't even exist yet. The availability of money no more remained a problem, instead the credit limits of credit cards induced or inhibited spending among consumers. Another radical shift in the form of money is its growing convergence with Information Technology. Coins and paper bills are being replaced with binary numbers that are easily tracked and verified. The physical transference has no more remained a condition to carry out a transaction. As financial nexus is maintained, the digital money can easily transfer, be accessed and paid through wires. Interestingly most of the world's money exists in electronic form. According to Federal Reserve Statistical Releases (October 2005), paper money constitutes merely 7.82% of America's money, the rest of the circulation is electronic. The fundamental truth about current money is that it essentially is an active record of debits and credits.

Until the mid of 19th century, students were generously taught about what money is and how paper money failed in various ages and nations. This notion got lost somewhere purposely or inadvertently with the general acceptance of fiat money. In 1920 A.D., German sociologist Max Weber in his *Economy and Society* wrote what fiat money meant to society:

“The adoption of pure paper standards has always been a result of political catastrophe, wherever this has been the only way to meet the problem of inability to pay in what was previously the standard money. This is happening on a large scale today”. (p. 179)

In its translation in 1968, the academic community added the following note to its analysis:

“It should be borne in mind that this was written in 1919 or 1920. The situation has clearly been radically changed by the developments since that time” (Footnote 58)

Needless to say that as paper money took its hold; the education about its problems and alternatives was obscured purposely to create a general ignorance about monetary policies, national debt and monetary debasement.

The public at large is enormously ignorant about the root cause of our ailing economies. They entrust their savings and wealth to the governments, central banks and powerful institutions, whom they perceive are knowledgeable and experienced enough in understanding markets. Monetary policy taught widely in basic macroeconomics courses has become a mantra for authorities, who keep fudging statistical data to their advantage. Ironically, changing money supply has remained a science understandable to a privileged few. It is considered an essential tool to stimulate the growth and preempt any potential problems. Though history

has repeatedly stood witness to the catastrophes brought by the excessive use of printing press and lack of accountability, yet a deaf ear is being turned to it under the brand name of 'mismanagement' and 'poor monetary policy'. It is not that academic circle does not warn governments about the ill effects of excessive printing of money. The fiscal discipline is necessary to keep the trust of public at large. As national debt is getting too much momentum as an issue these days, it becomes pertinent to mention that the United States' national debt surpassed \$11,169,466,380,008.32 by the beginning of 21st century.⁵⁸ Robert E. Rubin, a former Secretary of the U.S Treasury, expressed concern over ever swelling fiscal deficits of the United States Budgets, considering it "the risk of financial and fiscal disarray".⁵⁹ Similarly David Walker, the U.S. Comptroller General warned of the dangers of foreign debt:

"...over 90% of our debt, was purchased by foreign players, some of whom have different national security, foreign policy and economic security interest than ours. If they decide that they don't want to finance our deficits and debt in the extent they have in the past, where are we going to get the money? Because we have the lowest savings rate of any industrialized nation."

(Transcribed from the "*The nation's growing fiscal imbalance*") - Speech delivered at U.C. Berkeley, Haas School of Business, May 4, 2005.

Fiat money has attained a unique status in our world, all governments issue it, and all businesses, organisations and individuals rely on it. Mandated by law, fiat money is generally accepted as a convenient mode of exchange. However a general understanding on an essential aspect of money seems to be mislaid, the question is what gives money its value to validate a future exchange. Since fiat money is devoid of any intrinsic value, its value is based on the government fiat. The future exchange remains vaguely secured by an empty promise, a security so vague that its users have abandoned the thought of it altogether. So, what lies in future for fiat money, a question that genuinely can come to be asked at the end of this paper?

Surely all paper money seem to follow a cycle of value. These currencies usually start with a promise; this promise exfoliates into economic growth and positive business outlook. It takes many occasions of reckless printing for the value to dwindle. Since the fiat money rests on the foundation of empty confidence, once that confidence is broken the currency fails. The wealth stored in the failed currency pursues its conversion into something of value. This is not possible always because of the humongous volume of it. Millions of common ignorant people lose their properties, as values get wiped out overnight. The aftermath of the collapse of paper money calls for the developments of a new and stable medium of exchange. If it were 16th century China, governments would have taken a step back to resort to the gold and silver as medium of exchange. But the world today has complicated modes of payment with pieces of paper, computer networks and government decrees, and a collapse of one paper currency gives way to the creation of another, a process termed as *revaluation*. No nation can profess sanctity with respect to the potential calamity that fiat money poses to stable economies. U.S is undergoing the lower side of the cycle. As reported by one of the noted law Professor, who stood a living witness to Germany's hyperinflation, "no nation is sacrosanct from this devil...".⁶⁰ A nation has no right to turn oblivious to the specter of another country's paper money collapse; it can be sailing in the same boat at any point of time for its reliance on the same fiat money. This paper has elaborately provided an account of all failed fiat money

systems. Very clearly the historical evidences are presented to allude how societies shunned the paper money experiment either by voluntarily returning to commodity money, or by force succumbing to the inflationary meltdown of money with negative repercussions on economy and society.

ENDNOTES

1. Yang, *Money and Credit in China*, p. 51. Yang refers to Deerskin money as an early form of credit currency.
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3. Yang, *Money and Credit in China*, pp.5-9.
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LADAKHI ENGLISH LITERATURE: A DEVELOPMENT IN PROGRESS

Rigzin Chodon*

ABSTRACT

Categorization of any kind of literature has been a daunting task for many critics. Literary writings can include philosophical writings, historical writings, scientific essays, psychoanalytical lectures etc. However, sometimes it also gets determined as all kinds of written works, without any distinction of the quality of writing. In this paper, an attempt to define the 'Ladakhi English Literature' in the English language from the early twentieth century to present has been made. The historical records of present Ladakh dates back to the 10th century; however, its oral-tradition and folklore goes farther into past. The literature of Ladakh dates back to the advent of Tibetan kings in Ladakh when the art of writing evolved. The paper traces the Ladakhi literature from its early formation during the Tibetan Kings, thence the introduction of the early English literature, followed by English Literary Works done by the Moravian Missionaries from 1900 A.D. onwards and the blooming of contemporary Ladakhi literature into several spheres .

Keywords: *Dosmochey festival, Druguma, Heinrich August Jäschke, Gesar of Ling, Moravian Missionary, Shangri-La, Sron-bstansgam-po, Thonmi Sambhota, William Moorcroft.*

INTRODUCTION

Categorization of any kind of literature has been a daunting task for many critics. The term 'literature' has been derived from '*litteraturae*' in Latin, which means "writings" and has been used as a common term since the eighteenth century onwards. Literature has also been broadly defined by various schools of thoughts according to the *time period* and their respective usages. Literary writings can include philosophical writings, historical writings, scientific essays, psychoanalytical lectures etc. However, sometimes it also gets determined as all kinds of written works, without any distinction of the quality of writing. According

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to Abrams and Harpham, ‘Modern critical movements stress on the strong but covert role played by gender, race, and class in establishing what has been accounted as literature or in the forming of ostensibly timeless criteria of great and *canonical* literature, or in distinguishing between “high literature” and the literature addressed to a mass audience’ (Abrams 157).

Literature of any country or region is strongly connected to its historical past and legacies in the oral or the written form. The historical records of present Ladakh dates back to the 10th century; however, its oral-tradition and folklore which played a very important role in shaping the oral-literature of the people has been transmitted from generation to generation through word of mouth and that cannot be traced to a particular time period. Oral Literature, which includes folklore, songs, proverbs etc., can be seen as a very rich form of secular literature that was commonly used by the masses in comparison to the written literature, which included mostly Buddhist as well as Muslim religious liturgy which was accessible only to few and hence exclusive for few section of the Ladakhi society in the past. Ladakhi scholar, Shakspo in his book, *An Insight into Ladakh* states that –

An educated elite then emerged in Tibet and the fields of religious writing, philosophy, logic and literature flourished. The introduction of writing could have had a revolutionary social impact, and the folk tradition degenerated as a result. However, since the majority of people did not have the opportunity to become educated, they still clung to their heritage of folk songs which remained a major source of popular entertainment. Thus the folk tradition persisted in spite of the various setbacks it suffered in the course of its historical development.

(Nawang Tsering Shakspo, 1993:71)

Therefore, reiterating the fact that introduction of writing had a serious impact on the oral tradition and how the folk tradition also degenerated as result.

Historian John Bray has summarised the time period of Ladakh in his edited work, *Ladakh Histories*, as follows—

From the late 7th or early 8th century until sometime after 842 A.D. it was part of the Tibetan empire. From the mid-10th century until 1834, Ladakh was an independent kingdom.¹ At its height in the mid-17th century, it extended as far as Rudok, Guge and Purang in what is now Western Tibet. In its final years, its territory corresponds roughly with today’s Leh and Kargil districts, with addition of Spiti. In 1834 Ladakh was invaded by the army of Raja Gulab Singh of Jammu, and it finally lost its independence in 1842. Four years later, it was incorporated into the new princely state of Jammu and Kashmir (J&K), which acknowledged British paramountcy within the Indian empire. Since 1947 it has remained part of J&K within the independent Republic of India.

(Bray, 2011: 1)

The region of Ladakh has been explored due to its significant cultural and religious similarities with Tibet. Since Tibet was inaccessible, Ladakh became a destination for learning Tibetan Buddhism and its literature in the early 19th century. The language of Ladakh has been explored into and is known by several names like ‘Bodyig’, ‘Potyig’, ‘Bodhi’, ‘Bothi’ and ‘Ladakhi’. Ladakh has a rich background of literature, art, architecture trade, language and

culture which has been brought into the limelight by western scholars who compiled historical as well as literary books on Ladakh in the local as well as other languages like English with focus on outside readership.

But the real question is how do we see the literature of Ladakh? Is it defined by writings in the regional languages (like Bodiyig, Urdu, Hindi) with a readership within the region or is it defined through the emerging trends of writing in the popular language-English and other languages which has a wider readership? These are some of the complex questions which will always remain open to different interpretations. In order to understand the authorship and the trend in writings in the English language to understand the modern and contemporary changes affecting writing in this region, the present paper makes an attempt to categorise the evolving Ladakhi English Literature into three major sections keeping the history of writing, its development and the evolving writing trends in mind. The categorization is as follows—

i. Ladakhi Literature Prior to the Introduction of the English Language (before 1800 A.D.)

➤ Political regime and development of the literature of Ladakh

ii. Development of Ladakhi English Literature(1800-2000A.D.)

➤ *Early English Literature* (1800-1900A.D.)

➤ *English Literary works by Moravian Missionaries* (1900 A.D. onwards)

iii. Evolving Contemporary English Literature in Ladakh (2000A.D. –Present)

LADAKHI LITERATURE PRIOR TO THE INTRODUCTION OF THE ENGLISH LANGUAGE (BEFORE 1800 A.D.)

The literature of Ladakh dates back to the advent of the Tibetan kings in Ladakh when the art of writing evolved. One can trace the development of the literature especially the script according to the various kings who ruled this region in the past. According to *The Chronicles of Ladakh* (1914), A. H. Francke mentions that—

.....Sron-bstansgam-po (Chinese date 600-50 A. D.), an incarnation of the Bodhisatva Sphyan-ras-gzigs (Avalokita). During the lifetime of this king all the kingdoms on the frontier were united under his rule, and every one of the little kings sent presents and letters. Although this king issued innumerable documents signed with his seal, there were no characters in Tibet to send replies to the letters from [various] quarters. And, as [the books of] the famous sanctuary of his ancestor Tho-tho-ri-sñen-bśal remained a mystery, [since they were written] in Indian characters, he thought, 'We must translate them so as to be in Tibetan writing.' Therefore sent Thon-mi, the son of H-nu, with a hbre (a measure) of gold, and sixteen fellow-students to Kashmir to learn the characters. They learned the characters from the Brahman Li-byin; Pandit Sen-ge-sgra (Simhanāda) taught them (Pandit Sen-ge taught them the language). Bringing them into agreement with the Tibetan language, they make twenty-four Gsal-byed [consonants] and six Rins, [altogether] thirty [characters]. Besides they made them to agree in form with the Nagara characters of Kashmir.

(Francke, 1926: 82)

Through this documentation, we can see that the Tibetan king Sron-bstansgam-po, born in 617 A. D. sent one of his most brilliant scholars of his court, Thonmi Sambhota, to study Indian epigraphy, phonetics and grammar in Kashmir under the tutelage of Pandit Senge; who then invented an alphabetic script based upon North Indian Gupta Brahmi script. He also developed grammar for the Tibetan language and called it the ‘*Sum cu pa*’ (the Thirty Verses) (Skt. *Vyakaranmulatrimsa*) following the pattern of Vasubandhu’s summation of Yogacara thought into thirty verses (*Trimsika-karika*). He further composed the ‘*Rtagskyi jug pa*’ (Skt. *Vyakarana lingabatara*), and established new grammatical structure. With the invention of the script came the task of translating and writing treatises for the king and that also led to the first translations of certain Sanskrit Buddhist works into the Tibetan script. Few of his works include the Stangyur (*Bstan-hgyur*), Mdo, Vol. CXXIII, *Sku-gzugs-kyi-mtshan-nid*, by ‘A-nui-bu’; Vol. CXXIV, *Sgrah-bstan-bcos-sum-cu-pa*, a grammar; *Lun-du-ston-pa-stags-kyi-hjug-pa.*, by Thon-mi-A-nu (a grammar). He was assisted in this stupendous task by able Assistant translators like Darna Goxang and Lhalung Dorjebe.

Francke’s translated version of the *Ladags gyal rabs* or *The Ladakh Chronicles* states that—

Thon-mi Sambhota’s grammar is practically the same as the one which is printed in the Darjeeling School Series (Tibetan Primer Series, No. IV, where it is stated on p.1 that the book is an extract from Thon-mi-legs-bsad-sum-cu-pa). It is evident that this grammar was written in very ancient days; for it treats of the drag, a final suffix which has long disappeared even from the classical language. It treats also of the Tibetan system of tones, and is therefore more than a mere repetition of Indian grammars.

(Francke, 1926: 84)

The reason why Thonmi Sambhota’s grammar ‘*Sum cu pa*’ and ‘*Rtagskyi jug pa*’ is so important in the context of Ladakh is because the Ladakhi language has been written down in the Thonmi’s script called *bod-yig* by the locals, where ‘*bod*’ means ‘Tibet’ and ‘*yig*’ means ‘letter/script’. Most of the Buddhist canonical texts have been written in the *bod-yig* script and Ladakh developed its Buddhist religion and literature while under the rule of the Tibetan kings. The most important aspect was the term given to the kings i.e. ‘*Chos-gyal*’ which also means the ‘Dharma-king’, that clearly outline their responsibility of not only ruling Ladakh, but also task of spreading Buddhism.

In 900 A. D., *Skyid-lde-nyi-ma-mgon*, a direct descendent of the first king of Ladakh called *Gnya-khri-bstan-po* to rule over the western part of Tibet including the region of Ladakh. He divided the regions of Mar-yul (Ladakh), Guge & Purang and Zangskar between three of his sons. His first son was *Dpal-gyi-gon* (1000-1025 A. D.) who became the first king of Ladakh, the second son who was *Bkra-shis-mgon* who inherited Guge and Purang and the youngest and the third son was *lde-gtsug-mgon* who inherited Zangskar (Shakspo).

The lineage of the Tibetan kings in Ladakh starts with *Dpal-gyi-gon* and till the end of the 19th century, Ladakh was ruled by the Gon and the Namgyal dynasty. Thus, the first classification of literature has already begun in the Buddhist monasteries with works in the Tibetan classical script when the Dharma kings ruled this region. The texts passed on from

Tibet have been used by Buddhist monks for learning the teachings of Buddha and also created a hegemonic presence of a group of elite literate group of clergy who then had an upper hand over the common people.

On the one hand, there were the literate Buddhist and on the other another dominant group emerged. Muslim conquest of Ladakh started in 1420's during the rule of King *Trags-bum-de* until the 1600's when Islam started spreading into Ladakh and the conversion of the people into Islam began. Islam established presence mainly in places like Purig, the area around Kargil comprising the Suru valley, Pashkyum, Mulbekh, Bodh Kharbu and Shagar Chiktan (who were bound in a loose quasi-feudal relationship to the Ladakhi monarchy)(Rizvi,1996:63). Urdu and Persian languages started to be used.

Henceforth, religion and written liturgy was interconnected and inseparable and a hierarchy among the people of Ladakh could be felt with the kings on the top (the dharma king, helping the spread of Dharma), the monks in the middle (who used the written liturgy) and the common man (who used the oral form of expression through oral traditions).

DEVELOPMENT OF LADAKHI ENGLISH LITERATURE (1800-2000A.D.)

• Early English Literature: 1800A.D. -1900 A.D.

In the meanwhile, while this hierarchy was being maintained for centuries, a new wave of writing started emerging when the region was started to be explored by Europeans. Unlike other literary works in Europe, the early English works in the region of Ladakh included historical texts, hunting expeditions, survey literature etc. that started forming the base to record more about Ladakh.

One of the earliest travellers who has recorded his travels in this region was Ippolito Desideri (1684—1733 A.D.), an Italian Jesuit, who came here in 1715 A.D. whilst on his way to Lhasa.² Other important nineteenth century visitors include William Moorcroft, a veterinary surgeon in the service of the East India Company who, in search for horses for the East India Company, spent two years (1820-1822A.D.) along with his companion George Trebeck in Ladakh. They wrote the famous book, *Travels in the Himalyan Provinces of Hindustan and the Panjab, in Ladakh and Kashmir, in Peshwar, Kabul, Kunduz and Bokhara*, in 1837.

Further, one of the pioneering works on Ladakh with the use of English language has been done by Alexander Csoma de Körös, the famous Hungarian scholar. He was born in a Transylvanian village called Körös, Hungary (now a part of Romania) in the year 1784. He studied at the Gabor Bethlem College of Nagyenyed and at Gottingen University at Hanover, Germany. After twenty years of laborious study and with a command of many different languages, at the age of 35 he decided to go in search of the ancient homeland of the Hungarian race, which he believed to be Yarkand, a city in the Xinjiang province of China. Alexander had an incredible talent for learning languages. He learnt 15 languages: Latin, Greek, German, French, English, Russian, Serbian, Croatian, Hebrew, Persian, Arabic, Turkish, Tibetan, Sanskrit and Hindi. He ran into Moorcroft in Dras where the latter suggested him about the place where he could embark on a study in Tibetan language and culture, i.e. Ladakh. As a

result, Csoma spent eight years under the guidance of learned monks in Zangskar, at Zang-la and Phutgal, where he lived between 1820 A.D. and 1830 A.D. He got so intensely engaged with learning the Tibetan language that his original pursuit was left unfinished, which then led him to lay foundations in the field of Tibetan Studies and he was later called as the Father of Modern Tibetology.³

Csoma de Körös compiled the first Tibetan-English Dictionary after rigorous study at the remote monastery of Zangla, Zangskar. He read 320 Tibetan scientific books and collected 40,000 Tibetan words. He also wrote *The Grammar of Tibetan Language* in English and *The Life and Teaching of Buddha*. After working in Ladakh, he continued his works in Calcutta where he became the Librarian of the Asiatic Society of Bengal. He further made an attempt to go to Lhasa in 1842 for studies but he got infected with malaria on his way and passed away in Darjeeling, India.

Through him, the first European scholar who studied the language of Ladakh (which has constantly been referred to as Tibet), Ladakh was opened up to other European explorers. He has always referred to the Ladakhis as Tibetans; it could be because of the similarities that the Ladakhis shared with the Tibetans and the fact that the only script used by Ladakhis during his time was—the Tibetan script. The literate Ladakhis during Csoma's time were the monks who studied in the monasteries and who were sent to Tibet for higher studies. Records of such learning procedures are available first hand from the *Amchis* of Ladakh. According to one of the leading scholars of Ladakh, Gen. KonchokPhandey:

*The education system in Ladakh was not an organized one. If interested parents wanted their children to learn the bodyig script, the elders who could read and write would teach them. Most of the monastic education system was also an informal one as the young monks would learn reading and writing by observing the senior monks. One could hardly find one literate person in a village; this was the state till the beginning of the present education system.*⁴

So, from a monastic study of language, the education system improved and towards the end of the nineteenth century Moravian missionaries arrived in Ladakh. They started teaching subjects like Mathematics, English, Social studies and Bible studies. The first formal school in Ladakh was established by the Moravian missionaries in October 1899⁵ and it was called the Moravian Mission School. The school still caters to the needs of education in Leh and has been very successful in spreading modern education.

Alexander Cunningham, a historian has also produced a very detailed book called *Ladák Physical Statistical and Historical* (published in 1854 in London). This work has been maintained as a standard text for referencing for many years. He mentions in his preface that he has visited Ladakh twice, once in 1846 and 1847. The subjects of his antiquary include—

1. *The identification of Ladák, or Khá-chan with the Akhassa Regio of Ptolemy, and with the Kie-Chha of Fa-Hian.—Chap I.*

2. *The proof that Graucasus was a Tibetan word and the consequent deduction that the Tibetan people and language were once spread over a much greater extent of country that they now occupy.—Chp.XIV*

3. *A copious vocabulary of the Tibetan language compared with the various dialects of Dards, of the Afghans and Kashmiris, of the Hindu races of the Himalaya, and of the Indo-Tibetans of Kanáwar.—Chap XV.*

4. *A concise account of the religious belief and practice of the Tibetan Buddhists, and of the rise of the present grand Lamas; with a description of the different buildings, rite and ceremonies, and ritualistic instruments of their religion.—Chap. XIII.*

(Cunningham, *Ladak Physical, Statistical And historical Places*: Preface).

Traders and their business transactions was also an important factor in shaping the literary writings in the region. Ladakh has been a transit for many traders along the Silk Road⁶ of Central Asia. The trading practices brought in different types of traders with different languages at hand. Fewkes in her book *Trade and Contemporary Society along the Silk Road, An Ethno-History of Ladakh* mentions about the Khan Archives, which is the primary source of her book. A passage on the documents informs about the richness of the archives:

...approximately one thousand pages of documents including personal memos, personal and business letters, registered letter envelopes, money order receipts, export permits, telegrams, account books and telegram receipts. These documents include correspondence with a number of areas linked to Leh and Kargil, with addresses on envelopes, telegrams and receipts from areas in present day China, England, India and Pakistan. A majority of the correspondence was between towns in North India and Leh, particularly with Hoshiarpur (Punjab), Amritsar (Punjab), and Srinagar (Jammu and Kashmir). The documents also represent trading networks that extend much farther than these areas as letters, receipts, memos, and account books refer to goods and traders coming from areas in present day Afghanistan, Uzbekistan, Germany, Japan, and the Unites States.⁷

A majority of all the documents from these archives date between 1900-48 A.D. in the Gregorian calendar.⁸

Fewkes' book is extensively studied and well researched upon. She has also brought out many inferences that show how the English language started being used in the region of Ladakh. Through the compilation of the Khan Archives, she has focused on the languages that were used for transactions in Ladakh during the early nineteenth century. She also mentions that a majority of the archival papers were written in Urdu; some documents were also partially or wholly in *Bodyig*,⁹ English, Uighur, and Persian. Most of the descendants of Central Asian traders in Leh could fluently read and write Urdu; however the Urdu of these documents was difficult for modern readers as it was written in what some informants called '*patawar*' type writing, a traditional style of Urdu.

Urdu was not the only official language used by ministers of state, even English was used and although the informant, in Fewkes' book, would like to blame the decline of the use of Urdu standards on the modern use of English, he acknowledges towards the end of this section that English was also being used in official settings in pre-partition Ladakh. The popularity of other languages in education and the modern use of English in business and government settings are often referred to by Ladakhi individuals as proof that education in

Urdu had declined since the establishment of an Independent India. While Fewkes focuses on the trading documents, there were many other sources which show how the English language started to be used in several other contexts.

- **English Literary Works by the Moravian Missionaries: 1900 A.D onwards**

The Missionaries tried to reinforce the spoken word by producing wide variety of written literature. They studied the language in order to create interest among the local people (towards Christianity) who could read only Ladakhi and began publishing tracts, hymns, and other works in Ladakhi. The Moravian church used their own lithographic press at Keylang and Leh for such purposes.

Heinrich August Jäschke¹⁰ who arrived in Ladakh in 1896 started translating the Bible. He even compiled the *Tibetan-English Dictionary* in the 1881. In the preface of his dictionary Jäschke writes that—

We had to take primarily into account the needs of missionaries entering upon new regions, and then of those who might hereafter follow into the same field of enterprise. The chief motive of all our exertions lay always in the desire to facilitate and to hasten the spread of the Christian religion and of the Christian civilization, among the millions of Buddhists, who inhabit Central Asia, and who speak and read in Tibetan idioms.

(Jäschke, 1881: iii-ix)

It is very interesting as the above lines come from a missionary who is looking forward to spread the 'Christian civilization' throughout the world especially in Central Asia and the only way to do that was to learn the language of that place and then propagate Christianity. The use of language and production of literature is important because not only were the missionaries paving their own way but they were also paving the way for the people of Ladakh to strengthen their historical background. Later, in the preface Jäschke writes—

For it seemed to me that, if Buddhist readers were to be brought into contact with the Biblical and Christian ideas, the introduction to so foreign and strange a train of thought, and one making the largest demands upon the character and imagination, had best be made through the medium of a phraseology and diction as simple, as clear, and as popular as possible. My instrument must be, as in the case of every successful translator of the Bible, so to say, not a technical but the vulgar tongue.

(Jäschke, 1881: iii-ix)

The pioneering Moravian missionary learnt the language and even compiled texts, which have been used by scholars and people with interest in the language, certifying their presence by creating literary evidence and then placing their motives on a platter so that it is consumed happily with a reverence towards the Christian community. However, the literature (in any language but mostly in German, English or Tibetan language) produced by the 19th century missionaries actually led to the beginning of Tibetology¹¹ and Ladakh studies.¹²

John Bray has done extensive research on the Moravian Missionaries in Ladakh and through his works we know that, Dr. Karl Marx a fully trained missionary doctor by profession

was the first Moravian to collect manuscripts of the history of Ladakh in Ladakhi. He came to Ladakh in 1886 A.D. He published *The Three Documents relating to the History of Ladakh*; also called the 'Three Ladakhi Chronicles'. His work was published in the *Journal of Asiatic Society of Bengal* (JASB) in the year 1891, 1894 and 1902. He served the people of Ladakh for some time before he died of typhoid in Leh in the year 1891. (Bray, 1981:85).

One of the most extensive works done is by the missionary scholar Rev. A.H. Francke who reached Leh in 1896, stayed there for three years. He then went to Khalatse where he stayed for the next 7 years i.e., from 1899 to 1906. After Dr. Karl Marx, he contributed a lot towards the literature of Ladakh. His work as a historian and writer of folklore is commendable. He wrote over sixty learned articles on Ladakhi language, legends, songs, rock carvings and archaeology. He copied the story of the Gesar of Ling from *Meme DondrubTashi* of *rGyatsho* and *Meme Yeshe Rigzin* of *Sabipa*. In the year 1909, Francke conducted a tour of the borders of the Western Tibet, the regions lying along the Tibetan border between Kinnaur and Ladakh on behalf of the Archaeological Survey of India, Government of India, proposing to study the archaeological aspects of the area. The results of his work was published in two volumes under the title *Antiquities of Indian Tibet I & II (Chronicles of Ladakh)* (1914&1926). His works have also been published in various journals in India and Germany in English and German languages. In the first volume, Francke narrates his journey which includes the descriptions of the places, important monuments, documents, objects, his observations and comments thereupon. The second volume covers mainly the *Ladags-rgyal-rab* (1926) (*History of the Kings of Ladakh*) in original and its English translation. Genealogies and other minor documents regarding various smaller states surrounding Ladakh together with their English rendering and commentaries were also added.

Francke was the first scholar to edit the chronicles of Ladakh in full and deliver its translation into English. The work on the chronicles had already been started by Emil von Schlagintweit and in 1866 he translated a version of *Ladags-rgyal-rab*. Francke supposed that a copy of *Ladags-rgyal-rab*, very similar to Emil von Schlagintweit, must have been in the hands of Rev. H.A. Jäschke when he made his collections of Tibetan words for his Tibetan dictionary. Jäschke and Schlagintweit's translation differed and that led to the discovery of two manuscripts in Leh (by Dr. Karl Marx) which contained fuller accounts of the times subsequent to A.D.1620. Dr. Marx took help from a Ladakhi nobleman Munshi Palgyas (rPal-rgyas) to write the chronicle of the Dogra war; as such an account did not exist. With the help of new records he decided to edit the history of Ladakh in three parts and thus *The Three Documents relating to the History of Ladakh* came into being. Francke obtained the manuscripts of the second part of Dr. Marx's documents from the period covering 1620 – 1834 A.D. and the story of the Dogra war from Rev. G. Reichel of Leh. He translated it into German and thus began the work of the fuller version of the history of Ladakh.

Francke also published the first Tibetan language monthly newspaper in 1904 and named it, the *La dvagsgyiag bar* (*Ladakh News*). The newspaper was mainly evangelical in nature but it was a well-structured newspaper consisting of world news; local Ladakhi news; a section on local Ladakhi texts like folk-songs and folk-tales and lastly maxims which was a way to teach the local people about Christianity through Ladakhi sayings. Two years later, Francke moved

from Ladakh to Keylang, Lahoul in 1906 and handed over the editorship to his colleagues in Leh. They changed the name to *La dvags pho nyaor* (*Ladakh Herald*) but a year later the publication of the paper stopped.

In the year 1927, Walter Asboe from the Keylang station revived the journalistic tradition of the Moravians by publishing a monthly paper called the *Keylangk yig bar* or the 'Keylang News'.¹³ The format of the paper remained the same but Asboe tried to use his columns to teach people about new methods of farming, sanitation, etc. Thereafter, he moved back to Leh and in 1936 continued to publish his newspaper under the new name, *La dvags pho nya*. A biblical text under the paper's masthead established its Christian identity. Just like Francke's paper he devoted the main part to local and international news but he also included illustrations like simple sketch of monastery or Ladakhi/Tibetan women and other illustrations like a drawing of a German soldier in uniform, a caricature of Hitler's face etc. which brought in a little more interest in readership.

In 1947, Asboe left Ladakh and the paper closed down temporarily but five years later the publishing activities resumed under the leadership of Pierre Vittoz, a Swiss missionary and Eliyah Tsetan Phuntsog.¹⁴ Initially E. T. Phuntsog tried to experiment with the written language by revising the form of Ladakhi spelling to make the written form closer to the spoken but it was interpreted as an attempt to subvert the classical language of the scriptures; so they continued in the classical form. In 1956, Vittoz left Ladakh and went to Mussoorie, Uttaranchal and after three years E. T. Phuntsog joined Vittoz and there was no one to continue the paper but the name *La dags pho nya* was revived again in 1978 and 1979 as the title of a government news sheet edited by the renowned Ladakhi scholar, Tashi Rabgais. And recently a newsletter with the same name is being published by the Ladakh Buddhist Association from 2014. Thus, A.H. Francke's journalistic venture that started in 1904 gradually led to the beginning of local publishing activities, annual and quarterly periodicals. The use of lithographic press proved very useful and probably this led to the emergence of Ladakhi writers on the foreground.

Christianity might not have been a favourable religious practice for most of the Buddhist as well as the Muslim Ladakhis as the heritage of Tibetan Buddhism seems to have overshadowed the new and foreign religion, but the missionaries brought about significant changes in the field of education, through their literary practices. Thus, scholarly fellowship gave rise to the awareness of modern education and in-depth study of the history of Ladakh and therefore creating a niche for the Ladakhis to try and write about their own culture and literature in their own language.

EVOLVING CONTEMPORARY ENGLISH LITERATURE IN LADAKH: 2000 A.D.- PRESENT

The contemporary English literature can be classified into the following categories:

- **Religious Literature**

Translation of religious texts from the Classical Tibetan into Ladakhi and English language has been attempted recently by Bakula Rangdol Nima Rinpoche who recently translated and published the text, '*Bshes Pai Spring-Yig*' (Letter to a Friend) by Arya Nagarjuna into '*The*

Good Hearted Letter' in 2014. This attempt has been made with the understanding of the urgency to make Classical Tibetan texts available to the common people. Similarly, texts on Islam in the English language have been written by Zain-ul-Aabedin Aabedi with the title *Emergence of Islam in Ladakh* (2009). The book covers the major aspects on the propagation and emergence of Islam in Ladakh between 15th to the 19th century. Eminent figure that helped spread of Islam in the region have been mentioned although not in great detail. Pictures of important historical monuments in and around Ladakh are also shown alongside the great travellers and adventurers who have an important role in shaping the culture of the Ladakhi Muslims. Hashmatullah Khan Luckhnavi's work has been translated by Zain-ul-Aabedin Aabedi from Urdu into English under the title *The History of Tibet and Great Tibet* (2014). Abdul Ghani Sheikh, another renowned author has focused more on the cultural and fictional books based on Ladakh. Similarly, many scholarly and informative texts about Buddhist monasteries as well as Buddhism have constantly been published in English in order to gain wider readership and to propagate knowledge of the religion to a larger audience.

- **Historical Literature**

Most of the historical works in English include the ones that had been conducted during the time of the British Raj in the 19th century like *Chronicles Of Ladakh in Antiquities of Western Tibet I & II* (1914,1926) by Francke that he compiled for the Archaeological Survey of India under the British patronage. However, attempts have been made by the local writers to translate their writings into English language in order to make it readily available for English readers. In this attempt, there have been attempts by Ladakhi scholars like Nawang Tsering Shakspo, Ven. Thupstan Palda, Ven. Konchok Phandey, Abdul Ghani Sheikh to write or translate some of the historical works into English.

- **Cultural Literature**

After 1970's, when Ladakh was open to tourist again by the Indian government, many adventurers, travellers, researchers, thronged Ladakh. Janet Rizvi chooses to call the Ladakhis '*The Native Genius*'¹⁵ as she talks about the culture of the Ladakhi people and how the culture is a mixture of intriguing Tibetan and Non-Tibetan elements. She distinguishes how Ladakhis and the Tibetans differ and that is mainly because Ladakh has so much more to offer than the similarities in religious views. In her book, *Ladakh: Crossroadsof High Asia* (2011), she discusses the glorious past of the region and the significant present of the place bringing in every minute detail of the lifestyle of the people, who were living in harmony with the environment and also with themselves. The book made an appeal to every reader with its subtle shift from one topic to another. It is written with great caution and style.

Rizvi has brought into light the past of the place with descriptions of the landscape, the people, the old kingdom of Ladakh, the adventurous yet the hazardous trails of the mountains, the social customs, and their marriage ceremonies, important people of Ladakh who worked for the development of the place and the religion focusing on how the Buddhists, Muslims and the Christians live in tune with each other. The author's introduction of the book introduces the reader to the real Ladakh which otherwise has been projected as the last *Shangri-La*, a land of deep spiritual values where traditionally contented peasantry pursued

a sustainable agriculture based on self-regulating systems organized in such a way as to regulating to minimize social and individual stress. She introduces the real Ladakh which otherwise is showcased as the best tourist destination in numerous travel books that shows only the brighter side of the place.

Literature and culture of Ladakh has been put into limelight by many writers and scholars. The establishment of the Jammu and Kashmir Academy of Art, Culture and Languages in the year 1969 for the promotion of the Ladakhi language and culture played a major role in the lives of the Ladakhis. In the year 1963-64, for the first time Ladakhi text books from Class 1 Primary to the 8th Standard was brought out. In the year 1970, the Academy brought out a volume of the first *Ladakhi Folk Songs*, compiled by Tashi Rabgais as its first independent literary work in Ladakhi. Since then, they have printed books on folk literature, folk songs, folk tales and folk dances, and biographies of famous Ladakhi personalities. Many Ladakhis have written books in the local language like Urdu and *Bodyig* or sometimes in both to ensure the upliftment of the vanishing oral traditions.

Nawang Tsering Shaskspo(1952-), a Ladakhi author has focused most of his works on the culture of Ladakh. He has written extensively on culture, folk songs, folk dance of the region. He believes that through his works the younger generation of Ladakhis would carry forward the old cultural values and adhere to the traditional inner harmony inherent to the Ladakhi culture. Popular Ladakhi folk songs have not been studied in the past; most of them have neither been published nor researched upon except Francke's work which is quite notable. The compilation of the volume of *Ladakhi Folk Song* (in *Bodyig*) by Tashi Rabgias introduces us to the important songs sung at social and cultural events such as births, marriages and festivals. Regional variations of such songs can be found in different part of Ladakh such as Shan, Stod, Nubra and Zangskar. The authors of the Ladakhi folk songs are unknown and the songs not written down. The folk songs also changes with the flow of time.

Since the majority of the people of Ladakh were uneducated, they clung to their heritage of folk songs and folk tales which remained a popular source of entertainment during the harsh winter season. The Ladakhi kings seem to have given their wholehearted support to its development as numerous songs are dedicated to them. The most notable occasion was the king's annual prayer ceremony or *Dosmochey* festival held in the month of January at the palace in Leh. Such royal procession which was presided over by the king encouraged the sustenance of the folk songs and traditional Mon musicians.¹⁶ Folk songs were composed in honour of rulers, head lamas and leaders. Frequent references to the famous cultural heroes and heroines from the epics, especially *Gesar* and *Druguma*, are depicted.

Leh, the capital of Ladakh, is known for its former reputation as one of the great trading centers of High Asia. People gathered here with their merchandise, especially in summer. The town became a focus for cultural exchange. Interestingly this is reflected in many of the folk songs with numerous descriptions of Tibet, Baltistan, Lahoul and Spiti. Such songs proved very useful in understanding the ties of the old Ladakhi kingdom with the neighbouring kingdoms. During the old trading days, journeys were long and arduous; and description of such journey can be found in many travelling song.

Famous Ladakhi Urdu writer Abdul Ghani Sheikh has many works to his credit like *Forsaking Paradise* (in English language); *Zojila ke Aar Paar*, 1975 (collection of short stories in Urdu); *Doraha*, 1994 (Short stories); *Woh Zamana*, 1977 (Novel in Urdu); *Dil Hi Toh Hai*, 1978 (Novel); *Sonam Nurboo*, 1981 (Biography of Sonam Nurboo); *Reflections on Ladakh, Tibet and Central Asia*, 2010 apart from several articles and papers.

Travel Literature

One can find several coffee table books or travel books in English on Ladakh which might indulge a reader's mind into visiting Ladakh as a holiday destination. Photographic books are also attractive. Travelogue literature can be seen as an attempt to identify oneself with the place.

One of the intriguing books written by a Ladakhi is Ghulam Rassull Galwan's *Servant of Sahibs* (1923). His book reflects the need for an *Aksakal*, an overseer to learn English and therefore carve his own identity among his people. His account has been called one of the secular auto-biographical accounts written by a Ladakhi and published in the West. Another author Abdul Wahid Radhu's *Caravane Tibetaine* (1981) [English translation published in 1997] is also an interesting account. One of the first writers in English language was a Muslim Ladakhi and his book reflects his dire need to learn the language in order to write in the language of his masters. The nature of Ladakhis who love to narrate tales filled with adventure and suspense gives us an idea of how the people loved stories.

Then there are travel literature by some of the army officials who traversed the harsh life of Ladakh like M.L.A. Gompertz who wrote *Magic Ladakh: An Intimate Picture of a Land of Topsy-Turvy Customs & Great Natural Beauty* (1928). Andrew Harvey's book *A Journey in Ladakh* (published in 1984) talks about his experience during his journey into the Himalayas and the land beyond Kashmir Valley, Ladakh, whom he calls as one of the last places on earth where a Tibetan Buddhist community survives. Harvey is able to plug into the society and bring out the soul of the place through poems that he has sporadically used in his book.

CONCLUSION

The presence of outsiders who somehow become absorbed as a part of the community ultimately defines the identity of Ladakh as a unique yet diversely engaged society. Their presence and their interest in Ladakh have changed the outlook of the Ladakhis themselves. The Ladakhis today are more aware of their position on the map; they have started participating in many events that has developed them in every sphere not just on the national front but also internationally. Thereafter, the literature of the place has developed with emphasis on preservation of one's own language and culture.

The effect of western education on the people has been immense. The introduction of the English language alongside other important subjects like science, mathematics, social science, history as well as geography, not forgetting the local language i.e. Ladakhi in the Bod-yig script, has driven the people of Ladakh towards understanding and preservation of their own

language. The effects of modern education can be viewed in the works done by the younger generations of the Ladakhi population. Prospects of learning have increased tremendously with the use of the new medium i.e. the English language.

Many students who had been given education outside Ladakh (around 1960's and 70's) are comfortable expressing themselves in the English or the Hindi language whereas Ladakhi or Urdu language is seen as a challenge. They feel comfortable writing on blogs, social networking sites or expressing themselves through short stories and student magazines that are published on a yearly basis. Expressing themselves through a new medium has proved beneficial and empowering too. Religious books that have now been translated into the English language have acquired great number of readership inside as well as outside Ladakh.

Francke's journalistic venture proved to be a success in the end and even hundred years later his newspaper is not forgotten and still commemorated as the first newspaper in the Tibetan script in the state of Jammu and Kashmir. The Ladakhi writers began writing in English when Ladakhi Christian converts, who had studied through western education, helped the Moravian missionaries with Bible translations, historical translations, and started developing colloquial form of Ladakhi language.

Post-1947 Ladakh was free from the rule of Maharaja of Jammu and Ladakh became a part of Jammu and Kashmir. Around the year 1933, Rahul Sankrityayan visited Ladakh and was in touch with two Ladakhi scholars, Joseph Gergan the compiler of *bla-dwagsrgyal-rabs 'chi-med gter* and Munshi Tsetan Phuntsog. At that time Joseph Gergan was 60 years old but Munshi Tsetan Phuntsog was young. Munshi Tsetan Phuntsog made significant contribution by bringing text books in *bod-yig* for Ladakhi schools from fifth standard onwards. The textbooks became very popular and they remained in use even after independence.

The Young Men's Buddhist Association was formed around the year 1935–40 to propagate the language of the region. Post-independence, Ladakhi was enlisted as one of the state languages. In the year 1953, Kushok Bakula Rinpoche was made a minister and since then he worked hard to give Ladakhi its due position and status as an important regional language. In the year 1963-64, Ladakhi text books from Class 1 to Class 8 was brought out. In the year 1969, a branch of the State Academy was established in Leh for the promotion and the preservation of the language.

Since then many books have been published on a monthly as well as yearly basis by established Ladakhi writers. The first *Lo 'khorgyi deb (Annual Book)* was published by the Jammu & Kashmir Academy of Art, Culture and Languages in 1976. In this volume, the writings of Geshe Eshey Tondup, Kachen Lobzang Zodpa, Gelong Lobzang Jamspal, Tahshi Rabgais, Tashi Phuntsog, Tsering Norbu, Rinchen Tondup, Thinlas Dorje, Tsering Wngdus, Gelong Thupstan Paldan, Tashi Tsomo and Thubstan Janfen were published. Such attempts to help in promoting the Ladakhi writers has helped sprout new breed of writers with individual signature style of writing.

Writing of poetry started much earlier than that of prose. But most of the poems are in the Ladakhi language. Even though the number of poets are large, writing English poetry is

in its nascent stage. In 1951, Munshi Tsetan Phuntsog published a book of Modern Ladakhi songs. Geshe Eshey Tondup, Tashi Phuntsog and Tashi Rabgais also wrote poems and these became very popular among the people of Ladakh. In modern Ladakh, there is no scarcity of poetry as the Jammu & Kashmir Academy and the Radio at Leh provides opportunities to practice their budding poetry recital skills thereby encouraging more and more modern Ladakhi writers and poets to write and recite their poems. The novel, in the modern sense, is again in a nascent stage and a recent development in Ladakhi literature. Samuel Ribbach's personal account of life in traditional Ladakh is depicted in his novel *Drokpa Namgyal: Ein Tibeter leben*, published in the year 1940 and translated into English (1985) by John Bray. The characters are fictional but the setting is based in a real village called Khalatse which still exists.

Drama as a form has been part of the Ladakhi culture as *namthars* or hagiographies based on lives of famous saints, kings and epic narration like *Ling of Gesar* have been narrated and performed for several years at dramas in villages. The Ladakh Theatre Organisation, founded by Mipham Otsal, creates avenues for experimenting and adapting plays from Shakespeare like *Merchant of Venice* into Ladakhi and staging it on the local television for broadcast. The organisation also provides a platform for young and budding actors and actresses to learn this medium of expression, therefore, creating a blend of the classical Buddhist *namthars* and the western concept of plays/drama.

Thus, Ladakhi literature in English is evolving and building up every year. However, at the same time attempts towards the preservation of the Ladakhi language is being made by concerned speakers of the region. Therefore, a constant tussle and the urgency to write as well as speak in Ladakhi is being shaped up in the region which is undergoing lot of engagement with the modern world due to growing tourism. This leads us to the idea of where the development of literature in the region is heading towards? Should the development be more focussed on the urgency to write in Ladakhi or should the writing be left to the writers who are true to their own sense of expression whether that language is Ladakhi or English? And how do the readers and their response towards such works create the sense of an identity and association towards such literary works? This only time can tell.

ENDNOTES

1. Another Ladakhi scholar Nawang Tsering Shakspo states that— '*Politically, Ladakh was an independent state dating from the 10th century A.D.*' in his paper titled '*Ladakhi Language and Literature*' in Kaplanian, Patrick, ed. "*Ladakhi Himalaya Occidental Ethnologic, Ecologic* (Second Edition)."
2. Desideri, Ippolito. *An Account of Tibet*. Translated and edited by Filippo de Filippi London: Routledge, 1931.
3. Francke, A.H. Translated and Introduced by Gabriele Reifenberg. "Schools In Leh." Bray, John. *Ladakhi Histories*, Dharamsala: The Library of Tibetan Works and Archives, 2011, First Published in 2005.

4. From a questionnaire through email with Gen. Konchok Phandey.
5. Francke, A.H. Translated and Introduced by Gabriele Reifenberg. "Schools In Leh." Bray, John. *Ladakh Histories*. Dharamsala: The Library of Tibetan Works and Archives, 2011. First Published in 2005, pp.281-292.
6. German geographer Ferninand Von Richthofen (1883-1905) coined the term "Silk Route" to describe the network of travel routes stretching between China and Eastern Europe, with branches that extended in north-south directions.
7. Fawkes, Jacqueline, H.(2009). *Trade and Contemporary Society along the Silk Road. An Ethno-History of Ladakh*.
8. The Western calendar or the Christian calendar.
9. The Ladakhi language written in Tibetan script.
10. A Moravian missionary stationed at Keylang, British Lahoul.
11. Alexander Csoma De Koros was called the Father of Tibetology because of his extensive work on the Tibetan script.
12. In 1987, 'The International Association of Ladakh Studies' was formed to establish contact and disseminate information and research findings among those interested in the study of Ladakh. IALS can be accessed at <http://www.ladakhstudies.org/>. Ghosal, Sunetro ed.(2013). *Ladakh Studies*. Mumbai: Stawa.
13. This term has been used by John Bray to represent the tradition of publishing newspapers, first of its kind, that was started by Rev. A. H. Francke, a Moravian Missionary and carried forward later by Rev. Walter Asboe and other missionaries like Pierre Vittoz, a Swiss missionary and Eliyah Tsetan Namgyal(1908-73), a Ladakhi Christian.
14. Tsetan Phuntsog was a high ranking Ladakhi who had served as Tehsildar. He was also a scholar .He studied at Rizong monastery for two years before he became a Christian.
15. Aabedi, Zain-ul-Aabedin(2009). *Emergence of Islam in Ladakh*. New Delhi: Atlantic Publishers and Distributors.
16. Mon musicians are believed to have come from Himachal Pradesh. They were the first to introduce musical instruments in Ladakh.

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IMPACTS OF SYRIAN CRISIS ON TURKEY'S POLITICS

Ahmed Raza*

ABSTRACT

Turkey-Syria relation had been re-built under Adalet ve Kalkınma Partisi (AKP)'s "Zero Problems with Neighbour Policy". Unfortunately, uprising of Syria that has been shaped as a civil rebellion demanding political and social reform from the Assad regime has complicated the regional politics. Turkey is often accused for fomenting trouble in Syria on pretext of just intervention in the Syrian affairs. International community and scholars have assessed Turkish role negatively. This paper examines Turkey's continuing effort at maintaining good relationship with Syrian fellow and its positive contribution towards maintaining peace and order in the region by providing refugee camps and facilitating a free passage zone towards its southern border.

Keywords: Syria, Turkey, Turkish Model, Zero Problems with neighbour Policy.

INTRODUCTION

With the end of the cold war, concept of regional power among the neighbouring countries has taken place. It is in this context that Turkey emerged as a new regional power and emerging economy in the Middle East and North Africa (MENA) region on account of its high rate of economic growth, harmonious relationship with its neighbours, and successfully balancing Islam and democracy. On the other hand, Turkey's Zero Problems with Neighbour Policy under the initiative of Justice and Development Party (Turkish name: *Adalet ve Kalkınma Partisi*) got a lot of attention and appreciation from International Communities for its economic growth and development, a model of democracy, respect to human rights, building up relationship with neighbouring countries. Turkey's "Zero Problems with Neighbour Policy" aims to maintain the best possible relationships with all of its neighbours and regional and international actors. Despite Turkey having deep military and political alliances with the United States and Israel, it maintains good relations with their enemies, Iran and Syria, as well under AKP regime.¹

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Turkey's development and progress in real terms can only be achieved in a lasting peaceful and stability environment. Therefore, it has placed this objective at the very centre of her foreign policy vision under AKP regime. In this context, the discourse of "*Zero Problems with Neighbour Policy*" is a slogan summarizing Turkey's expectations with regards to her relations with neighbouring countries. Turkey always wanted to eliminate all the problems with neighbours or at least to minimize them as much as possible. On implementing this foreign policy approach, Turkey has initiated positively with all its neighbouring countries sidelining the ups and down of past relationship.

It has brought her relations with two neighbours in the Balkans, namely Bulgaria and Romania to a remarkable level. Furthermore, it also maintained harmonious relations with Ukraine. As a result, visa free travelling and bilateral trade has been increasing under AKP regime. Turkish-Russian relations have also been shaped on the basis of mutual cooperation and sincere dialogue in the last decade. Turkey's efforts geared towards launching the Caucasus Stability and Cooperation Platform and creating an environment of dialogue and trust in the region are clear signs of this approach. Turkey has adopted a constructive attitude for the settlement of the Cyprus issue, which she considers as a national cause. Even, before the onset of the rebellion in Syria in 2011, the AKP government had managed to shift its relations with Damascus from the brink of war to a close partnership.

Though, Syrian uprising of 2011 and Turkey's strong support to the uprising has brought to an end the relationship of both countries which was built up during the AKP regime. This is not due to a failure or inconsistency of *Zero Problems with Neighbour Policy* approach, but the approach of the Syrian regime, which through its actions, made it impossible to continue good neighbourly relations. Turkey's policy vis-a-vis Syria supports the shaping of the future of this country in line with the legitimate aspirations of its people and maintenance of her territorial integrity. It also envisages the establishment of a pluralistic and democratic political system that would ensure the extension of fundamental rights and liberties to all groups irrespective of their ethnic and religious cleavages. Such a transition will consolidate the ground for Turkey-Syria relations with the advantage of close and special ties between our peoples.

AKP's FOREIGN POLICY AND ITS POSITIVE IMPACT ON TURKEY-SYRIA RELATION

Before the civil rebellion in Syria in March 2011, the relationship between Turkey and Syria had taken a high speed of momentum showing positive image before the Middle East countries. Both the countries had already transcended all the ups and down of past relationship in order to cooperate with each other keeping in mind the historical and cultural ties of both countries for a long time. This could be possible while Turkey's AKP government took initiative of *Zero Problems with Neighbour Policy*. No doubt, Turkey has attempted in every sphere in order to give a proper shape to its policy so that stable and peaceful environment could be maintained. A harmonious and cardinal relationship between both the countries is a perquisite conditions and essential component for both in terms of security, cultural promotion, growth and development etc. due to long border connection, ethnicity and Kurdish question. After

taking the charge, Turkey's AKP government has shown a positive approach towards Syria as evident from number of efforts and initiative taken for the last decade. Prior to Syria uprising, Turkey's *Zero Problems with Neighbour Policy* has never been questioned with regard to its sustainability and applicability. With beginning of Syrian civil war and Turkish Prime Minister's reaction toward the Syrian government and demand for stepping down of Assad regime has brought severe criticism domestically and globally on account of failure of *Zero Problems with Neighbour Policy*. On the other hand, Turkish people did also never favour Turkish government's decision justifying Turkey's intervention in Syrian affairs. Turkey is already bogged down by existing problems like Kurdish problem, security against terror threats etc. which may go up due to involvement.

Turkey has acted as mature and responsible player in connection with Syria. Firstly, Turkey asked Assad govt for political, economic and social reform as Turkish foreign policy is based on democracy, human right and moral value. Even though, Syria kept on attacking innocent people and violated human right undermining Turkish government message. Later on, all the sanctions and relationship has been terminated and Turkey started pressurising Assad to step down so as to end the autocratic regime. Assad government did not respect human right of fellow citizen which resulted in large numbers of death. This mature politics of Turkey deserved to be a model of democracy as breaking the relationship with Syria has infact caused loss to Turkey in terms of not fulfilling the dream of regional power, economic burden, security problem etc. Turkey continues to accord priority to human right over its huge loss.

IMPACT OF SYRIAN UPRISING ON TURKISH POLITICS

Turkish Prime Minister's decision to intervene in Syrian crisis gave unexpected result which Turkey never anticipated. Although, Syrian uprising of 2011 was not the result of failure of AKP policy, several critics argue that Syrian civil war has been a motivational factor for various movements of the Arab Spring. Turkey's decision to intervene was not aimed at fracturing the relationship with Syria. Turkey has respected human rights of Syrian citizens and such kind of decision has been a lesson to other countries. Turkey has a clear stand with regard to democracy, respect to human right and democratic reform. Therefore, Turkey still is providing all kind of support to Syrian people in term of shelter for refugees, medical aid and other facilities. Due to its commitment for the human right, Turkey, in fact, has been experiencing multiple negative impact due to Syrian uprising. Some of those unintended negative consequences are discussed as follow:

1. Weakening Popularity of the Turkish Model and its applicability in MENA region

During the Arab spring and subsequently, countries such as Tunisia, Egypt, Libya etc. have been looking ahead for their democratization process so as to eradicate the authoritarian regimes of their past. In order to fit the Arab countries into democratization process, there has been much debate about what kind of democracy could be the best example considering the historical, socio-political dimension of the Arab world. In this context, Turkey has been acknowledged as a potential model for the Arab world democracies due to its ability to balance between Islam and democracy and also its development model steeped deep into modernity.

Therefore, the democratic pattern of Turkey could be seen as an ideal democracy for them and a new word *Turkish Model* could find a place in the dictionary of political science. The debate upon the importance of Turkish Model to Arab world reached its peak when the Turkish Economic and Social Studies Foundation (TESEV) conducted a survey on political attitudes in Egypt, Jordan, Lebanon, Palestine, Saudi Arabia, Syria and Iraq. More than 65 percent of respondents in the survey said they felt Turkey could be a model for the region, because of its perceived mix of Muslim piety, democratic system of government and economic success achieved under the government of the religiously conservative Justice and Development Party (AKP).²

The applicability of Turkish model of democracy to the Arab world countries has been acknowledged by various scholars citing their arguments. According to Altunisik, during the process of democratization in the Middle East, the prominence of Turkey as a model has grown on account of the soft power it has exerted since the election of the AKP, along with its pursuit of Turkey's membership in the European Union (EU). Dede argues that Turkey is viewed as a model for emerging democracies of the MENA region due to three main factors: the balancing of Islam and democracy through a bottom-up approach to Islam, sustainable economic growth and development, and the ability to exercise soft power in the region.³ Bengio argues that Turkey is appealing to the people of the MENA region not only because of a cultural affinity based on Islam, but more importantly the AKP's ability to detach the military from domestic politics.⁴

Turkey has been experiencing democratic government since 1923 A.D., but it came out as successful democracy among the Muslim nations with the arrival of new regime of Justice & Development Party (AKP) in the last decade. The AKP, led by Recep Tayyip Erdogan, has ruled Turkey with a large majority in Parliament since 2002. During this time Turkey has had good relations with the West, and also maintained cordial ties with the Islamic Republic of Iran and maintained a tilted pro-Palestinian policy. It vigorously contested "substantially free and fair" elections, a vibrant culture, and has undergone an economic boom, developing a "large and growing middle class." In sum, four main factors have been identified as central to the Turkish model and its appeal in the Arab region: The successful balancing of Islam and democracy in a secular political context; sustained economic growth and development; bringing the military under government control; and regional influence, including championing such causes as Palestinian rights and statehood.

Unfortunately, Syrian civil war of 2011 and Turkish foreign policy activism towards this uprising has changed the entire positive image. Scholars from the West and other regions have been defining Syrian uprising as testing ground for Turkish model. There has been decline in the popularity and applicability of this model in MENA region due to Prime Minister's decision to intervene in Syrian crisis. This has given a kind of loss to Turkey's image among the international community and global actors and raised the question of Turkey being an effective regional power and a model of democracy. But, AKP's foreign policy '*Zero Problems with Neighbours*' could never be treated as failure on account of Syrian uprising as Turkey has not taken any advantage from this uprising. Rather she has lost the popularity inspite of its role in respecting human rights of fellow human beings and demanding democratic reforms.

2. Financial Burden on Turkish Economy

Since the Syrian crisis began in 2011, Turkey - estimated to host over one million Syrians - has maintained an emergency response of a consistently high standard and declared a temporary protection regime, ensuring *non-refoulement* and assistance in 22 camps, where an estimated 217,000 people are staying. Turkey is currently constructing two additional camps. In 2015, the number of Syrian refugees had soared to 1.7 million in July, 2015 and 2.2 million by October, 2015. Ankara is providing them with long-term accommodations, healthcare, and schooling opportunities. On July 9, 2015 during an address to foreign ambassadors in Ankara, President Recep Tayyip Erdogan said Turkey had spent more than \$6 billion to take in 2 million refugees, including 1.7 million Syrians and 300,000 Iraqis. On Oct. 5, at a business gathering in Belgium, he mentioned Turkey's spending on welfare of refugees has exceeded \$ 7.5 billion. As in October, 2015; Turkey's estimate on monthly expenditure on refugees was \$500 million dollar.

In response to the influx, Ankara has established a Temporary Protection Regime based on an EU directive regarding mass displacements. The directive commits Turkey to guaranteeing temporary residence rights and access to basic services, but it does not give Syrian entrants access to the asylum system offered by the Office of the UN High Commissioner for Refugees, nor does it include the right to work. Accordingly, Ankara is offering temporary asylum to anyone who crosses the border without a passport, but these people must agree to reside in a refugee camp. Many Syrians have reportedly evaded this rule by crossing the border illegally, while others enter with a passport but overstay their three-month residence window. Thousands more refugees are stuck on the Syrian side of the border, in camps such as Atima next to Turkey's Cilvegözü crossing. Russian air raids have added to the woes of Syrian citizens and there is further growth in number of those entering Turkey as refugees. Despite the efforts of public and private Turkish aid groups and donations from abroad, they are living in dismal conditions. The backlog of refugees suggests that even Ankara's considerable capacity has been strained by the task of processing, monitoring, and providing for such a large flow of people fleeing the violence.⁵

3. Threat to Turkish Security

One of the worst losses for Turkey due to Syrian uprising is concerned with its own security problem. Turkey has been providing refugee camps in its southern territory where people from Syria enter and take shelter. This kind of support has been appreciated all over the world. On the other hand, free passage zone has always created problem to Turkey's security as large number of terrorist would not be missing an opportunity to enter into Turkish territory with aim to cause mayhem. In this crisis phase, no passport is required and there has been liberal environment from Turkish security agencies. This has really been a matter of concern for Turkish Government. Longer these camps are run in Turkey, prolonged will be the hazards from terror infiltration.

A critical threat to Turkey's security came after Assad pulled his forces away from the border. This allowed the PYD – a sister party to the Kurdistan Workers Party – to assume control over the Kurdish majority areas on the border. Turkey had successfully coerced Hafez al Assad

to withdraw his support for the Kurdistan Workers Party in 1998. In doing so, the Turkish Armed Forces were then able to deprive the Kurdistan Workers Party of having “strategic depth.” In turn, the military could then concentrate on fighting the Kurdistan Workers Party in Iraqi Kurdistan, rather than waging a two-front asymmetric war with an adversary that the TSK (Türk Silahlı Kuvvetleri/Turkish Armed Forces) has proven incapable of defeating.⁶

On the other hand, establishing a free passage zone by Turkish Government has led the government to start losing control of the human flow across the border, which enables movement between the two countries not only to refugees but also to smugglers, Muslim radicals, the Syrian secret services and Kurdistan Workers Party militants. One example of such kind of threats is terrorist attack in Reyhanlı, a small frontier town, in May this year, where 52 people were killed. Clashes between Turkish law enforcement agencies and groups attempting to illegally cross the border have also been observed. Furthermore, given the special features of the frontier area, which in ethnic and religious terms is in fact an extension of Syria, the situation in Syria is immediately affecting the area on the Turkish side of the border. The fact that Sunni insurgents backed by Ankara are crossing the border and the mass influx of refugees mostly Sunni Arabs opposed to the regime is generating tension between Kurds living on the Turkish side of the border (who support the Kurdish movement in Syria, which the Islamic insurgents are fighting, with Turkey’s support) and the Alawite Arabic minority (who support the regime in Damascus). This especially gives rise to threats in the frontier province, Hatay, where tension resulting from war and the influx of refugees is becoming mixed up with the tension generated by the recent public protests (three people were killed in clashes with the police in this province). At the same time, information has been received that Turkish citizens are leaving for Syria to take part in the ‘Jihad’ against the Bashar al- Assad regime (it is difficult to estimate the scale of this phenomenon).⁷

4. Problems in Kurdistan Workers Party Peace Process

Issue of Kurdistan Workers Party has been one of the major internal problems of Turkey for long time. All the peace process in this regard could not produce concrete result as Syria had always been supporting Kurdistan Workers Party movement and its leader so as it could use this as playcard and convince Turkey for appropriate demand. It is the AKP’s zero problem policy which maintained good relation with Syria for the last decade resulting into Syria’s favourable decision not to support Kurdistan Workers Party movement. Due to uprising of the Syrian civil war and Turkey’s strong reaction and support towards uprising has again brought a hurdle in Kurdistan Workers Party peace process as Syria would not be following the treaty and fulfilling the commitment in this connection as *tit for tat* concept. In order to find solution, Syria can never be skipped as population of Kurds are still staying in Syria and this movement is supported by the Syrian Government. Hence, Syrian uprising has given Turkey a long controversial and disputed issue as Kurdistan Workers Party which Turkey feels as major loss caused by its AKP policy with reference to Syrian involvement.

5. Rising Sectarian Tension

Syria has already been suffering sectarian problem for some time as two main group namely Alawite and Sunni do differ in their sect as well as their population belong to Turkey

and Syria. Alawite supports the Assad regime, so they were against the uprising whereas Sunni communities openly supported the uprising. Due to this civil war and a free passage zone provided by the Turkey Government, sectarian issue in Turkey's Hatay province has arisen. As both sections still are living in Turkey and there would be chance influx of these communities and later on conflict and tension would further prevail. In order to cope up with this kind of problem, Turkey has to maintain proper internal and external security so as to maintain calm in this region.

SECURITY CRISIS IN WEST ASIA AND THE EMERGING POWER BALANCE IN THE REGION

This on-going crisis in Syria is affecting more or less geo-strategically as well as economically significant region in West Asia. The emergence of the crisis could be traced to roots in Arab Spring which has initially been inflated as the path to a greater democratisation of the Arab region, but, it is struggling with a deadly upheaval of ethno-religious strife and "Hybrid" threats. Keeping the scenario in the region, various key regional and extra-regional players have increasingly been drawn into the conflict both as victims on one hand and in leading role on the other hand. Extra-regional players like US, NATO and more importantly the dramatic entry of Russia into the Syrian scene as well as the spat between Russia and Turkey has accelerated emergence of complexities. Glaring divide between regional players and competition to dominate the region multiplied its implications on regional security scenarios. The outcome of Iran & P 5+1 nuclear negotiation instigated rivalry between Saudi Arabia and Iran which in turn has further intensified the situation in the region. The intra-regional wars and civil war has threatened to alter the entire equilibrium in the region. With changing dynamics in the region is also likely on the backdrop of rising energy production in the United States. The Americans seem eager to downsize their foreign entanglements. Conditional probabilities and relative risks are making difficult to find a way out of given stalemate. It is hardly implausible to imagine a protracted political and military deadlock to be resulting into even greater loss of life, population displacement, and physical destruction, coupled with more potentially destabilizing activities. What, then, could mitigate these risks? Is a breakthrough leading to a negotiated political settlement possible, and if so, what are the prerequisites for achieving it? Does inadequacy of existing Security Framework to meet regional security challenges necessitates building new security architecture?

CONCLUSION

Turkey's high level performance under the umbrella of its Zero Problems with Neighbours Policy has reached its peak prior to Syrian civil war. It is the sincere efforts made by Turkey's AKP government which popularized this attitude and maintained sound relationship with its neighbour. It has got enough appreciation and popularity from global actors and International communities for its initiative. Turkey has gone ahead of its other competitors in terms of economic reforms, has emerged as a successful democracy respecting Islam, and is a regional power. Unfortunately, Syrian uprising of 2011 has been assessed as testing ground for Turkish's

foreign policy. On the basis of assessment of this paper, it can be safely stated that Turkey has shown a responsible and mature politics and preferred human right, democratic reform and moral value over the breaking of the relationship with Syria.

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DALITS AMONG INDIAN DIASPORA IN MAURITIUS: IDENTITY, TRANSFORMATION AND INTEGRATION

*Devi Dayal Gautam**

ABSTRACT

Mauritius is a British territory in the Indian Ocean 500 miles to the East of Madagascar. It measures 720 square miles and has a current population of 1.281 million people (World Bank, 2010). Discovered by Portuguese, most of the current generation ancestors came from France (the original settlers), Africa (slaves), India (indentured immigrants) and China (shopkeepers). Sixty-seven percent of the population of Mauritius is of Indian origin; twenty-eight percent Creole, i.e., of mixed African and/or Indian and European descent; three percent is Chinese; and two percent is European or of European origin. The majority of the Indian immigrants to Mauritius (60 percent) came from eastern Uttar Pradesh and Western Bihar, while 33 percent were recruited from Southern India (Tamils, Telugus) and 7 percent from Maharashtra (Marathis). Dalits constituted 27 percent. The ethno- social and cultural assimilation of Indian Diaspora in Mauritius makes a homogenous creolic nation where caste in contemporary Mauritius is insignificant. The categories are quite fluid and new umbrella categories subsume changing caste identities. But cultural dominance of Indian sub- continent is creating caste difference to a certain extent. Caste might not matter in issues of marriages and other social practices in Mauritius but in politics it is strongly visible. The government of Mauritius has enacted the Equal Opportunities Act, in 2012 to eliminate direct or indirect discrimination on the basis of age, caste, creed, ethnic origin, impairment, marital status, place of origin, political opinion, race, sex or sexual orientation. Equal Opportunities Commission has also been established. Ministry of Social Integration and Economic Empowerment has been set up with a view to combat social exclusion. This paper aims to summarize the historical formation of the Dalit identity in Mauritius.

Keywords: *Babaji, Babuji, Bombis, calcatias, chamars, creoles, Dalit, Dusadh, endogamy, Kangani system, “les indiens”, Malaysia, plantocracy, social stratification, Varna.*

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INTRODUCTION

Indian Diaspora has been a well-researched topic till date but Dalit Diaspora is something that has received scant attention from the scholars worldwide. Dalit Diaspora began to emerge during the colonial period as a result of the large-scale migration of the Indian castes on the margins to British, French as well as the Dutch colonies as indentured labour to work in the plantations. The post-colonial migration of Indians was mostly directed towards the developed countries like USA, UK, Canada as professionals and later to the Gulf and South East Asian countries as skilled labourers (Sahoo, 2006). This post-colonial migration was different from the pre-colonial migration in the sense that it was 'voluntary' and not 'forced' like the latter among the Indian Diaspora. The caste system has spread among the Indians wherever they have gone, as rightly pointed out by Jawaharlal Nehru in his formulation, "Wherever Indians go they take a piece of India with them". The caste division of India between upper and lower caste is not restricted within India but also exists among the diaspora.

Caste restrictions related to pollution may have disappeared during the immigration journey by virtue of the taboo connected to going overseas; i.e., crossing the black water (*kala pani*) itself was defiling to Hindus. Jayawardena (1971) and Clarke (1986) emphasized the importance of friendship ties and solidarity which developed between shipmates (*jahajie bhai*) of different castes which often became a more important basis of social life in the plantations than caste ties. The friends found during immigration were temporary and later replaced by kinsmen, however. Caste identities resurfaced after initial settlement. In order to explain the difficulties sub-castes found in reproducing themselves as endogamous units and maintaining restrictions on inter-caste relations, it is important to stress the composition of the immigrants and the system of recruitment.

In the debate about overseas Indian communities, the indenture system of recruitment of labourers (applied for immigrants to Mauritius) has been distinguished from the *Kangani* system of recruitment (applied for estate labourers going to Malaysia) by the fact that the recruitment was not generally done within villages or within the kin or caste networks of the recruiters. The recruiters (*arkatis*) worked in bazaar towns, attracting individuals who were already in transit, looking for work (Kelly, 1992). In the *Kangani* system, the recruiters went between estates and villages to pick up labourers, encouraged the maintenance of villages, kinship and caste ties. Mauritius falls between the two extremes due to the important role of those who had already served their first indenture contract and returned to India (Carter, 1992).

The majority of the immigrants to Mauritius (60 percent) came from eastern Uttar Pradesh and Western Bihar, while 33 percent were recruited from Southern India (Tamils, Telugus) and 7 percent from Maharashtra (Marathis). Dalits constituted 27 percent and there were approx 5 percent of tribal (Munda, Santal, Oraon) recruited from Chotanagpur in Bihar. The *Varna* categories of India have different meaning in Mauritius, and incorporate greater flexibility in the caste ranking. The occupational background of the indentured Indians included palanquin-bearer, drum beater, landless labourer, sweeper, washer, beggar, hawker, shoemaker, tanner, porter or day labourer. In Mauritius, the Indian Hindus also exhibit an internal division of casteism but unlike the Indian one it does not specifically relate to occupation. Kshatriyas are called *Babuji* and Brahmins as *Babaji*. Together they form the upper castes. Each forms

around 2 percent of the Hindu population (around 10,000 each). *Vaish* belong to the middle caste. They constitute around 50 percent of Hindu population. Among the lower castes two prominent castes are Dusadh known as Rajput and Chamars known as *Raviveda*. Thus, the caste system has been maintained in its own way in Mauritius.

Sean Carey (2011) mentions that when in Mauritius he asked about the contemporary significance of caste in Hindu groups, he was told that “*caste doesn't exist anymore.....people marry whoever they like*” and “*the only people who use caste are the politicians at election time*”. Caste might not matter in issues of marriages and other social practices in Mauritius but in politics it is strongly visible.

The Dalit Diaspora have now started organizing itself worldwide. They have created their own organizations to develop social solidarity with different Dalit communities. In this context the member of the ‘new’ Diaspora which are people who migrated voluntarily as ‘free passengers’ to Malaysia and Mauritius took the lead. The Dalit International Organization organized the first Dalit World Conference in Malaysia on the theme, ‘*A Vision Towards a Casteless Society*’ during Oct 10-11, 1998. Till 1997, Dalits in Malaysia who are mostly from Tamil Nadu organized Tamil conferences jointly with the non-Dalit Tamils. But later, they realized that this collaboration was serving no purpose and the Dalits began to organize themselves independently. The Dalits have formed an independent Dalit political party, Indian Progressive Front (Kumar, 2004). On the other hand the Dalit Diaspora in Mauritius remains with the majority Hindu group in the country and have not formed an independent political party to assert their identity. However, the Dalit diaspora in Mauritius is not a very small population and come only after the Vaishyas (middle caste) in terms of number.

HISTORICAL AND SOCIAL SETTING IN MAURITIUS

Mauritius is a British territory in the Indian Ocean 500 miles to the East of Madagascar. Mauritius was discovered by the Portuguese in the early years of the sixteenth century and was named ‘*Carne*’ (after the boat of Diego Fernandiz Percira) who discovered the island. It measures 720 square miles and has a population of 1.281 million people (World Bank, World Development Indicators, 2010) whose ancestors come from France (the original settlers), Africa (slaves), India (indentured immigrants) and China (shopkeepers). Mauritius did not have original inhabitants. Though it was known to Arab sailors during the middle ages, it was the Portuguese who used the island to stock their ships. They made no attempt to settle in the island but released pigs, goats, monkeys and rats, all of which changed the ecology of the island to a great extent by displacing and destroying the indigenous flora and fauna.

The Dutch settlers

In 1598, Wybrant Warwick came and took possession of the island naming it Mauritius after the Prince Maurice of Nassau. The early Dutch exported ebony wood from here to Europe where it was used in the manufacturing of guns and firearms. To cut the forest, they brought slaves from Africa and Madagascar. Sharp decline in the prices of the ebony wood in Europe and unfavourable climatic conditions forced the Dutch to abandon the island in 1710 A.D. Though they destroyed their establishment before leaving, they left a few runaway slaves behind in the forest.

The French settlers

Five years later the French took possession of the island. The most notable French Governor of Mauritius was Mahe de Labourdonnais (1735-1746A.D.). He gave training to artisans to build forts, barracks and ships and got the harbor of Port Louis developed. He introduced coffee, sugar, spices, maize, vegetables, fruits and livestock to Mauritius. Labourdonnais, who was familiar with conditions in the south of India, arranged for some hundreds of highly skilled men to be brought over from Pondicherry in order to assist him with the colonization of the island. "*These Indian workmen*", observes Baron Grant (1886) in his book on Mauritius, "*had the features of Europeans and were a very mild and gentle people. They were jealous of their national costumes and all of them wore large gold earrings and silver bracelets at their wrists*". Those who could not be employed in the skilled jobs were engaged as domestic servants by the French settlers and, Grant has further recorded, when their work was over "they would move about with canes and daggers just like European running footmen". Before the arrival of Labourdonnais and prior to the engagement of the Indian workers even the slightest repairs to ships in the local harbour could not be attended to. In 1731A.D., when he set out with an expedition to conquer Madras, he was able to build his own ships in which he sailed with his Creole regiments "which were drawn from the white, coloured and black population". There can be no doubt that in mounting this expedition, Labourdonnais found in his Indian workmen most of the skill he needed to build his fleet. They had come from the south of India which in the past had been famous for its high maritime traditions. Mukherji in his "*Indian Shipping*" refers to the activities of Hindu navigators in the fifteenth century and speaks of the construction of ocean-going vessels which measured "176 cubic in length, 20 in breath..." (Hazareesingh, 1966).

Labourdonnais brought Indians from Pondicherry to work as artisans, messengers and for domestic aid, though African slaves were used as the main labour force. Further, he annexed Seychelles in 1743A.D. In 1746 A.D., he sailed to India and relieved Pondicherry from the British. He also captured Madras. In 1794 A.D., the French National Assembly passed a resolution for removal of slavery system. The French settlers in Mauritius refused to apply the law and constituted a parallel government. Between 1796 and 1803 A.D., Mauritius had an independent rebel government and continued with slavery.

However, when Charles Decaear captured the island on behalf of Napoleon and re-established French control in 1803 A.D., he decreed only persons of 'pure blood' as equals. Slavery and slave trade was allowed to continue. Then arrived the second generation of Indians, who came from Peninsular India, under the administration of Governor Decaen (1803-1810A.D.). They were also drawn from the skilled ranks and were mostly Tamils. They were used to construct houses, schools, hospitals and other public buildings. But the new Indian immigrants were quite different from those who had come during the time of Labourdonnais. They had not the same powers of resistance to the pressures of social change from the local indigenous society and they soon lost all their national identity. In these circumstances it was easy to bring them within the pale of Western cultural influence. They became Christians, adopted European names, and by 1810A.D. they had all merged with the mixed population of the island and lost all traces of their native culture. Muslims however were more self-assertive

and were successful in keeping intact their own religion. They managed to build a mosque in the western suburb of Port-Louis.

The British settlers

During the Anglo-French War in the 18th century, the French used L'île de France to attack the British settlements in India and British ships in the Indian Ocean. During the Napoleonic war, these attacks increased. The British captured Rodrigue in 1809 A.D. and subsequently with the help of a large naval force captured Bourbon (now Reunion), Chagos and other smaller islands too. However, by the Treaty of Paris in 1814 A.D., Britain returned Bourbon to France and retained L'île de France, Seychelles and Rodrigue. When the British flag was hoisted on Government House in December 1810, "*Port-Louis resembled a vast bazaar, where Indian and European met for trade; the only difficulty*", reports an observer, "*was a vexing ignorance of each other's language*" (Pike, 1873). These Indians must have prospered economically for at least two of them had, during the early years of British rule, come into possession of large sugar cane plantations and were thus enjoying social status almost equal to that of the French settlers (Frere, 1875). In any case, they and the other resident Indians had nothing in common with the society of the Indian immigrants who came in 1834 under the British administration of the island. Between 1835 and 1907, an estimated 500,000 indentured labourers, two-thirds of which were Bhojpuri, arrived in Mauritius (Deerpalsingh, 2000: 45)

It may not be out of place to mention in passing that India has not always been only a recruiting ground for workers to be employed in the sugar plantations of Mauritius. When the island was captured by the British in 1810, Indian troops from Bengal, Madras and Ceylon served in the expedition and the following tribute was paid to them when they returned to their base:

"The whole of the Indian troops employed on the late expedition against the islands of Bourbon and Mauritius having returned to Fort St. George, the Honorable the Governor General in Council performs a satisfactory part of his duty in requesting that His Excellency the Commander in Chief will be pleased to convey to the several Indian Corps and detachments which served at the conquest of those islands, the public thanks of the government for the alacrity with which they embarked on that service, for the gallantry which they displayed when opposed to the enemy, and for their uniform good conduct on all occasions during their period of their absence from the coast"

(Wilson, 1882)

Social Stratification in Mauritius

Sixty-seven percent of the population of Mauritius is of Indian origin; twenty-eight percent is Creole, i.e., of mixed African and/or Indian and European descent; three percent is Chinese; and two percent is European or of European origin. Each of these ethnic categories can be further subdivided: the Indians into Hindus and Muslims and five linguistic categories, the Creoles according to color, the Chinese into Christian and non-Christian, and the Europeans into English and French. Mauritius is a plural society, but the principles in general use to mark off the sections within it are varied. Thus, ethnic origin, language, color, national origin, and

religion have been used here to differentiate sections of the population. These are all basically ascribed statuses.

The majority of immigrants (60 percent) came from eastern Uttar Pradesh and western Bihar, while 33 percent were recruited from southern India (Tamils, Telugus) and 7 percent from Maharashtra (Marathis). As a result, the Indians were quite heterogeneous in terms of caste, religion, linguistic affiliation, and regional origin. The majorities were poor peasants, artisans, and agricultural workers, but they were not all of low caste. More than half of the Hindus belonged to agricultural, shepherd, and artisan castes, referred to as clean castes in northern India. The low castes amounted to 27 percent and there were approximately 5 percent tribals (Munda, Santal, Oraon) recruited from Chota Nagpur in Bihar. The high castes (Brahmin and Kshatriya) constituted some 13 percent of the immigrants. In the initial phase of indenture, women constituted less than 10 percent of the immigrants, which led to competition for them in the estate camps. In the 1850s steps were taken to increase the proportion of women and they soon constituted one-third of the immigrants.

Ethnic and Cultural Criteria

On the basis of ethnic origin, one can distinguish categories derived from Europe, Africa, India and China. There is however a large category whose antecedents were both African and European which is difficult to place in such simple classificatory system. A further difficulty is the prolonged residence of all categories except the Britons in Mauritius so that strictly speaking all are of Mauritian birth and nationality. Yet, except to foreigners or when overseas, few Mauritians identify themselves or others as Mauritian. Instead they use an appellation of nationality, religion, color, or some finer distinction of caste, sect, or linguistic origin. It depends on the context of which sort of appellation is being used, for they are not all mutually exclusive. Nevertheless, primary identification is nearly always with a section smaller than the total national group. In this there is a difference in degree rather than kind from societies in which individuals identify themselves with a tribe or kin-group (Morris, 1956).

Language

If we take language as a criterion differentiating sections of the population, we find that each ethnic section has a language or group of languages associated with it. Yet, within sections, finer distinctions can be made on the basis of linguistic origin, and several languages traverse linguistic and ethnic origins and provide links between communities. Language can become symbolic of the differentiation between sections in a political context, as disputes in Mauritius, India, and other countries have shown. Language can also become symbolic of upward social mobility. A rise in the social and economic scale in Mauritius often leads to the abandonment of the local Creole *patois* or of an Indian language in favor of French or English. This is an example of the way in which cultural traits of those in the upper social strata are used as reference points for those lower down. It demonstrates the necessity of looking at a plural society as a single social system and not as separate social systems only making contact in the economic sphere.

Religion

Similarly, each ethnic group has one or more religion associated with it. Yet within sections

there are many distinctions of ceremony and sect and a number of religions traverse ethnic and linguistic boundaries. As with language, religion can become an important political symbol in some contexts differentiating political blocs. It can also become symbolic of upward social mobility by conversion to Christianity. In Mauritius, only the Christian religion has significant representations in each of the major ethnic sections. Awareness of other religions is one of the characteristics of plural society in Mauritius. That requires not only awareness of differences but also identifying similarities. Beliefs and practices of one religion are often rationalized in terms of another. In this process, it is usually the religions of the lower strata, Hinduism and Islam which are rationalized in terms of the higher, Christianity. In the villages all of which are multi-racial, one rarely hears the adherent of one religion dismissing other religion as idle superstition. Instead there is a belief in the popular efficacy of other religions, particularly of other saints, deities and rituals. Thus the knowledge of other religions is an important part of the belief systems of many Mauritians, and again emphasizes the importance of treating the whole society as a single social system.

Such criteria as ethnic origin, language, and religion are only significant group determinants in a political context. Here they become symbolic not so much of cultural separateness as of lower political status. If Roman Catholicism and the Church of England receive government subsidies in Mauritius, Indians want similar subsidies for Hinduism and Islam. If French and English are taught in schools, there are Indian demands for Urdu, Tamil, and Hindi. Nadel's (1951) definition of social strata as aggregates of individuals who share in relevant respects the same status, leads us to ask what the relevant features are. As Nadel is at pains to point out, they do not refer to all physiological and behavioral differences, but chiefly to access to political status and wealth. It is in these contexts that ethnic and cultural differences can become important because they can serve as symbols of differential status. This can be seen in the use of stereotypes to define social distance and differential status. As Morris (1956) has shown in East Africa, members of one section tend to regard other sections as undifferentiated.

Stereotypes

In Mauritius, the Franco-Mauritian refers to "*les indiens*" and is scarcely aware of the many differences of caste, sect, and linguistic origin which differentiate such a category. Similarly, the Indian is unaware of the many social gradations among "*les blancs*". Both tend to regard the Chinese as similarly undifferentiated. Such stereotypes ought to be assessed in the context in which they are uttered. The Chinese shopkeeper will be aware of many of the distinctions among the Indians and Creoles in the village in which he has his shop. The Franco-Mauritian estate manager may be similarly aware of distinctions among the laborers inhabiting his estate camp. In a Franco-Mauritian drawing-room, white and black are adequate distinctions, but in politics Hindu and Muslim may be more significant, while in the occupational sphere Indian and Creole may become the important categories. The tendency for individuals of one section of the plural society to look on the others as undifferentiated appears to be a function of lack of communication between individuals of different sections. It is most pronounced where the social distance is greatest. From the Franco-Mauritian drawing-room the Indian village is socially remote. Physically it is rarely more than a quarter of a mile. Where social contact is more frequent and sustained, this undifferentiated stereotype breaks down. The Chinese

shopkeeper knows not only the ethnic and religious differences among his clientele but also their individual differences in wealth and power.

DALITS AMONG INDIAN DIASPORA IN MAURITIUS

The Bhojpuri-speaking Hindus have four major castes that are interpreted locally as *varnas*. They no longer represent strictly endogamous units (sub-castes), but rather are extended social groups, interconnected by marriage and kinship, which often cut across caste lines.

The *Varna* categories of India have different meaning in Mauritius, and incorporate greater flexibility in the caste ranking. It is quite peculiar that an aggregation of cultivator and artisan castes such as Kurmi, Koeri, Ahir, Kahar, Teli, Noniya, Kumhar and Lohar who are clean castes in Northern India (Uttar Pradesh), adopt a common term *Vaish* in Mauritius by means of intermarriages. Some of these sub-castes, whose ritual status is relatively low in the localized caste hierarchies of northern India, and recognized as belonging to Shudra varna, were incorporated within clean castes and given equal rank. Many sub-castes had few members and a disproportion of men to women, so could not reproduce themselves as endogamous units. Therefore they allied themselves by marriage to other castes of relatively equal rank. This transformation and merging of sub-castes into a larger caste category, the *Vaish*, was not accompanied by any processes like sanskritization, which would accompany collective caste mobility. One ethnic category based on regional and linguistic identity was also incorporated into the *Vaish* by intermarriages, notably the Bengalis; i.e., immigrants from West Bengal and Calcutta. Each of these sub-castes had very few members and had no other choice than to marry persons belonging to related castes, and gradually the *Vaish* evolved as a new endogamous unit. It is not uncommon that a Hindu identifies himself as a *Vaish* even if his father is a Kurmi, his mother a Lohar, while he himself married an Ahir. Many people are not aware of the particular sub-caste a person belongs to because it is not important among people belonging to the *Vaish* category, as all are considered equal (Hollup, 1994).

Those claiming Kshatriya status are regarded as high caste (grand *nasyon*) and known as *Babujee* among the Hindus. High-caste people tend to identify themselves by their surname, in which “Singh” appears among the *Babujees* who claim Kshatriya status and “Sharma” for those who are Brahmin (or *Maraz* as they are also called in Mauritius). However, there are many *Babujee* and Brahmin families who are not named Singh or Sharma, and some claim that even the appearance of Singh in the surname is not a reliable indicator of high-caste identity because some people have changed their names in order to pass as high caste during and after emigration (Jayawardena, 1971). Although vegetarianism and Puranic ritual traditions are sometimes associated with high-caste identity, many followers of the Hindu reformist sects, such as Arya Samaj and Kabir Panthi, with different caste backgrounds have adopted vegetarianism. Since Puranic rituals are adopted by *Vaish* and orthodox Hindus (*Sanatanists*) in general, hardly anything distinguishes one caste from another, and in this sense the term homogenization is applied to Hindus.

According to the immigration registers, some people had entered either “Rajput” or “Chettri” as their caste. It was probably because those sharing a common Kshatriya status were the ones who started to call themselves or were addressed as *Babujees* by others in

the late nineteenth century. *Babujee* does not denote a caste but is rather an indefinite term which stands for respect and it came to embrace members of several castes associated with the Kshatriya varna. Another indication of high caste identity associated with the *Babujees* is the performance of the *tilak* ritual prior to weddings, following Puranic ritual traditions. Puranic wedding rites and rituals are associated with the orthodox Hindus (Sanatanists), to which the majority of Hindus belong. The Tilak ceremony is when the bride's relatives visit the bridegroom's home and present him with gifts of fruit, flowers, clothes, and money, to indicate their acceptance of the union. Although the ritual is associated with high castes, it is also performed by some Vaish to signify wealth and increase the family's prestige.

In most camps (Union Vale, Trois-Boutiques, Chemin-Grenier), all castes joined the same *kalimai* ('plantation shrine'), each individual coming there to pray to his/her god(dess) under the name he/she preferred. Though prayers (*priyer*) varied: for *Baharia puja*, one of the major ceremonies in such shrines, the Babujee-Maraz would not perform any sacrifice, the Vaish would sacrifice goats and the Shudra, pigs. An older labourer-woman from Union Vale camp also remembers that, in her youth (in the 1930s-40s), the order for distributing *prasad* ('sanctified offerings') followed caste hierarchy. Since then, the proliferation of *kalimai*, included inside each camp (such as in Beau-Fond, L'Escalier or Mon Désert-Mon Trésor), has caused or accompanied the split of shrines into *grand-* and *ti-nasyon*: there was 'a *kalimai* for the Vaish and one for the Chamar.' (Claveyrolas, 2015)

High castes' prestige does not derive from superior ritual status but is the result of economic and political power. In the plantations relatively more high-caste people became overseers among the indentured laborers because they enjoyed respect from lower castes, and they were accustomed to exercise traditional authority. They also had little education. The high castes, Brahmins (*Babajee*) and the *Babujee*, became united by intermarriage in Mauritius. They obtained some privileged positions as overseers and contractors, and were among the first Indians to benefit financially through the acquisition of land as small planters and entrepreneurs. The first community leaders among the Hindus (in socio-religious associations and political parties) were mostly of high caste and they also came to occupy important positions in the government bureaucracy. They protected their relatives of the same caste and recruited them for government jobs, prior to and after Independence. This practice of nepotism gradually turned into casteism which was accompanied by increasing competition for scarce resources (state patronage) among the Hindus.

Caste Identities

Caste identity as a ritual status makes no sense anymore, yet remains a matter of prestige or esteem. There have been many inter-caste and interethnic marriages (between Hindu-Tamil, Hindu-Telugu, or Hindu-Marathi), but most marriages tend to be caste or varna- endogamous. There are no strong sanctions or opposition within the family or extended kin group against inter-caste marriages. It is probably only Rajputs (Dusadh) and Raviveda (Chamar) who come closest to being endogamous sub-castes, partly because they were excluded by other castes for a long time on the basis of their previous habit of eating pork and rearing pigs.

Have these caste differences come to be regarded not in terms of a hierarchy but merely

as a separation or division of categories? Caste here is not supported by an ideology of purity and Hindus are no longer caste-conscious in the sense that they know other people's caste identity. A person's claim to membership in a specific caste does not need to be recognized or validated by others. Hypergamy is widely practiced, and when a lower-caste (Shudra) woman marries an Ahir (Vaish) or a high-caste Babujee, she takes her husband's caste status, as when a Telugu woman from a wealthy landowning family marries a Brahmin. The flexibility related to caste membership allows for a great deal of individual mobility. Caste membership may be a matter of some concern in wealthy families, as among the middle class, because it relates to prestige. But there is a clear tendency among the younger generation to ignore caste divisions altogether. Clarke (1986:96) says that "*caste could be set in the balance against class when defining an individual's status. Occupation and wealth determined a Hindu's social standing in secular affairs, and caste either added to or detracted from it*". If someone marries a person from a low caste, he attempts to hide this fact, but when the opposite occurs he is proud of it. In this respect, there is still a feeling of inferiority about belonging to lower castes, and the opposition of high (*grand nasyon*) and low caste (*ti nasyon*) still prevails. But family wealth, occupational status, and educational qualifications now transcend caste boundaries. A poor Vaish family would prefer to marry their daughter to a low-caste man with a white-collar job and good income because they are more concerned with the material well-being of the girl than what neighbors may say about the husband's caste background.

Most Hindu sub-communities in Mauritius assemble in 'socio-cultural associations' formed along caste lines (Gahlot Rajput Maha Sabha, the organisation of the Rajput caste, or Vaish Mukhti Sangh, for the Vaish caste). The reformist Arya Samaj, imported to Mauritius in the beginning of the 20th century, denounces the caste system in principle. But the organisation split along caste lines again, resulting in the creation of the Arya Ravived Pracharini Sabha in 1935 by Chamar Dalits, and renamed 'Ravived'.

The very existence of lower castes is disturbing to many in Mauritius. Hollup in his fieldwork found that the names of untouchable castes such as Chamar or Dusadh, and their practices such as pig rearing, are only evoked discretely (*sous-tapi*) and with aversion. "Eyes down, one person spoke in a whisper about 'these people' (*sa boug-la*) eating 'these things' (*lotte zaffer*) and switched from Creole to Bhojpuri evoking '*hawe... ou kone, hawe, soowar*' (that... you know, that, pig) or using images ('*sa zaffer lake tourne*' [that with a corkscrew tail]) and euphemisms (*chawwna*, piglet). Their raising, sacrificing and eating pork would be the reason why Samajist Chamars were excluded from commensality and intermarriage with other Samajists, which eventually caused the group to split" (Hollup, 1994). "Lower castes are also associated with negative characteristics: the Chamar are dirty, alcoholic and quarrelsome. An undisciplined child is scolded: '*You act like a Chamar!*' The dark complexion of lower castes is also noted, as well as their way of talking: rude (*grossyer*) and aggressive (*batayer*). It is supposedly even 'impolite' to pronounce the word Chamar, which is why 'it is better to say *Ravived*.'" (Claveyrolas, 2015)

Just as in India, Mauritian lower castes often choose the path of sanskritisation, using the caste system's potential for social ascension rather than trying to get free from it. The Chamar

Dalits have become the Ravived, and the Dusadh the Rajput (a Kshatriya category), by founding in 1965 the Gahlot Rajput Maha Sabha—which has existed in India since 1923 (Servan-Schreiber, 2010: 36).

One may think that class or ethnic identity overrides caste identity. Actually these divergent identities sometimes are combined to increase one's prestige. Although caste was detached from the ideology that legitimized hierarchical ranking and reduced to a matter of prestige, caste prestige is interconnected with and dependent on other status criteria such as income, wealth, occupation, and property. *Terminological transformation* (Mathieu Claveyrolas, 2015) of the caste names have not completely obliterated the prejudice against the lower castes (*ti nasyon*). Despite the diminishing importance of caste, high-caste status still carries prestige and due to the prestige associated with high castes, there is a tendency for people to try to marry their children to high-caste mates. Hypergamy and hypogamy are to some extent intended to accumulate or increase one's prestige. Hypogamy is facilitated by the fact that the lower-caste man compensates with wealth, education, a well-paid government job, and a good family reputation, which are highly valued assets. However, the prestige associated with high castes derives from power and socio-economic position rather than from religion, as in India.

INTEGRATION AND POLITICAL TRANSFORMATION OF INDIANS IN MAURITIUS

The indentured Indian labourers, in contrast to the slaves came to Mauritius in family groups- sometimes whole villages indentured together. The Hindus as well as the Muslim faiths have proved far more resilient cores of cultures in the face of Christianity than had been the case with the animism of the slaves. When the Indian indentured labour arrived in Mauritius, the political power was with the British and slavery had been abolished. The Indians tried to maintain their distinct culture and associations thus not mixing with the Creoles. British power also shielded the indentured labourers from the full integrative thoroughness of Creolisation, enabling them to salvage some shreds of the cultures of India. This does not mean that the Indians did not integrate with the Creoles. It was vital for the Indians to learn to speak Creole. Marriage and long term unions with Creole females were also not uncommon.

The British colonial legislation entitles Indians to buy land in Mauritius. Through hard work, exploitation of fellow countrymen and favors from the creole planters, some Indians amassed money and acquired property. A few became rich sugar estate owners in their own right while many more became 'small planters', owning anything from less than one to several acres of cane land. Just under half of the cultivated land of Mauritius today is owned by the descendents of the indentured labourers. Land ownership provided the Indians with an economic base to finance the education of their sons for access to government jobs and the professions.

Government employment was more keenly sought after by the upwardly-mobile Indians, since in the sugar industry all the good posts were in the hands of the creoles and thus out of reach for the descendents of the coolies. While in the administration and other sectors where

the state had direct control, it was not necessary to abandon 'Indianness' and become integrally creolised to get a job. What was required was British type education and this was available to 'Indians' who could afford it.

Thus, slowly first and then more rapidly after the World War II, a new fraction of 'petty bourgeoisie' emerged out of the descendents of the indentured labourers. This new fraction was well aware of the cultural dimensions of the contradiction between the British administration and the creoles and saw there an opportunity to gain favours with the political rulers by stressing its attachment to the English language and British institutions. The independence of India had revived confidence and pride in the languages and cultures of the sub-continent, furthering the reluctance of the new fractions of the petty-bourgeoisie to merge itself into a creole hierarchy where 'whiteness' and the French language were dominant ideological features. Significantly the renewed attraction of the motherland of Hinduism enhanced rather than detracted them from acquiring the prestige of English in the eyes of the new fraction of the petty bourgeoisie as that language came to be associated with modern independent India as well as with the British administration which provided the government jobs.

British wanted to leave Mauritius and therefore proceeded to undermine the original class-oriented Mauritius Labour Party (M.L.P.) displace its more radical leaders, and facilitate the petty bourgeoisie fraction which had emerged from the indentured labourers. This leadership was groomed to succeed the British in office and the suffrage was gradually extended to the sugar proletariat to provide it with a large ethnic electoral base.

The Indians had also preserved a number of divisions articulated into the power structure which could be as significant in politics as the creole/ Indian dichotomy. Places of origin in India, associated with languages, could become symbols of allegiance in the political context. Thus a minority known locally as 'Madras' and associated with Tamil- and a sub-section of it with Telegu- could be differentiated politically from the '*calcatia*' majority. Some 'Madras' had arrived in Mauritius when the island was under French rule and were fully creolized by the time the bulk of the Indians arrived. This contributed to the 'Madras' being more readily Francophone and not unwilling at times to ally themselves with the creoles in politics. Another smaller minority known as '*Bombi*'- those whose ancestors shipped out of Bombay- was associated with the Marathi language, could also from a particular grouping at times differentiating itself from the '*calcatias*' in the political context.

In the circumstances of Mauritius it was difficult to keep alive the divisions of labour and the interdict concomitants of caste. But articulated with the class system of the plantation society, caste could still play a significant role in politics. Thus the creole planters sometimes gave the more responsible jobs of Sirdar- a kind of field foreman- to high caste '*calcatias*' because of their authority over the other labourers. The '*calcatias*', associated with Hindi, represent the large majority of Mauritian Hindus. Caste plays a more significant role among '*calcatias*' than among the smaller ethnic groups. With more opportunity to amass wealth and land and opportunity to move up the social scale, the '*calcatias*' high caste, were over-represented in the leadership of the Mauritius Labour Party(M.L.P.). Other political parties have exploited the real and imaginary casteism of the Labour Party to win the votes of the lower castes. The Independent Forward Bloc (I.F.B) was particularly adroit in harnessing the caste factor against the

M.L.P. Grown out of a Hindu revivalist movement, influenced by Gandhian ideas which contributed to the awakening of politics among the 'Indian' masses, the I.F.B. criticized the leader of the M.L.P. for their elitist 'British' lifestyle, accused them of corruption and misleading 'the small men'. The I.F.B. mobilized a significant following among the sugar proletariat, notably in the south of Mauritius, and was a hindrance to the Labour Party and its British patrons. But it was the division between Hindus and Muslims in politics which made the British project of transferring power to an ethnic majority particularly problematic.

The Muslims of Mauritius have for the most part descended from the indentured labourers who came from India under the same conditions as the Hindus. However, a small but significant group of Gujarati speaking Muslims came to the island as traders in grain and cotton cloth. These rich merchants escaped the creolisation process on the plantations and have kept their language and culture of origin, maintaining contacts with other Gujarati communities in India and East Africa. As merchant capital, the Gujarati have always held a special relationship with the creole planters and the British administration. In recent years, the Gujarati merchants have entered into partnership with creole capital in the docks and in industry while retaining a strong position in the import trade. The Muslim merchants were the first merchants of Indian origins to have a voice in politics, taking an active role in the affairs of Port-Louis, the capital of the island. The Gujaratis took the lead in establishing religious and cultural institutions that helped maintain a sense of ethnic identity among the Muslim labourers, differentiating them from the Hindus.

The plantocracy had tended to favor Muslims for more skilled jobs on the sugar estates and in the firms of the capital. Many Muslims today are the petty traders and taxi owners of the capital, and run garages, repair shops, and filling stations. The Muslim/ Hindu opposition is at least in part the translation in ethnic terms of the urban/ rural conflict of interest. At election times, the voice of the Muslims can be decisive in Port-Louis.

From the point of view of ethnic politics, the Muslim vote has been crucial since decolonization. The strategies of parties and alliances to capture it have dominated Mauritian politics. The electoral system, the boundaries of the constituencies, the entrenchment of 'communalism' in the independence constitution, can all be seen as the reflection of the key position occupied by the Muslims in the ethnic political struggle for power at the time of independence. The short but murderous bout of ethnic violence in a suburb of the capital on the eve of independence was the sequel to the intensity of the struggle for the Muslim vote in the last stage of decolonization. The Gujarati Muslim merchants had originally been the political allies of the plantocracy in the *Parti Mauricien*. But infighting in the city politics of the capital, the clash of personalities and opportunism had led some of the merchants to form their own political party, the *Communaute d' Action Musulmane* (CAM) which contracted an allegiance with the M.L.P. What the Muslim leaders really wanted to deal with M.L.P. was support for their communal demands in decolonization in return for support over independence.

The ethno- social and cultural assimilation of Indian diaspora in Mauritius makes a homogenous creolic nation where caste in contemporary Mauritius is insignificant. But cultural dominance of Indian sub- continent is creating caste difference to a certain extent. The contribution of the majority of the lower classes population of Mauritius in nation building has been

immense and it is necessary to provide equal opportunity to them to bloom and zoom in the changing global international scenario.

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UNDERSTANDING THE NEXUS OF GROUNDWATER IRRIGATION AND FOOD SECURITY IN INDIA

*Rajni Bala**

ABSTRACT

Over the past 25 years, massive changes have occurred in agriculture sector of the world economy, but insecurity regarding food sufficiency is still prevailing in most of the developing countries. India aims to be a self-enough country in food availability which makes it imperative to grow sufficient food within the country. To attain this goal, State and Central governments intervene in providing uninterrupted food supply to safeguard the farmers against unpredictable food prices. India's food security depends upon adequate agricultural production and agricultural production can be augmented only through proper irrigation facilities. Indian policy planners emphasize to expand and upgrade irrigation facilities. In irrigation sector, groundwater use became feasible resource in comparison with the canal irrigation in India. Initially this proved helpful in food production, but overuse of this resource has emerged as a drag over enhancing food production. This paper highlights the role of groundwater irrigation in attaining food security. The period covered is from Green revolution period onwards. The paper also elucidates the critical condition of groundwater resource and its possible impacts over food security.

Keywords: Agriculture, Groundwater boom, Groundwater Contours, Impacts on food security.

INTRODUCTION

A large part of Indian population is dependent on agriculture sector for its sustenance. Agriculture is also counted as the backbone of the Indian economy. Since independence, all the agricultural policies of the successive governments have aimed at reducing poverty, hunger and food insecurity. Undoubtedly, the decade of 1960s is marked as a watershed decade.

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Several challenges in the field of agriculture were addressed. New innovative technologies were introduced to enhance the production in agriculture sector. The period now known as the Green Revolution period has another epithet, *Tubewell Revolution's* period. Groundwater irrigation played an important role in India's agriculture and food security. The applications of the recommended fertilizer and other type of agronomic practices demands excessive water for irrigation and that can be only fulfilled from groundwater that is easily accessible for those who have their economic resource. Gandhi (2009) found that groundwater irrigation has become the main source of growth in irrigated area over the past three decades and it now accounts for over 60 percent of the irrigated area in the country. His study also examined that over 70 percent of India's foodgrain production comes from irrigated agriculture in which groundwater have an important role.

But, during the last decade, the decreasing trends of productivity in wheat and paddy production and the stagnation in yield has baffled the policy makers. The threat of insecurity of the food sufficiency looms large. FAO defines the food security in following words: "Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (World Food Summit, 1996). Food security is a major and primary challenge for every government in ensuring good governance. This ultimately creates a lot of pressure upon natural resources for more production. Since over 70% of India's foodgrain is grown in the irrigated belt and groundwater plays a significant role in realizing this. In this situation, it can be discerned that natural resources like water and groundwater can only be ignored by mismanagement and indiscriminate exploitation at nation's peril. Such exploitative practices of the available water resources and groundwater resources can lead to catastrophic situation in agriculture sector. Thus, the sustainability of groundwater resource and food security is a major challenge. The paper will explore the nexus between these two salient dimensions of current scenario in Indian agriculture.

The main aim of this paper is to provide the thematic overview of the nexus between groundwater irrigation and food security. The paper has two parts; first part will present the historical overview of groundwater booming that proved helpful for food security. Second part of this paper will analyze current challenges for groundwater resources in view of the requirement of enhanced food production.

GROUNDWATER BOOM AND THE FOOD SECURITY IN INDIA

After independence, State has been the architect, entrepreneur, engineer and manager of irrigation systems in India and millions of small farmers gained from several initiatives undertaken by the governments in the field of irrigation. India followed the irrigation model of 1830's in which command areas were created near hydraulically opportune sites where reservoirs or weirs could be built and downstream areas could be 'commanded' by gravity flow (Tushaar Shah,2006). But, Indian agriculture suffered during the Second World War (1939-43) resulting in the Bengal famine of 1943 and major food scarcity. It was felt that state ought to make public intervention for reducing food scarcity.

Since independence, Indian agricultural policy faced an ongoing tension between pressure to reduce regional and local inequalities and pressure to increase agricultural growth. Policy planners put primary emphasis on inclusive growth during India's first three Five-Year Plans (1951-52 to 1965-66). Wide range of initiatives was promoted to spread the public investment in agriculture and rural development. Overall in this period, the main emphasis was on agrarian reorganization, land reform and to reform inefficiencies of a semi-feudal agrarian structure. By the mid 1960s, however, it had become clear that this development strategy had not worked. At the same time, India faced the problem of food insecurity and that caused political havoc. In addition, India's food security was dependent on continued wheat imports from the United States, known as PL 480 shipments. Under such pressure, India's lack of food self-sufficiency represented a clear threat to national sovereignty. International organizations, especially the World Bank, also applied pressure by making much-needed aid contingent on the adoption of agricultural policies aimed at increasing output (Witsoe, 2006).

Agricultural development through better input was the best option to achieve the food security goal. To achieve it, groundwater irrigation was also considered as a viable technical option to reduce water-logging and salinity in certain areas of river basins. Conscious and proactive government policy was promoted to get agricultural productivity and overall development at the cost of natural resources. It was assumed that food subsidy; especially the Minimum Supporting Price (MSP) can encourage the farmers to go for more food production. Energy and groundwater are key instruments for agricultural production. Irrespective of the changes in the energy policy, the demand for groundwater depends upon what farmers grow, which in turn is influenced by the support price policy, agriculture (food security) policy, and market linkages(Shah *et.al.*, 2004).

Digging of groundwater for agricultural productivity depended firmly on access to electricity and a provision of subsidies was adopted. Facility of providing subsidies for power started way back during the British rule and continued during post-independence era. The objective behind these subsidies was to reform the agriculture sector and to provide relief to the poorer sections of the society (Gupta,2013). To popularize the tubewell irrigation for better production, government-owned state power utilities aggressively persuaded unwilling farmers to install electric tubewells. In the period of 1950s, raising energy consumption was considered synonymous with economic progress and loans and concessions were made available to farmers. In Indian states like Punjab and Uttar Pradesh, the Chief Ministers set steep targets to district-level officials to sell electricity connections to farmers to popularize tubewell irrigation (Shah *et.al.*, 2007).

Similarly, during the 1960s and the 1970s, the World Bank supported huge investments in rural electrification infrastructure to stimulate groundwater irrigation and agricultural growth. The state governments have enacted a series of policies including the subsidization of key agricultural inputs in the 1960s. These policies were vindicated when the *Green Revolution* succeeded the tubewell revolution. An agricultural electricity subsidy was implemented to encourage groundwater irrigation. Indeed, this subsidy increased agriculture's share of energy use, which jumped from just 3% of total energy use to 14% by 1978 (Badiani, 2010; Pachauri, 1982).

On these grounds, state bodies at both national and regional levels heavily promoted groundwater use as a shortcut to agrarian modernization. Whereas projects aimed at increasing the scope of canal irrigation have slowed or stagnated across most of rural India, successive governments at regional and national levels have encouraged drilling of private wells through the extension of credit and also by subsidizing the electricity used by pumpsets (Taylor, 2013). First of all, ground water development is subsidized through the National Bank for Agriculture and Rural Development (NABARD) which provides refinancing facilities to other banks to support loans for private wells and pumps. Second, electricity is priced at subsidized rates for irrigation pumping. On the other side, NABARD runs a variety of credit programmes which substantially subsidizes well-development by individuals. Electricity subsidies probably have a larger effect on ground water development than credit availability. In most areas, electricity for pumping ground water is sold at a flat annual rate based on pump horsepower or provided free of charge (Monech, 1992).

Though target of food security has been achieved, these policy measures have created mono-cropping pattern and lock-in situation for cereal crops and oil seeds. The other negative impact of the Minimum Supporting Prices is the inequitable distribution of subsidies due to concentration of procurement in just two food grains and selected states. In 2003-04, nearly 95% of the wheat was procured from Punjab, Haryana and part of Uttar Pradesh. Similarly, nearly half of the paddy procurement was made from the states of Haryana and Punjab, followed by Andhra Pradesh and Chhattisgarh. Not only farmers in these selected states draw the benefits of the subsidies, within these states mostly the large farmers enjoy these benefits leaving out small and marginal farmers. Study in Andhra Pradesh has shown that farmers, notably small and marginal, face several hurdles in realizing the MSPs offered by the government (Sinha *et.al.*, 2006). Policy issues such as those dealing with groundwater, agriculture and energy have created a nexus between groundwater and energy in India. Thus, Agricultural policies, especially the procurement policies are such that they have encouraged farmers to continue growing more water-intensive crops (rice, sugarcane etc.). This further promoted the politics of free electricity and political populism in the energy sector (Sinha *et.al.*, 2006).

The rise of groundwater irrigation also transformed the organization of irrigation at the local level. In pre-Colonial India, co-operation at the community level was the dominant institution for irrigation. Under the colonial rule, collaboration between the State and the engineering profession was at the centre-stage of centralized, bureaucratic irrigation development and management. In this new era of atomistic irrigation, the State as well as science became onlookers in a ballgame whose rules and logic they did not understand, much less dictate. In an incipient atomistic irrigation economy of the 1980's and later, neither the State nor the community was the entrepreneur, builder, or the manager of irrigation; it was the multitude of small-holders Marx's 'millions of disconnected production units' each with his tiny, captive irrigation system, ostensibly unconnected with the rest (Shah, 2009).

Between 1960 and 1985, India invested in irrigation projects several times more capital in real terms than the British had invested during the 110 year period between 1830 and 1940. However, even according to the Government of India's figures, over 60 percent of irrigated areas are today served by groundwater. Until 1960, Indian farmers owned just a few thousands

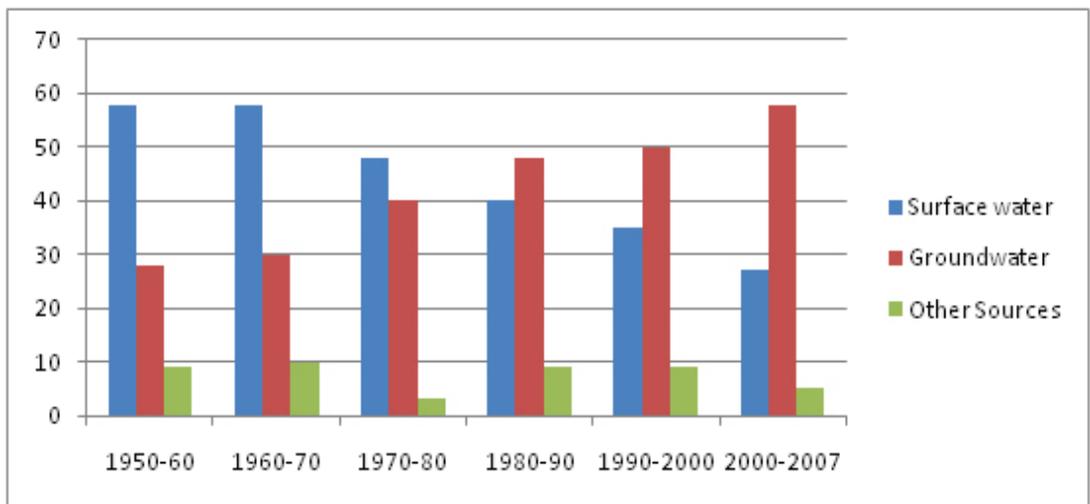
of mechanical pumps using diesel or electricity to pump water; today India has over 20 million modern water extraction structures. Every fourth cultivator household has a tube well; and two of the remaining three use purchased irrigation service supplied by tube well owners (Shah, 2006). Groundwater irrigation has also ensured food security and helped alleviate poverty. India, for instance, was declared a ‘basket case of hunger’ and if the doomsday prediction of the neo -Malthusians were to become true, India’s population would have starved to death some two decades or so ago. Only instead, today India has a burgeoning grain reserve of over 60 million and annual grain production touched a record high. Entirely thanks to the groundwater economy. (Mukherji and Shah, 2005).

GROUNDWATER CONTOURS AND THREAT TO FOOD SECURITY

In present scenario, groundwater has emerged as a precious natural resource essential for growth in India’s rural areas. It is a vital resource in rural areas as fact emerges that 85% of India’s rural domestic, 50% for urban water requirement and more than 50% requirement is fulfilled from ground water (Jha and Sinha,2009).

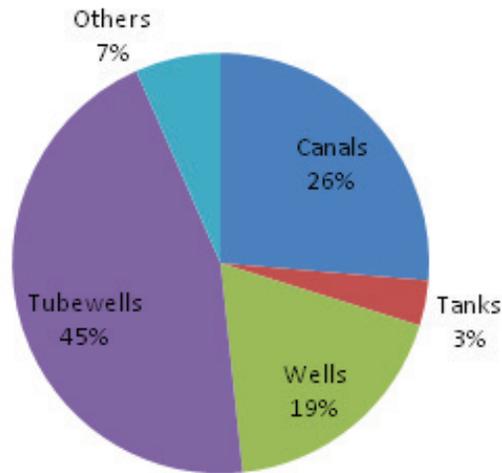
Over and above, this resource is not like canal irrigation wherein investment is mainly from the State side and access is restricted by topographic constraints. Over-dependency over groundwater has changed the shape of groundwater irrigation in India that may threaten food security target for the future. It can be further gleaned from the facts that the pace of growth of shallow and deep tubewells during 1980s was 7.2 and 5.3 percent as against a meager 1.8 percent of digging wells. Table 1 and Table 2 depict how irrigated area under canal irrigation has declined but area of groundwater irrigation has increased between 1950 to 2007.

Table 1: Decade wise Share of Surface Water and Groundwater in Net Irrigated Area (%)



Source: Indian Agricultural Statistics, cited in Shankar et.al, 2011; p.38

Table 2: Area Irrigated by Different Source of Irrigation (by Size Class) 2010-11



Source: Agricultural Statistics at a Glance 2014. Ministry of India

In assessing the reason behind these decline, reports by experts of the Central Ground Water Board have stated that growing pace of urbanization and industrialization in the over-exploited region is one of the major reason. Further, water intensive crops with higher remunerative prices have tended to be grown even in respect of scarcity of groundwater and also decided on the cropping pattern that predominately determines agriculture demand for groundwater.

Table 3: Categorization of Blocks/ Mandals/ Taluks in India on Ground Water Exploitation

	States	Total No. of Assessment Units	Safe		Semi Critical		Critical		Over-Exploited	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	Andhra Pradesh	1108	867	78	93	8	26	2	84	8
2	Arunachal Pradesh	16	16	100	0	0	0	0	0	0
3	Assam	23	23	100	0	0	0	0	0	0
4	Bihar	533	529	99	4	1	0	0	0	0
5	Chhattisgarh	146	132	90	14	10	0	0	0	0
6	Delhi	27	2	7	5	19	0	0	20	74
7	Goa	11	11	100	0	0	0	0	0	0

8	Gujarat	223	156	70	20	9	6	3	27	12
9	Haryana	116	18	16	9	8	21	18	68	59
10	Himachal Pradesh	8	6	75	0	0	1	13	1	13
11	Jammu & Kashmir	14	14	100	0	0	0	0	0	0
12	Jharkhand	208	200	96	2	1	2	1	4	2
13	Karnataka	270	154	57	34	13	11	4	71	26
14	Kerala	152	126	83	22	14	3	2	1	1
15	Madhya Pradesh	313	224	72	61	19	4	1	24	8
16	Maharashtra	353	324	92	19	5	1	0	9	3
17	Manipur	8	8	100	0	0	0	0	0	0
18	Meghalaya	7	7	100	0	0	0	0	0	0
19	Mizoram	22	22	100	0	0	0	0	0	0
20	Nagaland	8	8	100	0	0	0	0	0	0
21	Orissa	314	308	98	0	0	0	0	0	0
22	Punjab	138	23	17	2	1	3	2	110	80
23	Rajasthan	239	31	13	16	7	25	10	166	69
24	Sikkim	4	4	100	0	0	0	0	0	0
25	Tamil Nadu	386	136	35	67	17	33	9	139	36
26	Tripura	39	39	100	0	0	0	0	0	0
27	Uttar Pradesh	820	605	74	107	13	32	4	76	9
28	Uttarakhand	17	11	65	5	5	29	1	6	0
29	West Bengal	269	231	86	38	14	0	0	0	0
	Total States	5792	4235	73	518	9	169	3	800	14

Source : Ground Water Year Book 2012-2013 (Central Ground Water Board)

Table 3 indicates that out of 5792 numbers of assessed administrative units (Blocks/ Taluks/ Mandals/ Districts) by the Government of India, 800 units were found to be Over-exploited, 169 units in Critical state, 518 units Semi-critical, and only 4235 units as Safe. Apart from these, there are 70 assessment units which are completely saline. Data is also revealing the points that the number of Over-exploited and Critical administrative units are significantly higher (more than 15% of the total assessed units) in Delhi, Gujarat, Haryana, Himachal Pradesh, Karnataka, Punjab, Rajasthan and Tamil Nadu and also the UTs of Daman & Diu and Puducherry. This is also indicating the alarming fact that the danger for food security due to groundwater depletion might occur in some states of India. Groundwater depletion is encountered both in the alluvial areas i.e. Punjab, Haryana, and Gujarat mainland and in the hard rock areas .i.e. Tamil Nadu,

Karnataka and Saurashtra region of Gujarat (Kumar, 2010). Therefore, it is also observed that depletion of groundwater in some states would affect national food production and would also change the farmer's preference from cereals to less water-consuming and high-risk cash crops. Threat for food security can be precarious in states like Rajasthan and Gujarat where most of the areas are over-exploited for ground water and surface water is extremely limited.

Dilemma of ground water resource does impact the socio-economic status of farmers in Indian states. Joshi and Acharya (2005) have noted a new emerging trend in Indian agriculture and ground water regime. An unequal access to groundwater in North Gujarat has been studied by them. According to them, thousands of small and marginal farmers are deprived of direct access to groundwater in the north region of Gujarat. But the rich well-owners continue to enjoy unlimited access to groundwater using heavily subsidized electricity. This clearly indicates that subsidy is cornered by large farmers who own tubewells (solely or jointly) and sell water to the small and marginal farmers and no restriction on these water markets is in force. Owners of the land and tube wells automatically become the owner of the water wealth beneath the land and they keep selling this water. Further it has also been found that tubewell technology has become a business instrument for many rich farmers and rich farmers are giving preference to water market that is more profitable for them and this has happened due to power subsidy. Janakrajan (1994) have examined how groundwater depletion has created the institution of water market in water scarce states. This type of water market is creating water overlords who pander different type of authority to sustain or deplete groundwater resource.

On the other hand, the growing population demands more food while farmers are giving preference to grow water-intensive cash crops. It is noted that while earlier goal of India's agricultural was to produce more and more wheat and rice and currently millions of farmers are investing in maintaining the current system. This also creates the policy challenge of crop diversification to curb other associated environmental issues. In many parts of India, especially in the northwestern states of Punjab, Haryana, and western Uttar Pradesh, continued wheat and rice cultivation using intensive inputs cannot be sustained because of rapidly depleting water tables, as well as increasing soil salinity and micro-nutrient deficiencies caused by overuse of government subsidized nitrogenous fertilizers (Witsoe, 2006).

Hard rock areas contribute to India's food security in a major way. For instance, nearly 51.5% of India's total rice production comes from the five states that are falling under hard rock category, and which are facing negative consequences of overexploitation. More importantly, Andhra Pradesh and Tamil Nadu, which are experiencing over-exploitation problems, account for 20.2 % of India's rice production. Hence, the impact of depletion in hard rock areas on food security would be remarkable (Kumar et.al.2010). Thus, changes in the shape of groundwater irrigation threaten our future food security if viable options are not opted in agrarian states.

POLICY IMPLICATIONS AND CONCLUDING REMARKS

In India, 22% of GDP comes from agriculture sector and it supports 58% of the population. Thus, Agriculture has been the backbone of the economy and social development. Rational pricing policies and sustainable management of natural resources were neglected in India for

food sufficiency. In Agriculture Sector, high subsidized inputs and public investment of two crops- paddy and wheat- that are extremely water intensive imposed a pressure on groundwater. Even the indirect policies like energy and crop diversification can be helpful in arresting the problem of groundwater depletion. On the other side, one can say that the present scenario of groundwater realities in India presents a critical picture No single policy intervention can solve this problem and hopefully energy policies with political compulsions can play a role in properly handling the nexus between food security and groundwater resource.

Managing groundwater for food security requires a multipronged approach and irrigation need to be balanced for the future. There is need for proper water supply management, proper water allocation, farmer's reasonable ground on usages of groundwater and government's strong will to handle this nexus. In water abundant regions such as Bihar and Orissa, the poor still depend on the water for irrigation and purchase at prohibitive prices. On the other side, some states have rich alluvial aquifer, and those are depending on groundwater irrigation. Mukherjee (2003) and Shah (2001) states that informal water markets, water harvesting and artificial recharging can be good institutional mechanisms to promote access equity in groundwater irrigation. Water management is critical to India's agriculture sector before more and more areas turn saline and make living and farming a major challenge.

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WELLBEING OF CHILD DOMESTIC WORKERS IN URBAN BANGLADESH

Shuchita Sharmin*

ABSTRACT

The present exploratory study was conducted to reveal and identify the perceptions of the Child Domestic Workers (CDWs) about their working life, the factors contributing to CDWs' wellbeing and ill-being, CDWs' and their employers' perception about each other and the perceptions of CDWs about the future opportunities they have in their lives. Through confidential in-depth interview with semi-structured open-ended questionnaire, data had been collected. The sample consisted of 30-girl and 20-boy CDWs (between 9 and 14 years of age) and their employers who reside in Dhaka city. The study revealed that the perceived wellbeing of the CDWs are mainly due to sufficient food, light work, leisure time, education, scope to play with the family kids and scope to talk to other domestic workers or family members. All of the respondents sometimes feel sad for living away from their families. Other causes of ill-being include being put under lock, no other job choice, very few holidays after long continuous service (for not less than six months), no scheduled work time, no source of mental support, etc. Low level of communication and knowledge gap between the employers and the CDWs were found in every instance. On the basis of the information and suggestion from both the employers and CDWs, possible future interventions to promote CDWs' wellbeing and to reduce their ill-being are discussed.

Keywords: Child Domestic Workers (CDWs), child right, Dhaka, leisure time.

INTRODUCTION

In the *Innocenti Digest* (May, 1999), 'child domestics' or 'domestic workers' are defined as children under the age of 18 who work in other people's households, doing domestic chores, caring for children and running errands among other tasks. The ILO Convention 182 on the Worst Forms of Child Labor(1999) declares Child Domestic Labor (CDL) to be one of the worst forms of child labor. In Bangladesh, ILO Convention No.

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182 on Worst form of Child Labour was ratified in the year 2001, but limited action has been taken. Child domestic workers are found in almost every lower middle class to upper class household in Bangladesh. In Dhaka as many as 300,000 children work as domestics (Lhalungpa, 1998), although the actual number may never be known. But unfortunately, the issue of Child Domestic Labour (CDL) received focus only recently. No longer than the past two decades, this issue has gradually become discernible on international platforms whenever child right issues are discussed.

Different studies on child domestic workers focus on the causes of child domestic work, the hazardous effects of such work on health, childhood poverty, psycho-social impact of domestic work, violation of their rights, deprivation from education, etc. (Shoishab, 1995; Anti-Slavery International, 1996, 1999, 2000; ILO, 2000, 2001, 2002a, 2002b; Witwer, ILO-IPEC, 2001, 2002, 2003, 2004; Woodhead, 2004, Hawamdeh & Spencer 2002, 2003).

All these studies consider domestic work to be the worst form of child labour and thus suggest elimination of domestic work for children. To different extents it is the reality as revealed through these studies. On the basis of these studies we take it for granted that nothing else but through ensuring the observation of the rights mentioned in the United Nations Convention on the Rights of the Child (UNCRC), persisting situation for the CDWs can be improved.

Bangladesh is passing through a developmental transition. The country is on its way toward development. Through the post-independence years it has gradually been recognized as the lead performer among the “least developed countries”, and there has even been talk as to whether the country should still belong to the group of Least Developed Countries (LDCs) as the poorest among the developing world (Mujeri & Sen, 2002). In such a circumstance, different interventions are being introduced to ensure the way further toward development. Some of these are proved to be very effective and contributed to national development while others partially succeeded or proved to be inappropriate.

The Government of Bangladesh (GoB) was one of the first countries to sign and ratify the United Nations Convention on the Rights of the Child, 1989; in the year 1990. It was a necessary step toward national development and since the ratification of the UNCRC, the situation has improved to some extent, but the problems remain.

Alongside the government, many NGOs have done various campaigns and have undertaken different motivational programmes. They have tried to reach many possible segments of the society to make people realize the importance of ensuring rights of children and act accordingly. But the situation does not seem to have improved much to the expected line. The reality is such that among many causes of children’s engagement as domestic workers, poverty is considered to be the most important. The poor children become the easy victim of the poverty trap. Some of the NGOs have tried to incorporate the issue in the total development or poverty reduction initiative; but still to get any significant result. Right now, it will be an impossible target to achieve if UNCRC is to be real for the all the children of Bangladesh. Since the scenario cannot be altered readily, the next possible initiative seems to be to bring better life for the CDWs. The present study is the first step toward that.

A paper from the University of Bath relates child rights rhetoric to the reality of poverty in Bangladesh (White, 2001). It reports on interviews and group discussions with thirteen agencies engaged in promoting child rights and sixty street and working children, in Dhaka and rural Bangladesh. Findings cast doubt on the critical assumption underlying the child's rights discourse, that children form a unitary group with common rights and interests (reported in, *id21 Research Highlight*: 11 March 2002). The present study, relying on this doubt about common interest of children, tries to reveal the case of CDWs in Dhaka city. Whether common factors are responsible for their wellbeing; in other words, if they have common interest?

Focus of this study is wellbeing of CDWs. Wellbeing is studied from many different perspectives by different theorists. But, the primary thrust of recent social science attention has been to stress the diversity of childhoods across cultural context, space and time, with an attempt to develop more child-centred forms of analysis (White, 2002). The present study is reflection of the perception of the CDWs themselves; thereby revealing their subjecting wellbeing.

The present study was conducted to explore and identify:

- 1) the perceptions of the Child Domestic Workers (CDWs) about their working life;
- 2) the factors contributing to CDWs' wellbeing;
- 3) the factors contributing to CDWs' ill-being;
- 4) CDWs and their employers' perception about each other; and
- 5) the perceptions of CDWs about the future opportunities they have in their lives.

METHOD

Participants and Procedure

The present study considered the situation of live-in child domestics; children who work full time in exchange for room, board, care, and sometimes remuneration. The sample consisted of 30-girl and 20-boy CDWs (aged between 9 and 14 years) who are working as CDWs for no less than six months and their employers who reside in Dhaka city. The CDWs were selected from middle class families owning no personal house in Dhaka city and having monthly family income below taka twenty five thousand.

Considering the difficulty of getting access to any unknown person's house, the employers had been selected with the help of the known persons of the researcher and three research assistants. A list of 80 possible middle class employers in Dhaka city was prepared, who meet the employer selection criteria. The known persons to the researcher and research assistants helped in collection of necessary information and preparation of the list. The researcher and the assistants went to collect data along with the known persons. The employers were requested to cooperate in the data collection from their CDWs and also to furnish their contents. They were told that the study was about the work life of the CDWs.

From among eighty employers, 58 could be convinced for the confidential in-depth

interview with their CDWs. Using semi-structured open-ended questionnaire data had been collected from both the CDWs and their employers. Among the fifty eight, eight CDWs could answer almost nothing. Thus finally, 50 CDWs and their employers became the respondents for the data that had been analyzed for the present study.

RESULTS AND DISCUSSION

The study revealed that 44 (88%) of the CDWs are happy with their work. This finding is contradictory with the existing ideas about domestic work as the worst form of child labour. They on an average work for 16 hours a day. Of the total 50 respondents 6 could talk very less. It seemed that they have no one to talk to and not at all used to talk to a stranger, though the researchers tried to build rapport from the beginning.

The reasons behind the perceived wellbeing of the CDWs, explored during the interview, are represented in Table 1.

Table 1: Factors contributing Towards Perceived Wellbeing of the CDWs

Factors	Number (%) of CDWs
<i>Enough food</i>	46 (92%)
<i>Light work</i>	42 (84%)
<i>Leisure time</i>	42 (84%)
<i>Education</i>	32 (64%)
<i>Scope to play with the family kids</i>	32 (64%)
<i>Scope to talk to other domestic workers or family members</i>	32 (64%)

Enough food

Most of CDWs interviewed consider the food they get to be enough. The discrimination in food items is considered usual by them. For example, fruits, eggs, specially cooked food are not for them as they have perceived. Unlimited rice is the source of comfort, mentioned many of the respondents. A few also mentioned about the timing of having meals. For them, it is sometimes very late.

Light work

For the boy CDWs, the work is comfortable. Most of them get chance to go to the nearby shops and on their way can talk to people. Girl CDWs don't consider their work to be very hard. Many compared their present work to their past work at the village.

Leisure time

Most of the CDWs manage some leisure time. They either sleep or watch television programmes. Those who are allowed to meet other domestic workers take the opportunity.

Education

Some of them are taught by their employer or by the children of the employer. A few reported to go to school for the domestic workers in the community that are run by the NGOs.

Schooling is reported to be a very enjoyable experience. It is learning to read and write and having scope of interacting with others of the same community of domestic workers.

Scope to play with the family kids

These children come to work leaving parents and siblings in the village. Most of them seemed to be emotionally vulnerable. The kids of the employer are usually friendly to them and the scope to play with the family kids is a great way releasing down and depressing emotional state.

Scope to talk to other domestic workers or family members

None of these households were having more than one CDW. So, when during leisure or school schedule or (for boy CDWs) on the way to the shops, they get scope to talk to other domestic workers, they feel very happy to talk to and share their past and present experiences and future plans. In families, where there are elderly members or other members living, they feel comfortable to talk and share their feelings.

All of the respondents sometimes feel sad for living away from their families. Other causes of ill-being include the following in Table 2.

Table 2: Factors contributing Towards the perceived ill-being of the CDWs

Factors	Number and (%) of CDWs
<i>Put under lock</i>	24 (48%)
<i>No other job choice</i>	24 (48%)
<i>Very few holidays after long continuous service</i>	38 (76%)
<i>No scheduled work time</i>	42 (84%)
<i>No source of mental support</i>	15 (30%)

The factors contributing towards ill-being were difficult to reveal because most of them were happy with the facilities they were getting.

Communication and knowledge gap between the employers and the CDWs is found in every instance in terms of duties, responsibilities and rights. More than 50% of the employers were not happy to give them opportunities like schooling and their talking to other domestic workers. In Bengali they said these contribute to make the CDWs argumentative and disobedient. For the girl CDWs, security was stated to be the main cause of not allowing them to go out. Few employers mentioned that the situation was better earlier. These days they cannot behave the way they like with their CDWs as the neighbours are very aware. CDWs meet the other domestic workers and the neighbours come to know about the employer and how the employer behaves with the CDW. They mentioned about the impact of the television programmes. The CDWs know about their right from some programmes. For them, the neighbours are, as if, in competition to give freedom to their CDWs. Only 19 (38%) of the CDWs could say something about their future opportunities but none knew how to realize their dreams.

CONCLUSION

The information collected from both the employers and CDWs provide important insight about the possible future interventions to promote CDWs wellbeing and to reduce their ill-being. Changing the perception held by the employers that the CDWs are like slaves is essential. Reducing the employers' prejudices and discriminative behaviour may help CDWs get emotional support. One important observation during the study was that out of 80 listed employers, only 58 (72.5%) could be convinced for confidential interviewing of their CDWs. We know nothing about their vulnerability, exploitation, hardship and ill-being; they are the invisible.

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PERFORMANCE OF INLINE SWITCH IN OPTICAL NETWORK

*Manahar Prashant Shukla**

*Rajiv Srivastava***

ABSTRACT

Optical packet switching is a new emerging technology for next generation data transfer. Optical Packet Switching (OPS) utilizes the very large bandwidth of the optical fiber along with Wavelength Division Multiplexing (WDM) for high speed data transfer. In OPS, contention among the packets is a major problem, which can be solved by using the buffering of contending packets. The need of the buffering of contending packets gave birth to optical switches designs. This paper presents analysis of an optical switch in different configurations. Analysis is presented for four different switch configurations. It has been found that there is tremendous increase in switch operating power when switches are placed in the network.

Keywords: Optical packet switch, wavelength division multiplexing, power and noise analysis.

INTRODUCTION

In the last few years, explosive growth has been seen in the internet traffic, due to emergence of data centric applications. On the other hand, massive data centers (Google, Yahoo etc.) are also generating lot of heat and their expansion is not possible. This growth/limitation has necessitated new technologies which can handle enormous data. It is well known that the optical fiber provides very high speed transmission and a single piece of fiber has enormous bandwidth. Thus optical communication can provide a possible solution. The development of optical communication took place with very slow pace, however now most of the optical components are commercially available, thus making optical communication as feasible solution. The only two components Tunable Wavelength Converter (TWC) and Optical 3R-(Re-amplification, Re-shaping and Re-timing) are not commercially available. TWCs are expected to be

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commercialized by the end of this year. But the use of 3R in optical communication is very limited, as 2R re-amplification and re-timing is possible with optical amplifier and with dispersion compensated fibers and re-timing is not that much critical issue in optical communication.

In this paper, we have shown that an isolated switch analysis is deceptive as it does not provide insight into the switch when placed in the network. Therefore, a careful design analysis is necessary when switches are placed in the core network.

OPTICAL NETWORKS

The generic layout of OPS network is shown in Figure 1. Here, the edge nodes have E/O and O/E conversion capability, while in OPS nodes data propagates optically. However, clients generate data electronically. As electronic data is aggregated and edge nodes, the size of packets is generally larger. These aggregated larger size packets traverse in the core networks and passes through OPS nodes [1-4]. Therefore, design of these core switches is very critical and integral part of the network design. In optical core networks optical switches play very important role in the over-all performance in terms of both physical and network layer parameters [5-7]. In past, many design have emerged with their pros and cons [5-12]. In this paper, we have selected a switch which has very simple buffer design.

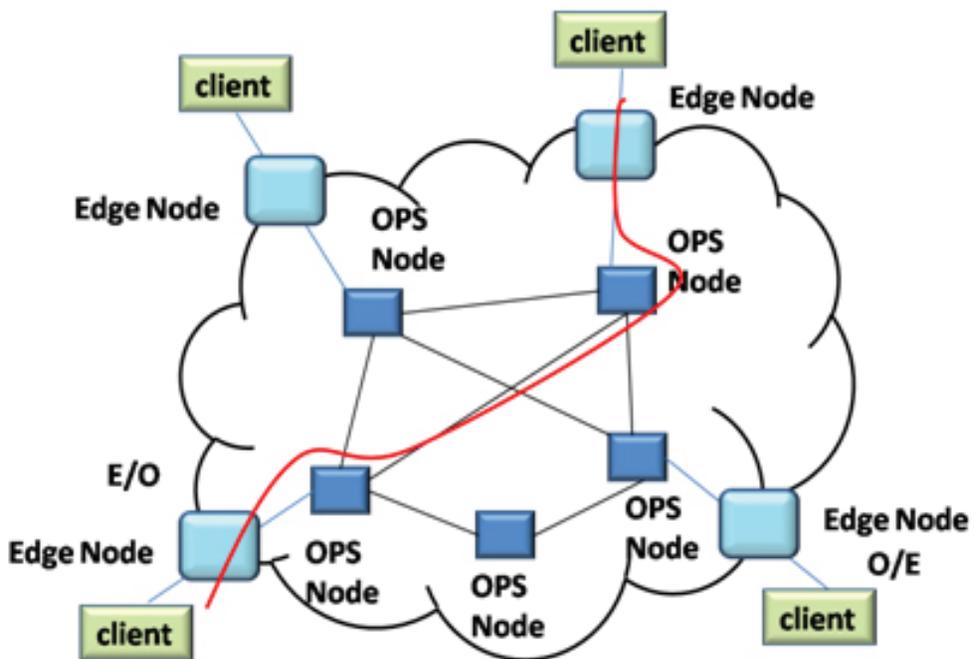


Figure 1: Generic Layout of Optical Network

SWITCH ARCHITECTURE

A recently published switch design has been selected for analysis. In this switch design, packets are directly transmitted to output by tuning their wavelengths appropriately through input TWCs and at the output, corresponding TF tunes its wavelength to accept the packet. Buffer is created using multi-wavelength FBGs. Each FBG reflects a set of wavelengths which are distinct for each FBG. Each FBG reflects one wavelength for each output.

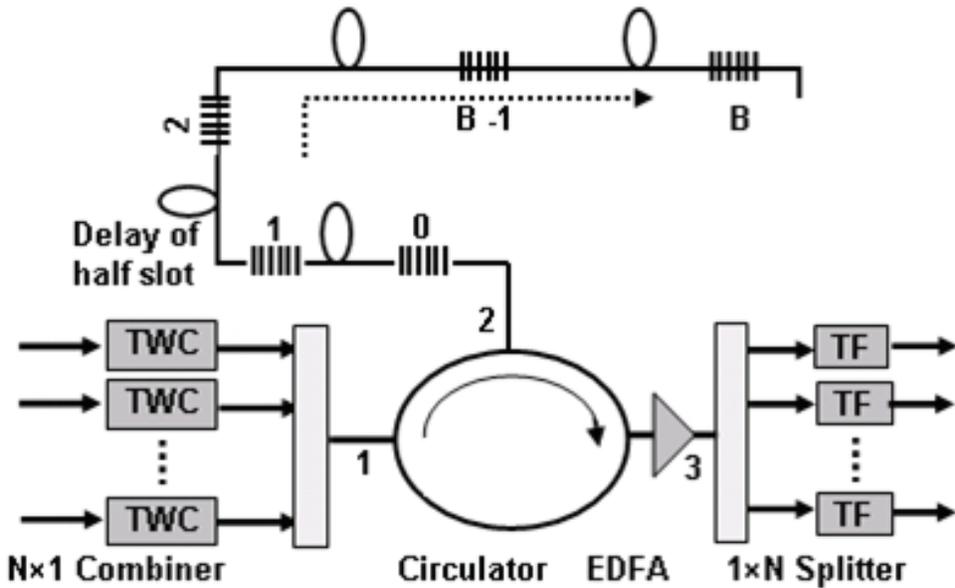


Figure 2: Switch Design Under Consideration

As per the required amount of delay, different FBGs can be selected. For detailed description on the architecture reader can refer to Srivastava *et al.* [8].

ARCHITECTURE MODIFIATIONS

When such switches are placed in the networks, at the input of the switch splitter and at the output of the switch, combiners are required. As in the network, data propagates using WDM technology. So at the input of the switch, first data needs to be split and then will be routed within the switch and again at the output of the switch, data has to be multiplexed using combiner.

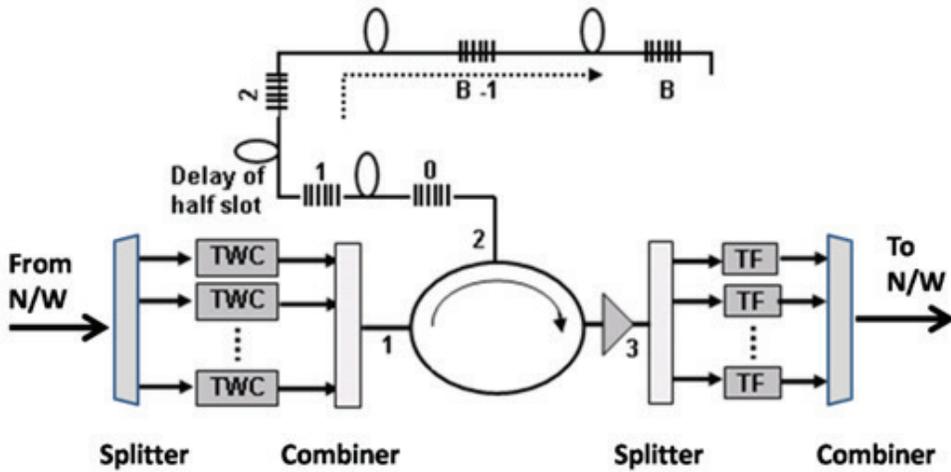


Figure 3: Modified Switch Design

PHYSICAL LAYER ANALYSIS

The power budget analysis is necessary to identify the minimum power of the signal which passes through the switch and correctly identified at the switch outputs. In the power budget analysis, following steps are to be followed:

1. Calculation of accumulated losses when signal passes through different components of the switch.
2. Gain calculation of EDFA, which is numerically equal to the total loss of the switch.
3. Total signal power received at the output using additive noise.
4. Noises accumulation within the switch and at the receiver.
5. Bit Error Rate analysis at different power levels.
6. At a fix BER of $\leq 10^{-9}$, identification of minimum power required for correct operation of the switch.

Loss Analysis

The loss of the input which consists of TWC and combiner is $A_{TWC} A_{Com}^{N \times 1}$, the loss of output unit which consists of splitter and TF is $A_{FBG} A_{Cir} A_{Spl}^{1 \times N} A_{TF}$, and the loss of buffer unit is BA_{FBG} .

Thus the maximum possible loss when a packet passes through the switch is

$$A = A_{TWC} A_{Com}^{N \times 1} (B + 1) A_{FBG} A_{Cir} A_{Spl}^{1 \times N} A_{TF} \tag{1}$$

This loss is compensated by EDGA, and it is found that the condition $AG = 1$, a condition which maximizes the SNR [1].

When switch placed in the network, the new loss can be formulated as

$$A = A_{Spt}^{1 \times N} A_{TWC} A_{Com}^{N \times 1} (B + 1) A_{FBG} A_{Cir} A_{Spt}^{1 \times N} A_{TF} A_{Com}^{N \times 1} \tag{2}$$

Additional losses is encountered due to the splitter and combiner.

Power Analysis

Again, power entering the switch is

$$P_s = bP_{in} \quad b \in [0,1] \tag{3}$$

The extinction ratio ($\varepsilon = P_0/P_1$) is assumed to be zero.

Power at the output of the switch is

$$P_{out} = P_s + P_{sp} \tag{4}$$

$$P_{out} = bP_{in} + n_{sp} (G - 1) h\nu B_0 A_{Spt}^{1 \times N} A_{TF}$$

The term $n_{sp} (G - 1) h\nu B_0$ represents the ASE noise of the EDFA amplifier. In case of network the power of bit leaving the switch is

$$P_{out} = bP_{in} + n_{sp} (G - 1) h\nu B_0 A_{Spt}^{1 \times N} A_{TF} A_{Com}^{N \times 1} \tag{5}$$

Noise analysis

Noise components generated at the receiver are shot noise, ASE-ASE beat noise, sig-ASE beat noise, shot-ASE beat noise and thermal noise. Variances are denoted by σ_s^2 , σ_{sp-sp}^2 , σ_{sig-sp}^2 , σ_{s-sp}^2 , and σ_{th}^2 , respectively [9]. For the bit b, the different noise components in the receiver area are:

$$\begin{aligned} \sigma_s^2 &= 2qRP_s B_e \\ \sigma_{sp-sp}^2 &= 2R^2 P_{sp} (2B_o - B_e) \frac{B_e}{B_0} \\ \sigma_{sig-sp}^2 &= 4R^2 P_s \frac{P_{sp} B_e}{B_0} \\ \sigma_{s-sp}^2 &= 2qRP_{sp} B_e \\ &\quad + \frac{K_B T B_e}{\dots} \end{aligned} \tag{6}$$

The total noise variance for bit b is

$$\sigma^2(b) = \sigma_s^2 + \sigma_{sp-sp}^2 + \sigma_{sp-sig}^2 + \sigma_{s-sp}^2 + \sigma_{th}^2 \tag{7}$$

$$BER = Q\left(\frac{I(1) - I(0)}{\sigma(1) + \sigma(0)}\right) \tag{8}$$

$$Q(z) = \frac{1}{\sqrt{2\pi}} \int_z^\infty e^{-\frac{z^2}{2}} dz \tag{9}$$

Where $I(1) = RP(1)$ and $I(0) = RP(0)$ are photocurrent sampled by receiver during bit 1 and bit 0 respectively, and R is *responsivity* of the receiver.

CALCULATION AND RESULTS

Table 1: List of Parameters and Their Value [9].

Parameters	Value
Size of the switch	4
Population inversion factor	1.2
Loss of Circulator	1 dB
Speed of light	$3 \times 10^8 \text{ m/s}$
Refractive index of fiber	1.55
Loss of FBG	1 dB
Responsivity	1.28 A/W
Electronic charge	$1.6 \times 10^{-19} \text{ C}$
Electrical bandwidth	10GHz
Optical bandwidth	20GHz
TWC insertion loss	2.0 dB
Loss of TF	1.0 dB

The typical values of the parameters used in the calculation are shown in Table 1. Using the above formulation and the values of the parameters as given in Table 1, the results obtained in terms of BER at different power levels is shown in Table 2. It is clear from the Table 2 that as the power increases, the BER performance of switch improves significantly. For the acceptable $BER \leq 10^{-9}$, the minimum power level is nearly 3 micro-watts. When such switch make compatible with network placement then the required amount of power increases to 17 micro-watts (Table 2), which is nearly 6 times in comparison to isolated switch.

Table 2: Switch Size 4×4, and Buffer 4.

Power in micro-watts	BER
1	2.08×10^{-4}
2	1.55×10^{-7}
3	1.3×10^{-10}
4	1.12×10^{-13}
5	9.94×10^{-17}
6	8.90×10^{-20}
7	8.03×10^{-23}
8	7.26×10^{-26}
9	8.89×10^{-29}
10	6.01×10^{-32}

Table 3: Switch Size 4×4, and Buffer 4 in network

Power in micro-watts	BER
10	1.95×10^{-6}
11	6.13×10^{-7}
12	1.93×10^{-7}
13	6.10×10^{-8}
14	1.92×10^{-8}
15	6.12×10^{-9}
16	1.94×10^{-9}
17	6.20×10^{-10}
18	1.97×10^{-10}
19	6.31×10^{-11}
20	2.02×10^{-11}

NETWORK ANALYSIS

Finally these switches are placed in the network. In the network, two more parameters need to be considered in the analysis:

1. Number of switches between a pair of source and destination,
2. Distance between the nodes though which data propagates form source to destination.

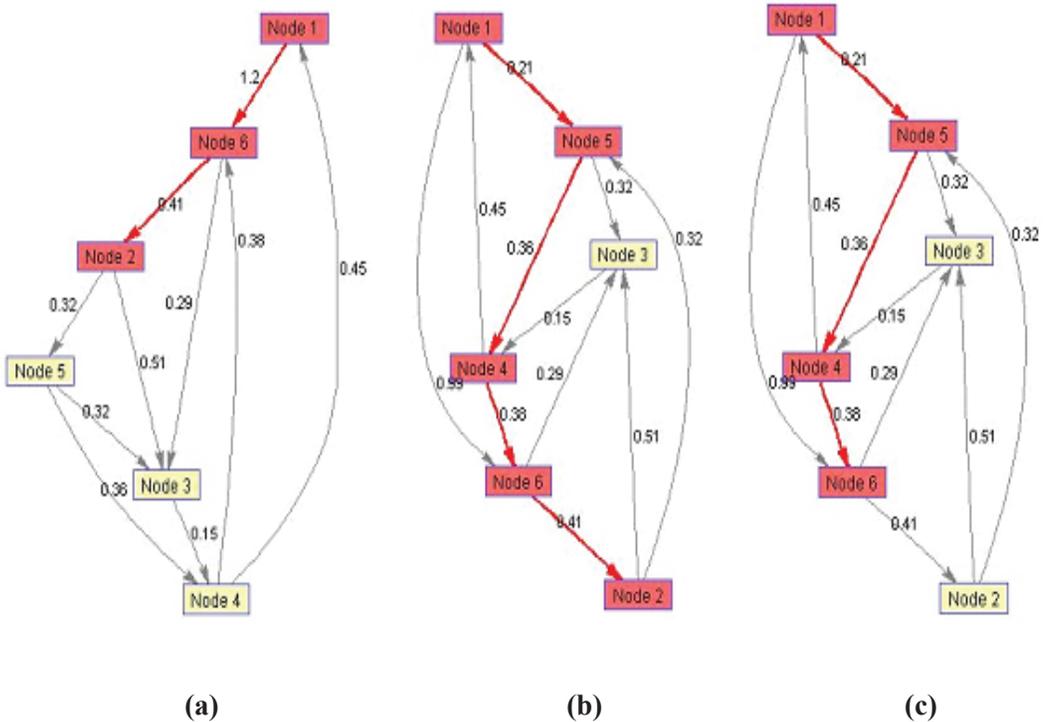


Figure 4: Network Bio-graph

For example, we have considered 6 nodes and 11 edges network. Distances among different nodes are different in Bio-graph 1, however similar distances have been considered in Bio-graph 2 and Bio-graph 3. In Bio-graph 1 and 2, source node is 1 and destination node as 2, while in Bio-graph 3, destination node is 6.

In Bio-graph 1, the shortest path is 1-6-2 and distance is 1.61 units.

In Bio-graph 2, the shortest path is 1-5-4-6-2 and distance is 1.36 units.

In Bio-graph 3, the shortest path is 1-5-4-6 and distance is 0.95 units.

In general, distances among adjacent nodes in optical core networks are in some hundreds to some thousands of kilometers (considering 1unit=1000km).

Therefore, travelled distance in Bio-graphs 1-2-3 is 1610 km, 1360 km and 950 km, respectively. The loss of the fiber is 0.2 dB/km. Therefore losses are 322, 272 and 170 dB, respectively. Considering EDFA of gain 30dB each, which are placed in the links of the network. Therefore, to compensate losses of 322 and 170 dB, the required numbers of amplifiers are 11 (10 of 30 dB and one of 22 dB) and 6 (5 of 30 dB and one of 20 dB), respectively.

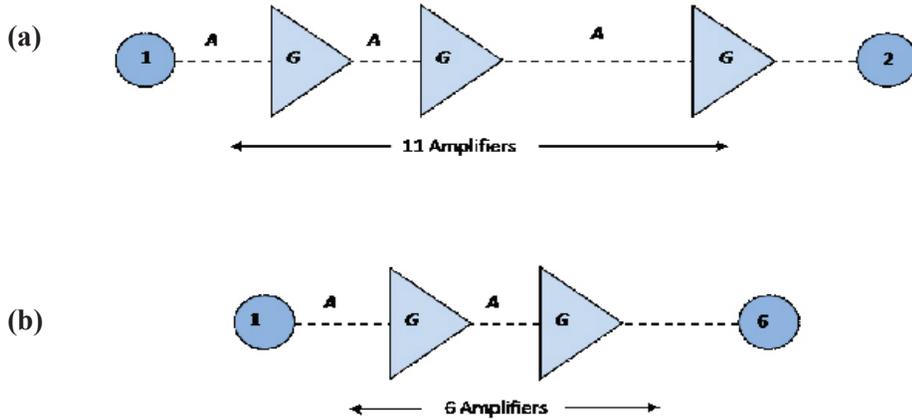


Figure 5: (a) Inline amplifier for longest path (b) Inline amplifier for shortest path

In network, the new equation for power calculation would be

$$P_{out} = bP_{in} (A_{in} G_{in})^K + N_{sd} n_{sp} (G - 1) h\nu B_0 A_{Spt}^{1 \times N} A_{TF} A_{Com}^{N \times 1} + Kn_{sp} (G_{in} - 1) h\nu B_0 \tag{10}$$

Where, A_{in} and G_{in} is the loss and gain of the inline amplifier, and ‘K’ is the number of inline amplifiers and N_{sd} is the numbers of switch through which data moves between source to destination.

Again using equation (6)-(9), BER can be re-evaluated at different power levels.

Table 4: Performance in Network with Longest path.

Power in milli-watts	BER
1.0	2.75×10^{-8}
1.1	5.77×10^{-9}
1.2	1.21×10^{-9}
1.3	2.56×10^{-10}
1.4	5.43×10^{-11}
1.5	1.51×10^{-11}
1.6	2.42×10^{-12}
1.7	5.23×10^{-13}
1.8	1.11×10^{-13}
1.9	2.38×10^{-14}
2.0	5.11×10^{-15}

Table 5: Performance in Network with Shortest path.

Power in milli-watts	BER
0.10	0.0115
0.20	3.98×10^{-4}
0.30	1.59×10^{-5}
0.40	6.75×10^{-7}
0.50	2.95×10^{-8}
0.60	1.31×10^{-9}
0.65	2.79×10^{-10}
0.70	5.95×10^{-11}
0.80	2.72×10^{-12}
0.90	1.25×10^{-13}
1.00	5.80×10^{-15}

In Table 4, Power vs. BER is shown. Here minimum power level is 1.3 mW, and for the shortest path, the minimum power level is 0.65 mW.

Table 6: Comparative Analysis of Switch.

Switch Design	Power
Isolated Switch	3 micro-watts
Switch in Network	17 micro-watts
Switch in Longest Path	1.3 milli-watts
Switch in shortest Path	0.65 milli-watts

In Table 6, comparison between different configurations of the switch and required amount of power for successful operation of the switch has been done. It is evident that isolated switch analysis is very deceptive as it shows much lesser power requirement in comparison to when placed in the network. When whole network is considered, power increases from micro-watts to milli-watts. This is a tremendous rise in power.

CONCLUSIONS

This paper presents analysis of an optical switch in different configurations. Analysis is presented for four different switch configurations while assuming a six nodes and 11 edges network. It has been found that power requirement in isolated switch is very less- 3 micro-watts. When such switch is made compatible with network placement, power increases six-fold and becomes 17 micro-watts. The power requirement also depends on the physical distance between source and destination pair and number of hops data traverse before it reaches its destination. In the future work, how network layers parameters will be affected by different configurations is required to be explored.

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DATA MINING METHODS AND THEIR APPLICATION IN RECOMMENDER SYSTEMS WITH 'R' PROGRAMMING LANGUAGE

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ABSTRACT

Recommender Systems are processing tools which provide recommendations to people on various products. In this paper we aim to study some common data mining methods that have been successfully used in the Recommender Systems and simultaneously illustrate the methods by plotting them using various packages of R statistical programming language. Our focus will be on some commonly used classification methods: Entropy and Information Gain for selecting the most informative attribute(s) of the given data set, Naïve Bayesian Classifiers for predicting the class label when the attributes of the data set are independent of each other and Support Vector Machines, a geometric classification method.

Keywords: Classification, Entropy, Naïve Bayesian, Recommender Systems, Similarity Measures and Data reduction, SVM.

INTRODUCTION

Recommender Systems (RS) are processing tools which provide recommendations to people on various products like books, movies, music and several other shopping products [1]. They are

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simply software tools which provide suggestions to customers which suit their needs most. RS work on two strategies: *content filtering*: RS creates a separate profile for each customer, reflecting his nature and *collaborative filtering*: RS uses the past transactions done by the customer to provide recommendations [1] [2] [3].

The paper is organized as follows: After a brief overview of Recommender Systems and their workings, the paper will describe some important data pre-processing methods focusing on use of similarity measures in Recommender Systems (Section A) and data reduction techniques (Section B). While describing data reduction strategies, we'll focus on one of the most important data reduction strategies: Dimensionality Reduction (Discrete Wavelet Transforms (Section B.1) and Principal Components Analysis or *Karhunen-Loeve Method* (Section B.2)). After that, various classification data mining techniques used in Recommender Systems are described (Section C). The classification techniques explained are *Entropy and Information Gain* (Section C.1), *Naïve Bayesian Classifiers* (Section C.2) and finally *Support Vector Machines* (Section C.3). Finally in the last section, Section D, we conclude the paper with contours for the future work.

DATA PREPROCESSING METHODS

Data mining deals with large volumes of data [1]. There are various kinds of data that can be mined: database data, transactional data, time-related or sequence data, data streams, spatial data, etc. [1]. In all kinds of data, a datum or a data object represents an entity. A datum is described by a set of attributes or characteristics. An attribute of a data object represents its characteristic or a particular feature. Ideally, all the attributes of all the data objects are expected to have all the corresponding values. However, the real-world data is incomplete and messy. It contains a lot of noise and needs to be preprocessed before it can be used in data mining and machine learning algorithms [1], [2]. In this section, we discuss three issues that are important for designing a Recommender System. First, we discuss similarity or proximity measures; next we take up sampling of the data in case the data set is very large and finally we discuss some of the data reductions techniques.

Similarity or Proximity Measures

In Recommender Systems, we need to know how similar or alike or how dissimilar or different the data object are with respect to one another. Similarity measures are used to determine how similar or dissimilar the data objects are in comparison to one another [2]. Nature of similarity measure to be used depends on the type of data under consideration. For data objects with numeric attributes, the most commonly used similarity measure is the *Euclidean Distance*:

$$d(x, y) = \sqrt{\sum_{i=1}^n (x_i - y_i)^2} = \| \mathbf{x} - \mathbf{y} \|_2$$

In the above equation, \mathbf{x} and \mathbf{y} are the data objects with n attributes, x_i and y_i are the i^{th} attributes of the two data objects [1], [2]. Another well-known similarity measure is the *Manhattan or City Block distance*:

$$d(x, y) = \sum_{i=1}^n |x_i - y_i| = \|\mathbf{x} - \mathbf{y}\|_1$$

Yet another similarity measure is the *Minkowski Distance*. It is actually the generalization of the Euclidean and Manhattan distance. It is given by:

$$d(x, y) = \sqrt[r]{\sum_{i=1}^n |x_i - y_i|^r} \text{ Where } r \in R^+$$

Above, r is called the degree of the distance [2]. If we substitute $r = 1$, we get the *Manhattan Distance* and if $r = 2$ we get the *Euclidean Distance*. This distance measure is also called L_r Norm. Hence, *Manhattan Distance* is also called L_1 Norm and *Euclidean Distance* is also called L_2 Norm [3]. The distance between data objects with binary attributes is measured using a different metrics. Data objects can be viewed as sets of features or attributes or characteristics. This is exactly the approach taken by another similarity measure called *Jaccard distance* or *co-efficient*. Two common operations on sets are the *union* and *intersection* of the sets. Suppose there are two data objects \mathbf{X} and \mathbf{Y} . Viewing the two data objects as two sets, the cardinal numbers of the union and intersection of \mathbf{X} and \mathbf{Y} are given by $|\mathbf{X} \cup \mathbf{Y}|$ and $|\mathbf{X} \cap \mathbf{Y}|$, respectively. The *Jaccard distance* gives the proportion of all the attributes or characteristics that are shared by the two data objects [3]. It is calculated as:

$$d_{jaccard}(x, y) = 1 - \frac{|\mathbf{X} \cap \mathbf{Y}|}{|\mathbf{X} \cup \mathbf{Y}|}$$

The above equation is one of the many forms of the *Jaccard Distance*. Consider the following; let $A01 =$ the number of attributes where x is 0 and y is 1, $A10 =$ the number of attributes where x is 1 and y is 0, $A11 =$ the number of attributes where both x and y are 1 and $A00 =$ the number of attributes where both x and y are 0. Then the following metrics are available for calculating the similarity between data objects having binary attributes: *Simple Matching coefficient (SMC)*, *The Jaccard coefficient (JC)* and *The Extended Jaccard coefficient (or Tanimoto coefficient) (TC)* [1], [2].

$$SMC = \frac{A11 + A00}{A01 + A10 + A11 + A00} ,$$

$$JS = \frac{A11}{A01 + A10 + A11} , \text{ and}$$

$$TC = \frac{x \cdot y}{\|x\|^2 + \|y\|^2 - x \cdot y}$$

Where TC is the vector dot products of two sets of attributes possessed by the data objects [2]. The matrix whose elements are the distance values of the set of data object pairs from the given data set is called a *Distance Matrix*. In order to visualize a Distance Matrix, a special diagram is used called *Voronoi Diagram* which divides a plane, containing n points, into cell, edges and vertices [4]. Figure 1 shows a *Voronoi Diagram* of 10 numeric data points with 10 attributes each. The data points were generated using a uniform distribution. The diagram was generated using “*deldir*” package of *R statistical programming language* [5].

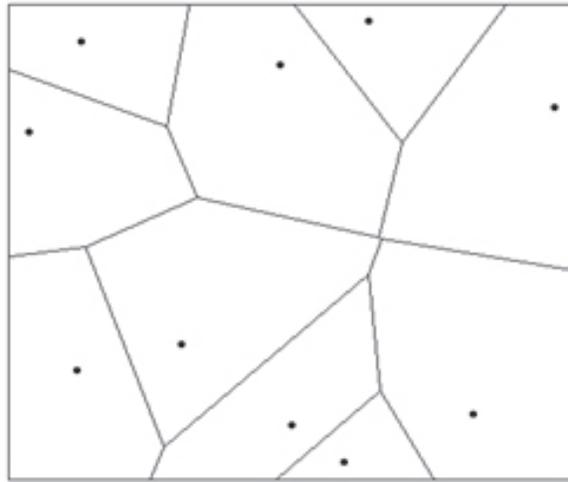


Figure 1: *Voronoi Diagram* of 10 numeric data points with 10 attributes each.

[The 2-D plane has been divided into 10 regions]

DATA REDUCTION TECHNIQUES

High-traffic e-commerce websites like amazon.com, eBay.com or Walmart.com or social networking sites like Facebook.com or Twitter.com (which use Recommender Systems for suggesting friends, pages, followers and ads) generate a huge amount of data. It will take a long time to perform data analysis and mining on such amounts of data [1], [6]. Hence, methods need to be developed that can be used to represent data in a much more compact way, yet convey the same meaning as the original data. In other words, the data needs to be reduced in volume without any loss of information. Data reduction techniques are used for the above stated purposes. A commonly used data reduction is called *Dimensionality*. The method of reducing the number of attributes or features of the data objects under consideration is called *Dimensionality Reduction*. Dimensionality of the data refers to the number of attributes of the

given dataset. If we consider our data set represented as a 2-dimensional table with columns representing the values of a particular attribute and the rows representing a specific data point/object, then replacing some columns of the data set with a few or even just one column is called *Dimensionality Reduction* [7]. Popular dimensionality reduction techniques include *Discrete Wavelet Transforms (DWT)* and *Principle Component Analysis (PCA)*.

Discrete Wavelet Transform (DWT)

The Discrete Wavelet Transform (DWT) comes from the field of signal processing. However, it has been used widely in many statistical applications and also in data mining fields. In Recommender Systems, DWTs can be used as a data reduction technique. DWT is linear signal processing technique. When a DWT is applied to a given data object/vector (represented as a vector of features or attributes) it produces a “cardinally” equivalent, but numerically different data vector of *wavelet coefficients* [1]. Albeit, the two data vector are cardinally (lengthwise) equal, the usefulness of DWT arises in the fact that the wavelet transformed data can be trimmed by storing only a fraction of the strongest wavelet coefficients using some threshold value. Once the wavelet coefficients are trimmed, the original data can be *approximated* by applying the inverse of the used DWT [1], [8]. Popular DWTs include *Haar-2*, *Daubechies-4* and *Daubechies-6* [1]. Figure 2 shows a *Haar Discrete Wavelet Transform* applied to 1024 random numbers generated from a lognormal distribution using “*wavelets*” package of *R statistical programming language* [9].

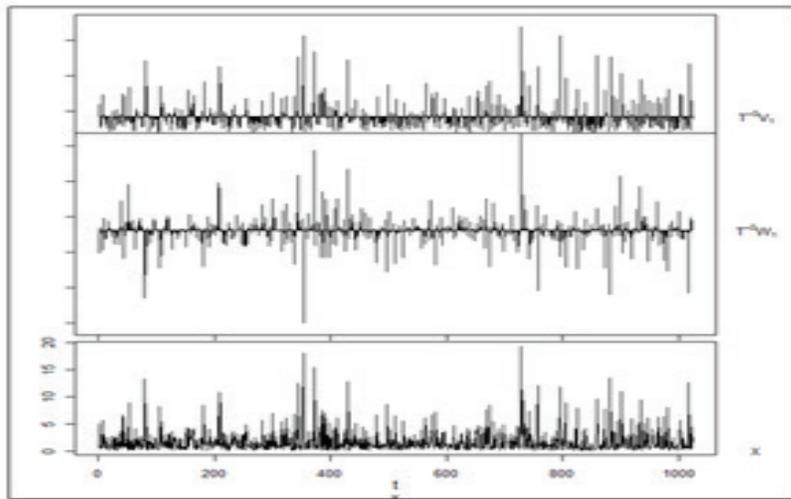


Figure 2: A *Haar Discrete Wavelet Transform* applied to 1024 random numbers generated from a lognormal distribution

Principle Component Analysis or Karhunen-Loeve or K-L Method

In order to understand Principle Component Analysis (PCA) at an intuitive level, we will proceed first by using an example from our everyday life. People devise concepts like “he is

a ‘good’ student”, but we can’t directly measure the concept of “goodness” or how “good” is someone. This, however, means that we internally reduce many attributes of someone to just one attribute defining them all - “good” [10]. This is exactly how PCA works. PCA or K-L Method is the principle technique for dimensionality reduction in multivariate problems like recommending movies to a customer [11]. For recommending books, we’ve to consider many different attributes of the customer including his past history of movies. PCA works by finding k attributes among the n attributes of the given data objects, where $k \leq n$ such that the k attributes best represent the given data objects [1]. This way, the given data are interpolated to a much smaller dimensionality space. First of all, the given data are “normalized” to within a common range, such that each data fall within the chosen range. Next k orthonormal vectors are computed. These vectors are called *principle components*. These components essentially provide us with new axes for the given data. If these principle components are sorted in non-increasing order, they provide important information about the data variance. We used R programming language to do a PCA on a given data set of “Arrests per 100,000 residents in 50 US states in 1973” which has 4 attributes (Murder, Assault, Urban Population, and Rape). Figure 3 shows a Screen plot and Figure 4 shows a Biplot of the given data set.

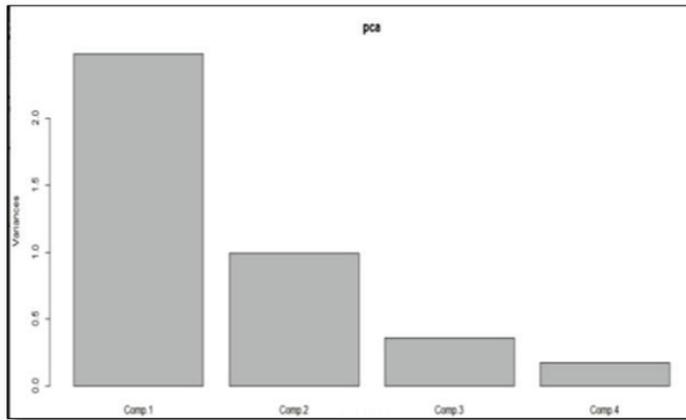


Figure 3: Screen plot of PCA of the *Arrests per 100,000 residents* which has 4 attributes; each bar corresponding to each attribute.

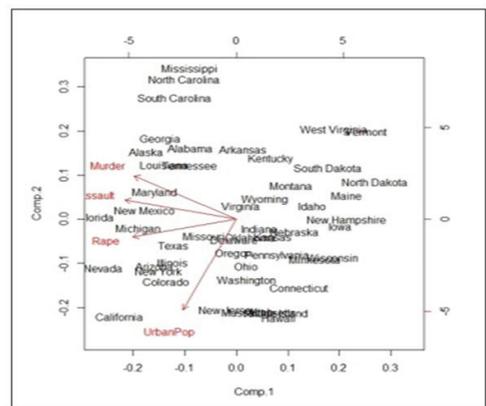


Figure 4: Bi plot of PCA of the *Arrests per 100,000 residents* which has 4 attributes. (Notice the orthonormal vectors, principle components of this data set.)

CLASSIFICATION

Classification is a data analysis technique which classifies the given data set into various similar sub-classes. It creates a model called *classifier* which is used to predict (predictive modeling) the *class label*. Classification is a stepwise process which starts by creating a model (classifier) from the given data. The data used in this step is called *training set*. Training set has a number of tuples; with each tuple having the form $X = (x_1, x_2, \dots, x_n)$. This step is called *learning* or *training step*. The classifier “learns” from the training set which is made of up tuples and their associated class label(s). The associated class labels are called *target attributes*. The next step uses this model to predict the target attribute for the data instance which is to be classified. If the target attribute is available in the training set, the learning is called *Supervised learning* otherwise it’s called *unsupervised learning* [1], [3], [7], [10], [2].

ENTROPY AND INFORMATION GAIN

In Supervised Classification problems, it is necessary to select the most valuable attribute(s). In other words, for predictive modeling, a set of attribute(s), among the given attributes, needs to be selected such that the selected set contains attributes providing important information about the target variable [3]. The selected set may contain a *single attribute* or it may contain *multiple attributes*. After selecting the informative attribute(s), we can divide or “classify” or “segment” the given data set into groups, in such a way that the resulting groups are distinguished on the basis of the target variable. It is preferable that the resulting groups be as pure or “homogenous with respect to the target variable” as possible [3]. For real-world data, it is, usually, difficult and, sometimes, impossible to find such informative variables which result in pure groups. A method or technique which enables us to find such a set of attribute(s) is called a *purity measure*.

An important purity measure, called *Entropy*, borrowed from Information Theory, pioneered by Claude Shannon, is widely used as a purity measure of the resulting groups [12]. Entropy is the measure of disorder of a system. In present case, the system is a particular group formed from the given data set. Each group member (data instance or data point) will have a collection of attributes. In supervised classification, these properties link with the values of the target variable. Entropy of this group means how mixed or “impure” this group is with respect to target variables. Entropy can be defined as:

$$\text{entropy, } E = -p_1 \log(p_1) - p_2 \log(p_2) - \dots$$

In the above equation P_i is the probability (the relative percentage) of attribute i within the group. The probability, P_i ranges from 1 (when all group members have same values for attribute i) and 0 (when no group members have same values for attribute i) [3]. Once we’ve calculated the entropies of all the “child” groups, we can know how “informative” an attribute is with respect to the target variable. Toward this end, we calculate a metric called *Information Gain* which measures the amount of “improvement” in entropy due to the attribute used in grouping the data set. In order words, it measures the amount of decrease of entropy of a

group or how much information is added to a group due to the data set partitioning attribute. Information Gain (IG) can be calculated as:

$$IG = E(original) - [p(g_1) \times E(g_1) + p(g_2) \times E(g_2) + \dots]$$

In the above equation, $E(original)$ is the entropy of the original data set. $E(g_i)$ is the entropy of the i^{th} group and, $P(g_i)$ is the fraction/proportion of data instances belonging to that group [3] [10].

Bayesian classification

Bayesian Classifiers take a probabilistic approach to classification by predicting the class label of a given data objects or tuple [11]. The basic working idea of the Bayesian classification is Bayes' Theorem. The probability calculated to a Bayesian classifier is the conditional probability which is based on some background information [13].

Bayes' theorem is based on conditional probability. A conditional probability is a probability that is based on some background information [13]. Using the provided information, we can calculate the probability of some other event. If A is the required background information for calculating some other event B , then the "conditional" probability of event B given A is written as $P(B|A)$. The probability $P(B|A)$ is calculated using Bayes' Theorem as:

$$P(B|A) = \frac{P(A|B) \cdot P(B)}{P(A)}$$

$P(A|B)$, is *posterior probability* of A conditioned on B . Let \mathbf{X} be data tuple described by the observations made on the set of n attributes. We can write \mathbf{X} as $\mathbf{X} = \{x_1, x_2, \dots, x_i, \dots, x_n\}$, where x_i is the value of i^{th} attribute of the give data tuple. A Bayesian classifier calculates the probability of the class label, C , to which the tuple, \mathbf{X} , belongs to. Since \mathbf{X} is the given background information, we can use, Bayes' Theorem to calculate $P(C|\mathbf{X})$ as:

$$P(C|\mathbf{X}) = \frac{P(\mathbf{X}|C) \cdot P(C)}{P(\mathbf{X})}$$

The conditional probability in the numerator of the above equation $P(\mathbf{X}|C)$ can be calculated empirically from the given training set. It is simply the frequency with which \mathbf{X} occurs among the tuples/instances belonging to class C . This probability is really hard to compute in practice. Even if each attribute is only symmetrical binary (both the values 0 and 1 are equally important), the number of combinations for \mathbf{X} is 2^n and grows with number of values an attribute can take [11]. In order to solve this problem, a simplification is done where it is assumed that all the attributes are independent of each other that $P(\mathbf{X}|C)$ can be calculated as:

$$P(\mathbf{X}|C) = P(\{x_1, x_2, \dots, x_i, \dots, x_n\}|C) = P(x_1|C) \cdot P(x_2|C) \dots P(x_n|C)$$

This is the basis of a Bayesian classifier called Naïve Bayesian Classifier [14].

The following algorithm summarizes how a Naïve Bayesian Classifier works [1].

Let T be the set of training tuples and their associated class labels.

Let $X = \{x_1, x_2, \dots, x_n\}$ be a training tuple with n attributes $\{A_1, A_2, \dots, A_m\}$ and C_1, C_2, \dots, C_m be m class labels.

a) Calculate $P(X)$ which is constant for all classes.

Calculate

$$P(C_i) = \frac{|C_{i,T}|}{|T|}$$

Where $|C_{i,T}|$ is number of training tuples of class C_i in T .

b) If attribute A_k is a categorical attribute, calculate,

$$P(x_k|C_i) = \frac{|x_{k,T}|}{|C_{k,T}|}$$

Otherwise, if attribute A_k is continuous-valued, it is assumed to have a Gaussian distribution with a mean μ and standard deviation σ . Calculate:

$$g(x, \mu, \sigma) = \frac{1}{\sqrt{2\pi}\sigma} e^{-\frac{(x-\mu)^2}{2\sigma^2}}$$

So that $P(x_k|C_i) = g(x_k, \mu_{C_i}, \sigma_{C_i})$.

Calculate

$$P(X|C_i) = \prod_{t=1}^n P(x_t|C_i).$$

This assumes all the attributes are independent of each other. This is called *class-conditional independence*.

c) Calculate

$$d) P(C_i|X) = \frac{P(X|C_i) \cdot P(C_i)}{P(X)}$$

Such that $P(C_i|X) > P(C_j)$

for $1 \leq j \leq m, j \neq i$

This maximizes $P(C_i|X)$.

Figure 5 shows a plot, using *R programming language*, of the famous dataset called *Fisher's Iris data set* [15] also called *Anderson's Iris data set* [16]. The Iris dataset contains 50 samples of three species of Iris (*Iris setosa*, *Iris virginica* and *Iris versicolor*) along with observations of 4 attributes for each species: petal length, petal width, sepal width and sepal length. Although the data set is not related to Recommender Systems, it clearly illustrates how a Naïve Bayesian Classifier is used to predict the class label. The aim here is to predict the species (target class label) given the attribute values (a data tuple). For

achieving this, we used "e1071" package of R statistical programming language [17]. After training our Naïve Bayesian Classifier with the Iris data set, we predicted the species using the 4 attributes

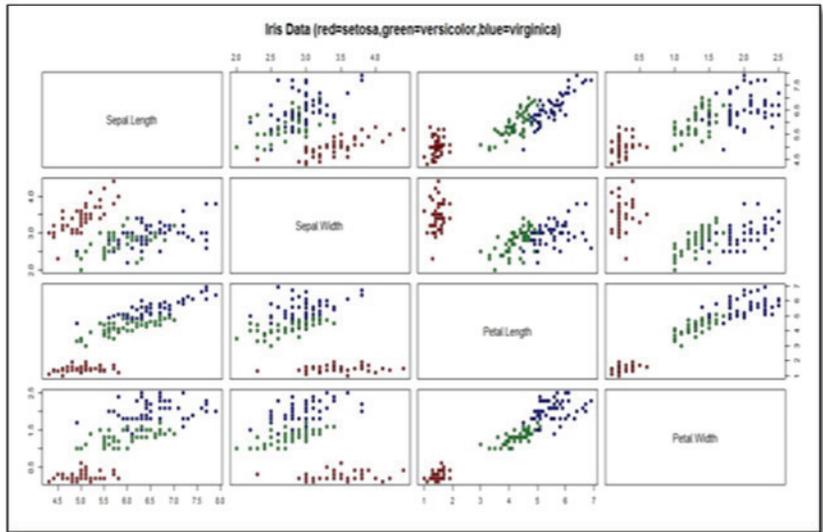


Figure 5: Plot of the Iris dataset. Red is for Setosa, green for Versicolor and blue for Virginica.

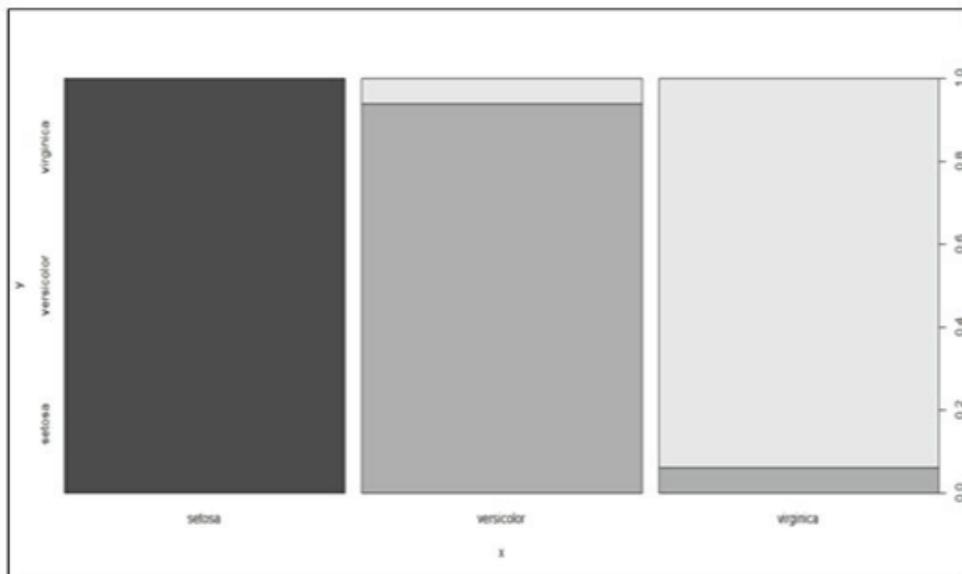


Figure 6: Iris species classified into 3 respective classes, each represented by a variable shade of grey color.

Support Vector Machines (SVMs)

An SVM classifier is a geometrical method which can be used to classify both linear as well as non-linear data. An SVM classifier uses a non-linear function or mapping to transform a given data set into some other higher dimension where it, optimally, searches for a linear hyper-plane or a decision boundary. This hyper-plane is then used to classify (separate) the data set into classes. If we consider a simple linearly-separable 2-D two class classification problem, as shown in Figure 7 and 8, it can be observed that several hyper-planes are possible. Notice that each hyper-plane has an associated margin. The goal of an SVM is to choose the hyper-plane that maximizes the margin. This optimal hyper-plane ensures misclassification is kept to minimum, if not completely eliminated [2]. For finding such maximum margin hyper-planes, a dot product between the two vectors is calculated. However, it is not always possible to linearly separate the given data set. Sometimes the data instances overlap in such a way that it is not possible to draw a straight hyper-plane. For such data sets, we can either let the stray data instances to be misclassified upto a certain tolerance error rate. This is done by introducing *Slack variables*. These variables associate a cost with each misclassified instance. Other solution is to draw a curved hyperplane, instead of a straight line. This is achieved, usually, by using *Kernalization* or “*kernel trick*”. The main idea is to replace the dot product by a more general function.

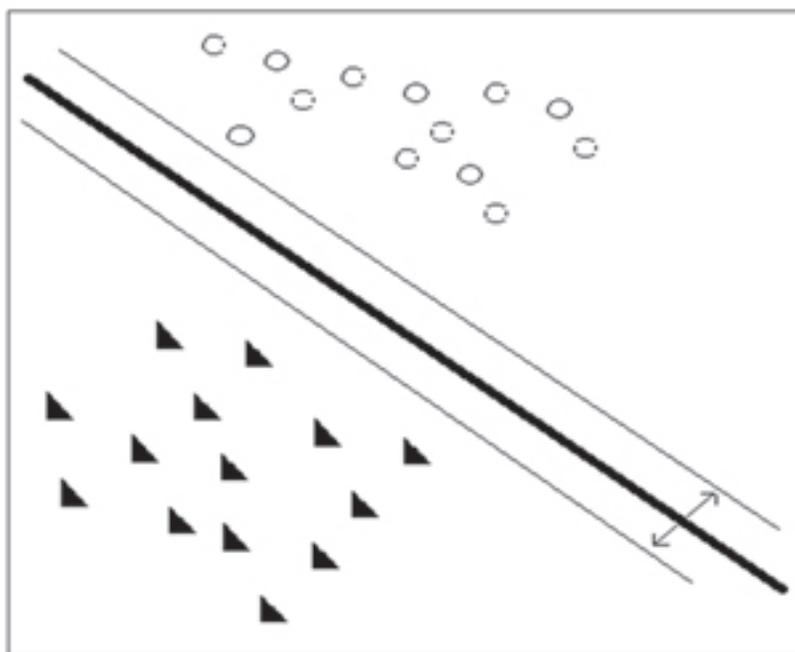


Figure 7: Linearly separable two class classification with SVM. The hyper-plane is associated with a small margin.

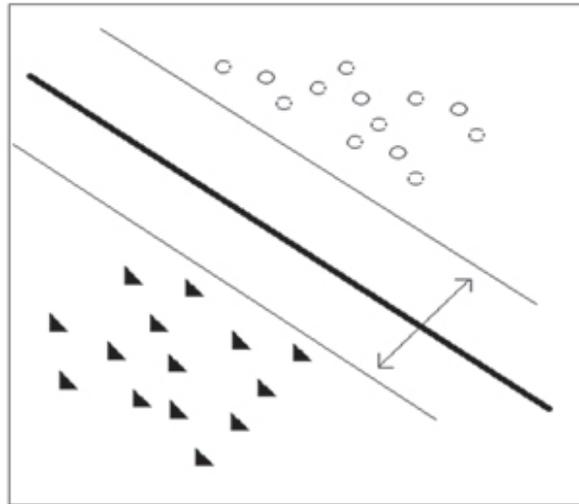


Figure 8: Linearly separable two-class classification with SVM. The hyper-plane is associated with a large margin.

Some commonly used kernel functions are Polynomial, Sigmoid and a family of Radial Basis Function (RBF) [1] [2] [11]. We will use a data set called “cats” for illustrating SVMs in R. The data set contains 144 rows and 3 columns [Sex, Bwt (Body Weight in kg) and Hwt (Heart Weight in kg)]. 144 adult cats were used for experiments with the drug *digitalis*. Their heart and body weights were recorded. 97 of the cats were male and 47 were female [18]. We will use the same “e1071” package of R statistical programming language [17]. The results are shown in Figure 9.

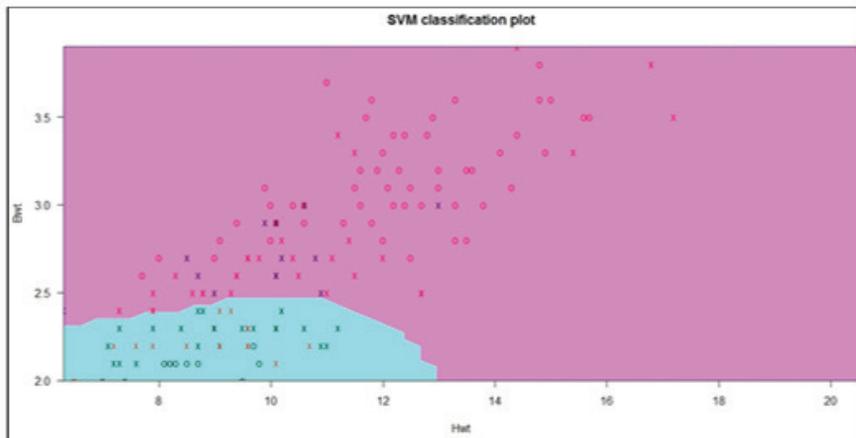


Figure 9: SVM classification of “cats” dataset with *Hwt* as x-axis and *Bwt* as y-axis. The pink area represents the male cats and the sky-bluish color represents the female cats. The boundary between the two colors is the hyperplane with RBF used as kernel function.

CONCLUSION AND FUTURE WORK

The paper only enumerated and explained some of the commonly used data mining methods used in RS. There are many other methods and techniques which we have not covered. Bayesian Belief Networks, Decision Tree Induction, k-nearest neighbor, Artificial Neural Networks, Association Rule mining and many clustering techniques have an excellent scope for future study. There is also a future scope for evaluating the efficiency, performance and accuracy of various mining methods with relative advantages and disadvantages.

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ELECTRONIC STRUCTURE OF Cu_2MoS_4 : A HYBRID FUNCTIONAL APPROACH

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ABSTRACT

A sustainable “Green Development” requires hydrogen as energy rather than fossil fuels, geothermal and other energy resources. Innovative eco-friendly techniques are required for hydrogen production. Photo-electrochemical water splitting has emerged as an innovative, challenging and eco-friendly process to produce renewable molecular hydrogen and oxygen. Copper and Sulphur based compounds have been predicted to be chemically active for photo-electrochemical water splitting. Cu_2MoS_4 is one of the semiconductors with a band gap of 1.7 eV which is more than sufficient to absorb visible spectrum of sunlight for hydrogen production. It includes two species which are members of the d-electron systems i.e. Cu ($\text{Ar}3d^{10}4s^1$) and Mo ($\text{Kr}4d^55s^1$). Therefore, it is essential to use such approach which can handle d-electrons contribution in an appropriate manner. Keeping this in view, in the present work, a recently developed alternative which involves less in the way of arbitrary parameters has been used. In the method postulated in this paper, a component of exact exchange (α) is introduced for the relevant Kohn–Sham orbitals. One could tune the value of α for a particular system, and the most appropriate value of α can be determined, which gives the best results. After a detailed study, a value of $\alpha = 0.4$ here with the PBE functional has been selected for Cu_2MoS_4 . We have studied the ground state electronic structure properties and absorption spectra in UV-visible region, which is in good agreement with the experimental results.

Keywords: Carbon emission, Density functional theory, Hybrid functional, Photo-electrochemical water splitting.

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INTRODUCTION

Carbon emission is a major threat for all countries in the world. The issue hogged the limelight once again during the United Nation Climate Change Conference at Paris, France [1]. Hydrogen is considered to play very vital role for the future of our planet. It is of great importance for the industrial as well as the sustainable social life. A sustainable “Green Development” requires hydrogen as energy rather than fossil fuels, geothermal and other energy resources. Innovative eco-friendly techniques are required for hydrogen production. There are various pathways available for such task like solar-thermal route, photovoltaic-electrolysis and photo-electrochemical (PEC) water splitting process.

In last few years, PEC water splitting has emerged as an innovative, challenging and eco-friendly process to produce renewable molecular hydrogen and oxygen. For a semiconductor material to photo-electrochemically split water, it must satisfy several criteria. Some of those are as follow:

- (i) The band gap must be a minimum of 1.7 eV to provide the potential necessary for electrolysis and overcome other energy losses in the system;
- (ii) The minority band edge and the Fermi level of the material must straddle the hydrogen and oxygen redox potentials for current to flow through the circuit;
- (iii) The material must be stable in contact with the electrolyte;
- (iv) Have high efficiency in the conversion of photons to separated electron/hole pairs; and
- (v) Charge transfer at the interface must be fast enough to prevent accumulation of minority carriers at the semiconductor surface that can shift the band edges out of the overlap position.

No known semiconductor system achieves all of the above criteria, though some have come close. In this series, a lot of materials had been proposed. In the recent years, sulfides as a kind of promising photo-catalysts for splitting of water have been studied extensively [2-6]. Ternary sulfide NaInS_2 has been reported to split water for H_2 production, showing good activity [7].

Copper chalcopyrite thin films have shown much better absorbance of solar energy. Band gap tailoring from 1.0 eV in CuInSe_2 , 1.6 eV in CuGaSe_2 , and up to 2.43 eV in CuGaS_2 [8-10] has been found to be of great advantage for such a system. The CuGaSe_2 bandgap is good for PEC applications [11]. But stability, surface kinetics and surface energetics are still not good enough. As bulk materials, tungsten and molybdenum sulfides are excellent hydrogen catalysts, but their band gaps (below 1.2 eV) are too low for PEC water splitting. Band gap has been increased upto 2.5 eV by using nanostructures [12]. High-quality crystalline semiconductor compounds of gallium, indium, phosphorous and arsenic have been studied for decades [13].

In addition to that, high cost and life time are the major challenges which need to be taken care of. Recently Cu_2MoS_4 has been proposed which can play a role for PEC water splitting [14]. Cu_2MoS_4 is a semiconductor with a band gap of approximately 1.76 eV and

includes two species which are members of so called d-electron systems i.e. Cu ($Ar3d^{10}4s^1$) and Mo ($Kr4d^55s^1$). Usually d-electron system show strongly correlated behavior and theoretically utmost care is required to deal with such systems. In the present work, we have studied the ground state properties like lattice parameters and band-gap determination as well as absorption spectra within the UV-visible range.

CALCULATIONS

Density Functional Theory (DFT) with local density approximation (LDA) and generalized gradient approximation (GGA) has been widely used in Solid-state Physics to study the ground state properties. As far as band-gap determination is concerned, the shortcoming of LDA [15] as well as GGA [16] is related to the insufficient cancellation of the self-interaction correction. To overcome the shortcomings, modifications in the methodologies such as LDA+U [17, 18] (where U is the Hubbard parameter with a range of few eVs in d-electron systems) and many-body perturbation theory (GW) approximation has been applied. Both the modifications are capable to remove the incomplete self-interaction correction present in LDA. But LDA+U method is associated with two semi-empirical parameters and GW approximation demands high computational time.

We have applied a recently developed alternative which involves less in the way of arbitrary parameters. We can use an on-site hybrid [19] based upon an approach such as the PBE0 functional [20, 21]. A small component of exact exchange (which we will refer to as α) has to be added for the relevant Kohn–Sham orbitals (d-electrons only here), which can be calculated rather simply within the muffin tin of an APW method. This is similar to a LDA/GGA + U method, but with a U value that will vary with local environment avoiding the need to tune U for specific cases.

In principle, one could tune the value of α for a particular system, i.e. a compromise can be used. The value of $\alpha = 0.4$ with the PBE functional gives the better results as far as the band gap determination is concerned, but at the same time lattice parameters deviate from the experimental values with considerable extent. Therefore a value $\alpha = 0.4$, would have been used for Cu_2MoS_4 which gives better comparison for both band gap as well as lattice parameters. We will stress that this particular value for α is for Cu_2MoS_4 , and cannot be implicitly generalized to other systems. To calculate the lattice parameters of Cu_2MoS_4 , we have used full-potential linear augmented plane-wave (FLAPW) method as implemented in the WIEN2k code [22].

RESULTS AND DISCUSSIONS

Evans *et. al.* had synthesized and determined the structural characterization of body-centred polymorph of Cu_2MoS_4 using hydro- thermal methods. Cu_2MoS_4 crystallises in space group I-42m with experimental cell parameters $a=b=5.410 \text{ \AA}$, $c=10.35 \text{ \AA}$ and has new structure type containing layers of edge-sharing CuS_4 and MoS_4 tetrahedra. The structure was determined by powder X-Ray diffraction data [23].

The purpose of using present proposed technique is to get results of lattice parameters

and band gap with a balance between both computational and experimental values. For this purpose, we have done calculations with GGA and value of $\alpha = 0.4$ with the PBE functional and compared the results given by these two approximations. Using value of $\alpha = 0.4$ with the PBE functional gives lattice parameters with space group I-42m with cell parameters $a=b=5.510 \text{ \AA}$, $c=10.110 \text{ \AA}$ which does not deviate much from the experimental values.

A trend has been observed in which the band gap increases with increase in the value of α . The optimized volume and lattice parameters decrease with increase in the value of α . Therefore the value of α can be chosen such that the balance can be maintained between both the lattice parameters calculations and band gap determination.

Therefore a value $\alpha = 0.4$, would have been used for Cu_2MoS_4 which gives better comparison for both band gap and lattice parameters. The calculated structure has been shown in Figure 1. Calculated X-ray spectra have been shown in Figure 2, which is also in full agreement with the experimental observation. Figure 3 shows the partial density of states of Cu_2MoS_4 using GGA approximation which gives the band gap about 1.1 eV. From Figure 3(a) & 3(b), it is clear that Mo is contributing mainly in absorption. Whereas Figure 3(c) and 3(d) shows that S & Cu are contributing in emission spectra. In Figure 3(b), 3(c) & 3(d), left panel shows the contribution of "s", "p", "d" & "f" states, middle panel shows contribution of "s" & "p" states and right panel shows contribution of "d" states respectively.

Figure 4 shows the partial density of states with value of $\alpha = 0.4$ with the PBE functional. In Figure 4(b), 4(c) & 4(d), left panel shows the contribution of "s", "p", "d" & "f" states, middle panel shows contribution of "s" & "p" states and right panel shows contribution of "d" states respectively. It is clear that Cu 3d orbital could hybridize with S 3p orbital to form a valence band. It was also reported that Mo 4d orbital could hybridize with other metallic orbital to form a conduction band. Cu (I) 3d orbital could split into two orbital, one is full and the other is empty. Therefore, it is clear that the valence band of Cu_2MoS_4 is made up of the full orbital of Cu 3d and S 3p and the conduction band contains the empty Cu 3d orbital and Mo 4p orbit. It is clear that band gap increases compared to GGA functional and comes out to be 1.6 eV.

We also tried with increased value of $\alpha = 0.6$ with the PBE functional to improve the value of band gap towards experimental value. The value of band gap improves and comes equal to experimental values 1.76 eV, but $\alpha = 0.6$ with the PBE functional takes the lattice parameters far away from the experimental values. Therefore value of $\alpha = 0.4$ with the PBE functional is an appropriate value for Cu_2MoS_4 , which makes a balance between lattice parameters and band gap.

CONCLUSIONS

In the present work, we have carried out Density Functional Study of Cu_2MoS_4 using PBE functional with a small component of exact exchange (defined as α). In the present case $\alpha = 0.4$ has been found to be appropriate for the lattice structure calculation and band structure calculation. This technique has given the results which are in good agreement with

the experimental results. This technique requires very less computational resources compared to LDA/GGA + U or many-body perturbation theory (GW) approximation. For other materials “ α ” can be chosen in such way so that results for both the lattice parameters and band gap calculations can be determined without doing much compromise in comparison to the experimental values.

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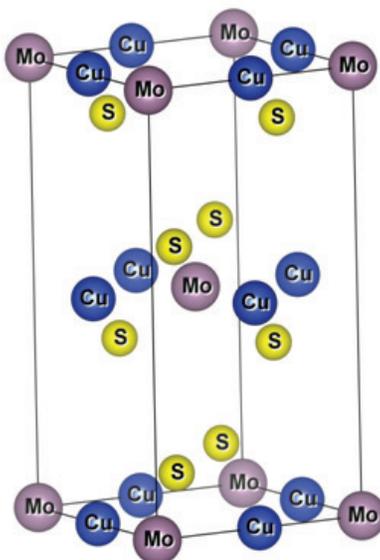


Figure 1: Structure of Cu_2MoS_4

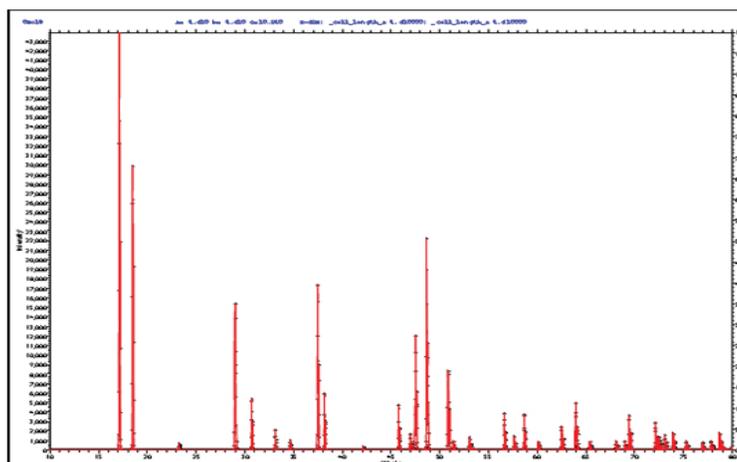


Figure 2: Calculated X-ray diffraction of Cu_2MoS_4

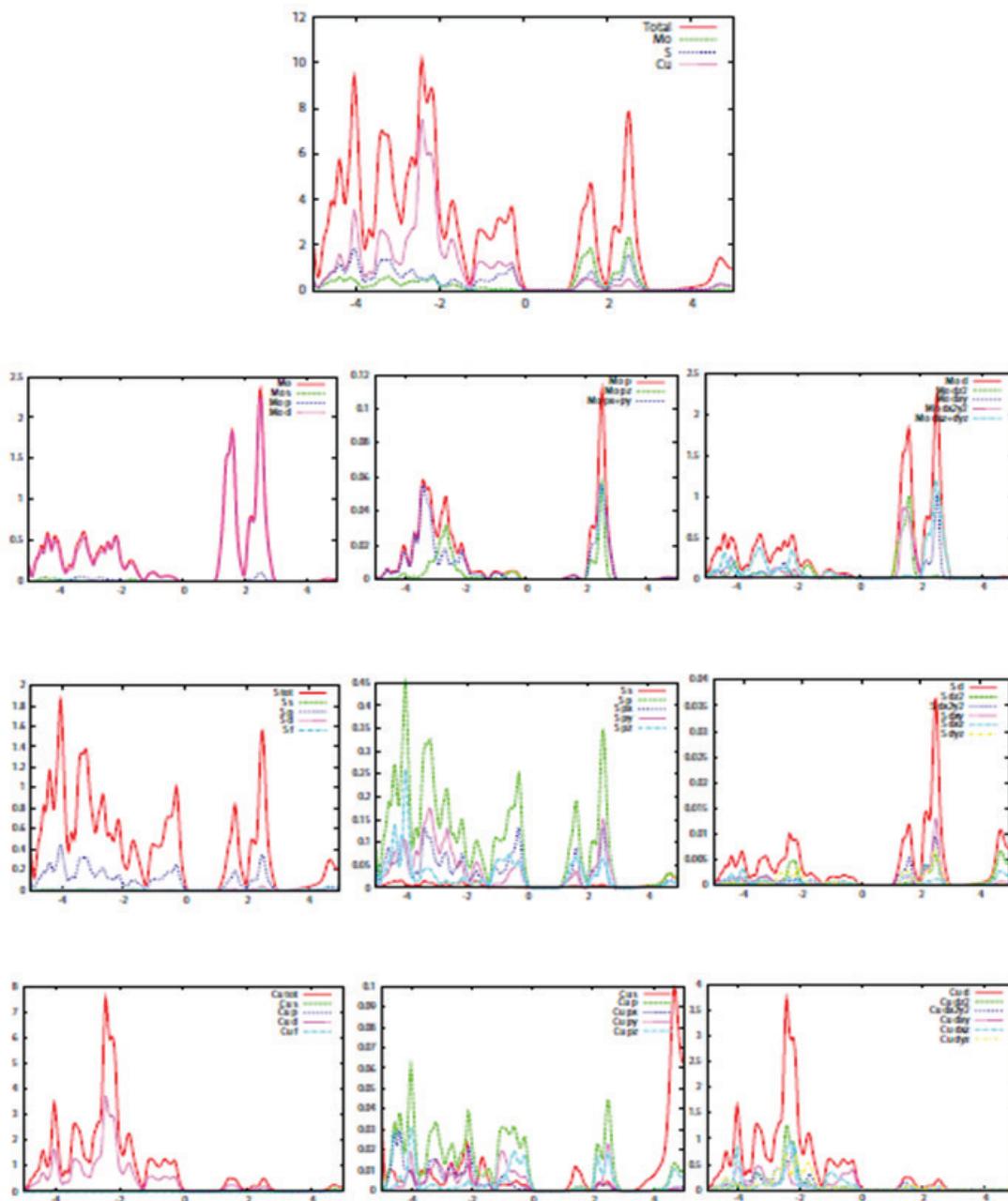


Figure 3: (a) Density of States of Cu_2MoS_4 using GGA (b) Partial Density of States of Mo in Cu_2MoS_4 using GGA (c) Partial Density of States of S in Cu_2MoS_4 using GGA (d) Partial Density of States of Cu in Cu_2MoS_4 using GGA (in (b), (c) & (d) left panel shows the “s”, “p”, “d” & “f” states, middle panel shows contribution of “s” & “p” states and right panel shows contribution of “d” states respectively).

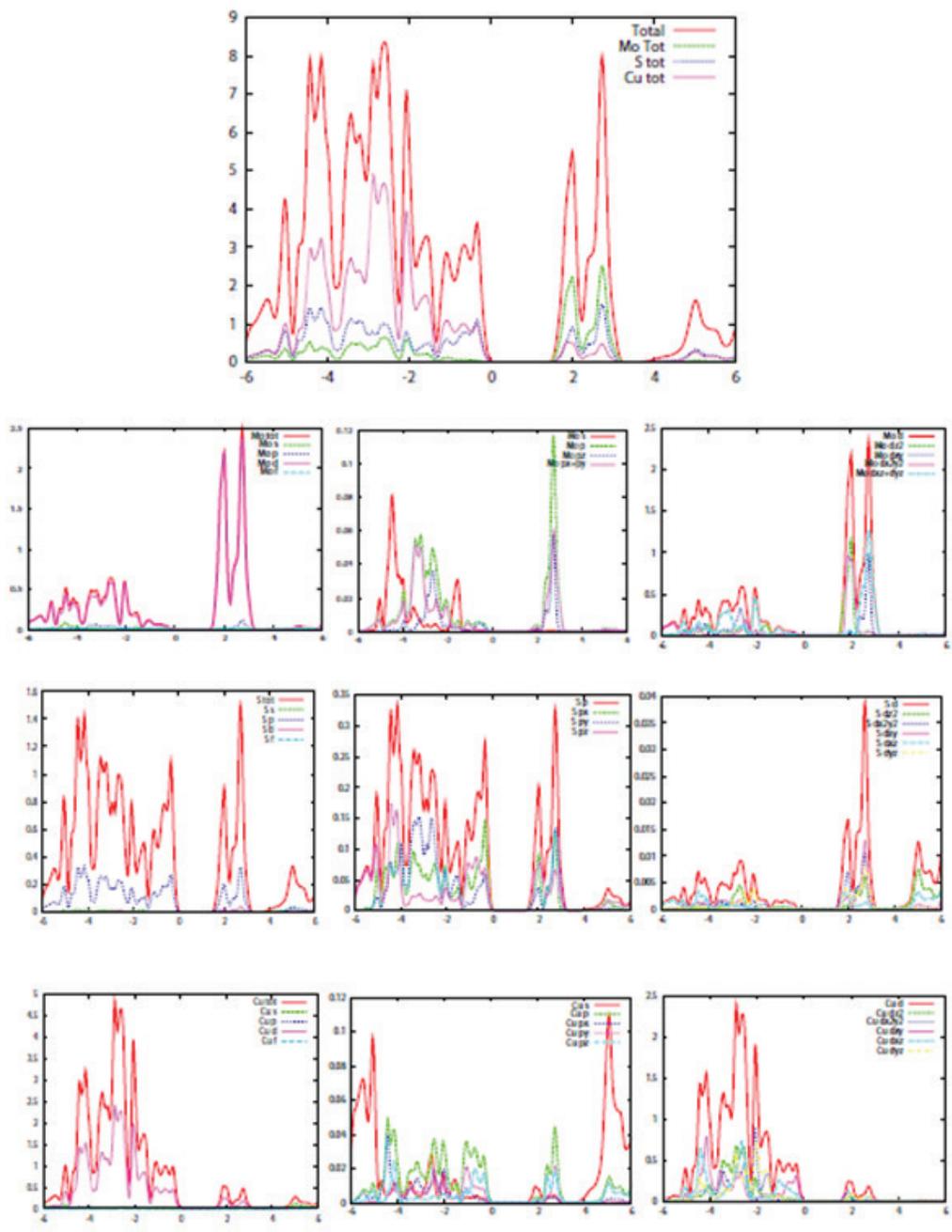


Figure 4: (a) Density of States of Cu_2MoS_4 using $\alpha = 0.4$ (b) Partial Density of States of Mo in Cu_2MoS_4 using $\alpha = 0.4$ (c) Partial Density of States of S in Cu_2MoS_4 using $\alpha = 0.4$ (d) Partial Density of States of Cu in Cu_2MoS_4 using $\alpha = 0.4$ (in (b), (c) & (d) left panel shows the “s”, “p”, “d” & “f” states, middle panel shows contribution of “s” & “p” states and right panel shows contribution of “d” states, respectively).

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JUDICIAL PERSPECTIVE ON 'LIVE-IN -RELATIONSHIP' IN INDIA AND MAINTENANCE RIGHTS OF WOMEN

Anju Tyagi*

ABSTRACT

Marriage is often described as one of the basic civil rights of man or women, which is voluntarily undertaken by the parties in public in a formal way, and once concluded, recognizes the parties as husband and wife. In a fast changing world, there are bewildering variety of human relationship getting normalized. Live-in-relationship or cohabitation occurs when two people, men and women decides to live together in a sexually intimate relationship as though married but without completing marriage formalities legally. Live-in-relationship is neither recognized by the Hindu Marriage Act, 1955 nor by the Cr.P.C., 1973; or the Special Marriage Act, 1954. Though live-in-relationship is recognized under Protection of Women from Domestic Violence Act, 2005 under Sec 2 (f) as relationships in the nature of marriage. This paper traces the Indian judicial perspective on live-in-relationship.

Keywords: Civil Solidarity Pacts, inheritance of property, intestate succession, live-in relationship, Malimath Committee, Protection of Women from Domestic Violence Act, succession.

INTRODUCTION

“Law takes its own time to articulate such social changes through a process of amendment. That is why in a changing society, law cannot afford to remain static. If one looks at the history of development of Hindu law, it will be clear that it was never static and has changed from time to time to meet the challenges of the changing social pattern in different times. With changing social norms of legitimacy in every society, what was illegitimate in the past may be legitimate today”.

Hon'ble Justice A.K.Ganguly & G.S.Shingvi¹

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Marriage is necessarily the basis of social foundation from which important legal rights and obligations emerge. Marriage is considered to be a sacred social institution.² Marriage according to the Hindu law is a holy union for the performance of religious duties. It is not a contract but it is a *sanskara* or sacrament. For a Hindu, marriage is mandatory so that he can discharge his debt to his ancestor, the debt of begetting offspring.

Marriage is often described as one of the basic civil rights of man or women, which is voluntarily undertaken by the parties in public in a formal way, and once concluded, recognizes the parties as husband and wife. Three elements of common law marriage are:

1. Agreement to be married
2. Living together as husband and wife
3. Holding out to the public that they are married

Sharing a common household and duty to live together to form part of the “*Consortium Omnis vitae*” which obliges spouses to live together, afford each other reasonable marital privileges and rights and be honest and faithful to each other. One of the most important invariable consequences of marriage is the reciprocal support and the responsibility of maintenance of the common household, jointly and severally. Marriage as an institution has great legal significance and various obligations and duties flow out of marital relationship as per law, in the matter of inheritance of property, successionship etc. Marriage, therefore involves legal requirements of formality, publicity, exclusivity and all the legal consequences flow out of that relationship.

Marriage, as a concept is nationally and internationally recognized. O’Regan, J, in *Dawood and Anr. vs. Minister of Home Affairs and Ors*³, noted as follows:

Marriage and the family are social institutions of vital importance. Entering into and sustaining a marriage is a matter of intense private significance to the parties to that marriage for they make a promise to one another to establish and maintain an intimate relationship for the rest of their lives which they acknowledge obliges them to support one another, to live together and to be faithful to one another. Such relationships are of profound significance to the individuals concerned. But such relationships have more than personal significance at least in part because human beings are social beings whose humanity is expressed through their relationship with others. Entering into marriage therefore is to enter into relationship that has public significance as well.

The institutions of marriage and the family are important social institutions that provide for the security, support and companionship of members of our society and bear an important role in rearing of children. The celebration of a marriage gives rise to moral and legal obligations, particularly the reciprocal duty of support placed upon spouses and their joint responsibility for supporting and raising children born of marriage. The legal obligations perform an important social function. This importance is symbolically acknowledged in part of the fact that marriage is celebrated generally in a public ceremony often before family and close friends.

INTERNATIONAL PERSPECTIVE

Article 23 of the International Covenant on Civil and Political Rights, 1996 (ICCPR) provides that:

1. The family is the natural and fundamental group unit of society and is entitled to protection by society and the State.
2. The right of men and women of marriageable age to marry and to found a family shall be recognized.
3. No marriage shall be entered into without the free and full consent of the intending spouses.
4. States/ Parties to the present Covenant shall take appropriate steps to ensure equality of rights and responsibilities of spouses as to marriage, during marriage and its dissolution. In the case of dissolution, provision shall be made for the necessary protection of any children.

Article 16 of the Universal Declaration of Human Rights, 1948 provides that:

1. Men and women of full age, without any limitation due to race, nationality or religion, have the right to marry and to found a family. They are entitled to equal rights as to marriage, during marriage and at its dissolution.
2. Marriage shall be entered into only with the free and full consent of the intending spouses.
3. The family is the natural and fundamental group unit of society and is entitled to protection by society and the State.

DEFINITION

The meaning, concept and interpretation of relationships have undergone change during the current wave of modernization. A new dimension has been added to marital relationships by recognizing and endorsing live-in-relationship both by the Law⁴ and also by the court.⁵

The relationships where two people cohabit outside marriage without any legal obligations towards each other are known as Live-In-Relationship.⁶

Live-in-relationship or cohabitation occurs when two people, men and women decide to live together in a sexually intimate relationship as though married but without completing legal marriage formalities.⁷ This is a relationship in the nature of marriage but unlike a marriage. This concept has slowly paved its way in the Indian Scenario as well. However, such relationships are considered a taboo in the Indian socio-cultural milieu.

Live-In-Relationship is still in a penumbral zone and judges are likely to be confronted with enigmatic situations in times to come. Despite all the talks of modernization, societal acceptance of a relationship sans formal solemnization by rites and ceremonies- religious or customary- may not be as easy.

JUDICIAL PERSPECTIVE ON LIVE-IN-RELATIONSHIP

Live-in-relationship is neither recognized by the Hindu Marriage Act, 1955 nor by the Cr.P.C. 1973, Special Marriage Act, 1954 etc. Though live-in-relationship is recognized under Protection of Women from Domestic Violence Act, 2005 under Sec 2 (f), as the relationship falls in the nature of marriage. Judicial perspective of live-in-relationship can be traced by going through the various judgments of the High Courts and the Supreme Court.

1. *Mohabbat Ali Khan vs. Muhammad Ibrahim Khan*⁸

In this case, Privy Council stuck to their position that when a man and a woman cohabitated continuously for a number of years, the law presumes that they are a married couple and aren't in a state of concubinage.

2. *A. Dinohamy vs. W.L. Blahamy*⁹

The Privy Council in this case has laid down the principle that where a man and a woman are proved to have lived together as husband and wife, the law will presume, unless the contrary be clearly proved that they were living together in consequence of a valid marriage and not in a state of concubinage.

3. *Badri Prasad vs. Dy. Director of Consolidation*¹⁰

This was the first case in which Supreme Court of India recognized live-in-relationship and interpreted it as a valid marriage. In this case, the court gave legal validity to a 50 year live-in-relationship of a couple. It was held by Justice Krishna Iyer that a strong presumption arises in favour of wedlock where the partners have lived together for a long spell as husband and wife. Although the presumption is rebuttable, a heavy burden lies on him who seeks to deprive the relationship of its legal origin. Law leans in favor of legitimacy and frowns upon bastardy.

4. *Gokal Chand vs. Pravin Kumari*¹¹

In this case, Court observed that continuous cohabitation of man and woman as husband and wife and their treatment as such for a number of years may raise the presumption of marriage, but the presumption which may be drawn from long co-habitation is rebuttable and if there are circumstances which weaken and destroy that presumption. The court cannot ignore them. Before 2000, no Courts in the country ever uttered the word *live-in-relationship*. "Live-in-relationship" is an extra-legal concept which already secured its stand in society and it is initiated in law by way of various rulings passed by the Superior Courts.

5. *Payal Sharma vs. Superintendent, Nari Niketen Kalindri Vihar, Agra*¹²

Justice M. Katju and Justice R.B. Misra held that a man and a woman even without getting married can live together if they wish. This may be regarded immoral by society but it is not illegal.

6. *Alok Kumar vs. State*¹³

Justice Shiv Narayan Dhingra held that Live-in-relationship is a walk-in and walk-out relationship. There are no strings attached to this relationship, neither this relationship creates

any legal bond between the parties. It is a contract of living together which is renewed everyday by the parties and can be terminated by either of the parties without consent of the other party and one party can walk out at his/her will at any time.

Those, who do not want to enter into this kind of relationship walk-in – walk-out .They may enter into a relationship of marriage, where the bond between the parties has legal implications and obligations and cannot be broken by either party at their own will. Thus, people who chose to have “live-in-relationship” cannot complain of infidelity or immorality as live-in-relationship are also known to have being between married man and unmarried women or between a married woman and unmarried man.

7. *Patel and others case*¹⁴

The S.C observed that the two adults are not criminal offenders who are bound to “live-in-relationship” without a formal marriage. No legislation has ever been enacted by Indian Parliament who denounces any “live-in-relationship” as illegal.

8. *S. Khushboo vs. Kanniammal & others*¹⁵

It was observed that a live-in-relationship between two consenting adults of heterogenic sex does not amount to any offence [with the obvious exception of adultery], even though it may be perceived as immoral. In this case the Supreme Court specifically clarified the legal status of live-in-relationships. The court had convened to hear a petition filed by the famous south Indian actress Khushboo to quash 22 FIR filled by a Tamil activist group, who claimed that her comments on pre-marital sex in an interview in 2005 would have a negative influence over the youth of the country, while holding that her views were entirely personal and did not constitute an offence , the court also observed that for a man and woman to be in love and living together, is a part of the Right to Life as guaranteed under Art. 21 of our Constitution and is not a criminal offence.

This case legally recognized the existence of live-in-relationship in India and unequivocally decriminalized them in accordance with the provisions of Art. 21 of the Constitution.

9. *Indra Sarma vs. V.K.V Sarma*¹⁶

In this case, J.K.S. Panicker Radhakrishnan held that live-in-relationship or marriage like relationship is neither a crime nor a sin though socially unacceptable in this country. The decision to marry or not to marry or to have a heterosexual relationship is intensely personal.

The court has cut out some guidelines for testing under what circumstances; a live-in-relationship will fall within the expression “relationship in the nature of marriage” under section 2(f) of the D.V Act. The guidelines, of course, are not exhaustive but definitely give some insight to such relationships:

1. *Duration of Period of Relationship*: Section 2 (f) of the D.V Act has used the expression “at any point of time” which means a reasonable period of time to maintain and continue a relationship which may vary from case to case depending upon the fact and situation.
2. *Share household*: Has been defined under section 2(s) of the DV Act.

3. *Pooling of Resources & Financial Arrangements*: Supporting each other, or any one of them financially, sharing bank account, acquiring immovable properties in joint names or in the name of the women, long term investments in business, shares in separate and joint names, so as to have a long standing relationship, may be guiding factor.
4. *Domestic Agreement*: Entrusting the responsibility, especially on the women to run the home, do the house-hold activities like cleaning, cooking, maintaining or upkeeping the house etc. is an indication of a relationship in the nature of marriage.
5. *Sexual Relationship*: Marriage like relationship refers to sexual relationship, not just pleasure but for emotional and intimate relationship, for procreation of children, so as to give emotional support, companionship and also material affection, caring etc.
6. *Children*: Having children is a strong indication of a relationship in the nature of marriage. Parties, therefore intend to have a long standing relationship. Sharing the responsibility for bringing up and supporting them is also a strong indication.
7. *Socialization in Public*: Holding out to the public & socializing with friends, relations and others, as if they are husband and wife is a strong circumstance to hold the relationship in the nature of marriage.
8. *Intention and conduct of the parties*: Common Intention of parties as to what their relationships is to be and to involve as to their respective roles and responsibilities primarily determines the nature of that relationship.

1. *D. Velusamy vs. D. Patchaiammal*¹⁷

In this case, Court consider what is common law marriage which is sometimes called *de-facto* marriage, or informal marriage and so “relationship in the nature of marriage” is akin to a common law marriage. Common law marriages require that although not being formally married,

- a) The couple must hold themselves out to society as being akin to spouses;
- b) They must be of legal age to marry;
- c) They must be otherwise qualified to enter into a legal marriage, including being unmarried;
- d) They must have voluntarily cohabited and held themselves out to the world as being akin to spouses for a significant period of time.

In order to provide a remedy in civil law for protection of women , from being victims of such relationship and to prevent the occurrence of domestic violence in the society, for the first time in India, the Domestic Violence Act has been enacted to cover the couple having relationship in the nature of marriage , persons related by consanguinity , marriage etc. For the first time, through the DV Act, the Parliament has recognized a “relationship in the nature of marriage” and not directly a live-in –relationship.

Whether a relationship will fall within the expression “relationship in the nature of marriage” within the meaning of section 2(f) of the DV Act, we should have a close analysis of the entire relationship, in other words, all facts of the interpersonal relationship need to be taken into account. We cannot isolate individual factors because there may be endless scope for differences in human attitudes and activities and a variety of combinations of circumstances, which may fall for consideration. Invariably, it may be a question of fact and degree, whether a relationship between two unrelated persons of the opposite sex meets the tests evolved judicially?

COMPARISON WITH OTHER COUNTRIES

1. **Scotland:** The Family Law (Scotland) Act, 2006 introduced new rights and an obligation concerning cohabiting couples (The live in relation). Section 25 (2) of the Act postulates that a court of law can consider a person as a co-habitant of another by checking on three parameters; (a) the length of the period during which they lived together, (b) the nature of the relationship during that period and (c) the nature and extent of any financial arrangements, subsisting or which subsisted during that period. In case of breakdown of such relationship, under Section 28 of the Act, a cohabitant has the right to apply in court for financial provision on the termination of the cohabitation —otherwise by reason of death – i.e. separation. If a partner dies intestate, the survivor can move the court for financial support from his estate within 6 months.¹⁸

Thus it can be seen that Scotland recognizes live-in-relationship and has legalized it and on breakdown of relationship, the rights of parties are also protected.

2. **UK:** In UK it is just a lucrative alternative to avoid shackles of marriage. On the whole this concept of live-in-relationship is popular in UK but it is seen that it is not treated seriously as marriage there and couples in live-in-relationship are more likely to split than in marriages.

3. **Sweden:** Sweden is the first country to create a statute for regulation of property rights of cohabitants. The statute was known as Cohabitees [Joint Homes] Act, 1987 and is now replaced by Cohabitees Act, 2003. The Act defines the cohabitees as two people living together as couple on permanent basis i.e. the relationship should be of long duration and should include sexual relation between them and they must share household. The Act does not apply if any of Cohabitees is married or registered partner. There is a division of property if the Cohabitees separate but there is no right of inheritance to surviving Cohabitate unless mentioned in the will.

4. **Philippines:** Live-in-relationship is recognized, and it governs the property relations by the rules on equal co-ownership, under Chapter- 4 “*Conjugal Partnership of Gains*”, Article 147 (Family Code).¹⁹ Philippines provide that where a man and a woman who are capacitated to marry each other, live exclusively with each other just like a husband and wife, but without the benefit of marriage (or when the marriage is void). In such a situation, property acquired by both the spouses through their work, their wages and salaries shall

be owned by them in equal shares which shall be governed by equal co-ownership rule. It is seen that the Family code of Philippines legalizes the live- in- relationship and gives right to the couple.

5. **USA:** There is no legal definition to the term “cohabitation” in USA and as a result of this on the dissolution of the relationship, the cohabitants do not get rights and financial safeguards as given to legally wedded spouses. Thus the unmarried partners in USA may face financial loss unless and until protected by a written agreement.

In USA the expression ‘palimony’ was coined which means grant of maintenance to a woman who has lived for a substantial period of time with a man without marrying him, and is then deserted by him. The first decision on palimony was the well-known decision of the California Superior Court in *Marvin vs. Marvin*. This case relates to the famous film actor Lee Marvin, with whom a lady Michelle lived for many years without marrying him, and was then deserted by him and she claimed palimony. Subsequently in many decisions of the Courts in USA, the concept of palimony has been considered and developed. The US Supreme Court has not given any decision on whether there is a legal right to palimony, but there are several decisions of the Courts in various states in USA. These Courts in USA have taken divergent views, some granting palimony, some denying it altogether, and some granting it on certain conditions. Hence in USA the law is still in a state of evolution on the right to palimony.²⁰

Although there is no statutory basis for grant of palimony in the US, the Courts there have granted it on a contractual basis. Some Courts in the US have held that there must be a written or oral agreement between the man and woman that if they separate, the man will give palimony to the woman; while other Courts have held that if a man and woman have lived together for a substantially long period without getting married, it would be deemed to be an implied or constructive contract that palimony will be given on their separation.²¹

In *Taylor vs. Fields* (1986) [224 Cal. Rpr. 186], the facts were that the plaintiff Taylor had a relationship with a married man Leo. After Leo died Taylor sued his widow alleging breach of an implied agreement to take care of Taylor financially and she claimed maintenance from the estate of Leo. The Court of Appeals in California held that the relationship alleged by Taylor was nothing more than that of a married man and his mistress. It was held that the alleged contract rested on meretricious consideration and hence was invalid and unenforceable. The Court of Appeals relied on the fact that Taylor did not live together with Leo but only occasionally spent weekends with him. There was no sign of a stable and significant cohabitation between the two.²²

1. **Canada:** Legal recognition of unmarried couple began in Canada in late 1970’s. Recognition took place and resulted into drawing unmarried opposite sex cohabitants into family. The Law extended the statutory definition of “Spouse” to include partners who have been cohabiting for certain period ranging from one to three years and also shorter period if couple had children.
2. **France:** Civil Solidarity Pacts known as “*pacte civil de solidarite*” passed by the French Parliament in November 1999 that allows couples to enter into a union by signing before a court clerk. It is a contractual form which binds “two adults of

different sexes or of the same sex, in order to organize their joint life” and allows them to enjoy the rights accorded to married couples in the areas of income tax, housing and social welfare. The contract can be revoked unilaterally or bilaterally after giving the partner three months notice in writing. As of 2013, PACS remains available to both-same and opposite sex couples after marriage and adoption rights were made legal for same-sex couples.²³

3. Australia: *De-facto* marriages are common in Australia. Couples are not legally married but meet the civil requirement of marriage. *De-facto* Relationships Act, 1984 was introduced for the first time in Australia by New South Wales legislature. It was made to deal with the unmarried heterosexual relationships known as *de-facto relationships*. A new section 4AA of the Family Law Amendment Act, 2008 defines *de-facto relationship* as:

- A person is in *de-facto* relationship with another person if:
 - The persons are not legally married to each other;
 - The person are not related by family;
 - Having regard to all the circumstances of their relationship, they have a relationship as a couple living together on a genuine domestic basis.

Section 4 (2) of the New Property (Relationships) Act (NSW) 1984 list the circumstances to be taken into consideration to determine whether the couple are in *de-facto* relationship. The list includes:

- a. The duration of the relationship;
- b. The nature and extent of common residence;
- c. Whether or not sexual relationship exists;
- d. The degree of financial dependence or inter-dependence and any arrangements for financial support, between the parties;
- e. The ownership, use and acquisition of property;
- f. The degree of mutual commitment to shared life;
- g. The care and support of children;
- h. The performance of household duties;
- i. The reputation and public aspects of the relations.

Thus it is seen that the laws of Australia recognize live- in- relationships in the name of *de-facto* relationships. It is not uncommon and it is getting socially and legally recognized. *De-facto* marriages are also recognized in various states in USA and such unions are known as domestic partnerships.

So, there is a different stand of countries on live –in- relationships. In countries like Bangladesh and Indonesia, the law has made the cohabitation punishable while in UK couples do not enjoy legal sanction. USA on other hand does not prohibit cohabitation but couples are

not provided with same rights as married. Countries like Canada, Australia, France, Scotland, Philippines are very clear on laws relating to live- in- relationship and appear liberal.

In some countries, legislation is passed while some are granting legal sanction by implied provisions. If we see the situation in India it is in somewhere middle on the path to gain acceptance. Socially it is not acceptable in India and there is no legal status to such relations but judiciary is actively giving decision in favor of live –in- relation and asking legislature to frame laws to protect the interest of partner and children born through such relations. The cases are increasing and the legal progress is not in the same pace, so the law needs to speed up with respect to live- in- relationship.

MAINTENANCE RIGHTS

The right of maintenance, which is a right of subsistence and survival for woman and children, is very important especially in cases of live- in- relations. Sec. 24 and 25 deals with the question of interim and permanent maintenance for Hindu spouses. Sec 18 of HAMA, 1956 deals with the right of a Hindu wife to be maintained by her husband during her lifetime. Sec 125 of the Cr.P.C provides maintenance of a wife which also includes a divorced woman, but none of these legislations recognize maintenance for partners in live- in- relationship. The *Protection of Woman from Domestic Violence Act, 2005* is the first legislation which can be interpreted to include live- in- relationships as it makes provisions for women in “relationship in the nature of marriage”, but the protection under this Act does not qualify live- in- partners to get the same benefit under Personal Law.

MAINTENANCE RIGHTS OF WOMEN

Judiciary has been providing maintenance for informal relationships also in prolonged cohabitation and presumption of marriage. From 1929 Privy Council in *Mohabhat Ali vs. Md. Ibrahim Khan*²⁴, then *Mohammed Ameen vs. Vakil Ahmed* – the law presumes in favor of marriage and against concubinage when a man and woman have cohabited continuously for a number of years.

In leading case of *Badri Prasad vs. Dy. Director of Consolidation*²⁵, the Court held that if a man and woman have lived as husband and wife for about fifty years, under sec 114 of the IEA, a strong presumption arises in favor of wedlock. Although this presumption is rebuttable, a heavy burden lies on him who seeks to deprive the relationship of legal origin.

In *Ramesh Chandra Daga vs. Rameshwari Daga*²⁶ case, the court had accepted that Hindu Marriages have continued to be bigamous despite the enactment of the HMA, 1995. The court had commented that though such marriages are illegal as per the provision of the Act, they are not “immoral” and hence a financially dependent woman cannot be denied maintenance on this ground. On the basis of this judgment the woman who is in live -in -relationship should be given maintenance.

The Supreme Court in *D. Velusamy vs. Patchaiammla*²⁷, case decided to grant maintenance

to wife. In this case court has laid down the guidelines that what all are to be included in the term “relationship in the nature of marriage”. The court observed that it would exclude many women from the benefit of the DV Act, who had been in a live- in- relationship. This case has constrained the scope of PWDVA by holding that “mistresses”, “keeps”, and “maids” with whom a married man may had sexual relationship are not entitled to maintenance.

MAINTENANCE ISSUES RELATING TO CHILDREN

The HMA, 1955 grants the status of legitimacy to every child irrespective of his birth out of a void, voidable or a legal marriage, but there is no specific law that raises any presumption of legitimacy in favor of children of live-in- partners. The future of children of live- in- partners becomes very insecure in case the partners step out of their relationship. There come the requirements of a strong provision to safeguard the rights of such children. There must be provision to secure the future of the child and also entitling the children to a share in the property of both the parents.

The Supreme Court in the case of *Dhannlal vs. Ganeshram*²⁸, while dealing with the issue whether the person would have rights over the inheritance of property even though she was not legally married but was in a live- in- relationship; observed that when the parties have cohabited with each other for a long time then there would be presumption of marriage which could be rebutted. It was also observed that the law prefers marriage against concubinage. It then went on to deal with the question regarding the status of the child born in such relationship and it was observed that such child would not be considered illegitimate. With regards to the issue of property, it was held that child should have the rights over the property of the parents.

So it could be said that though there is no specific legislation with respect to the status of the live- in- relationships, the SC through its various judgments has recognized it and also accords the parties to such a relationship the same rights as that for the parties to a marriage. However, a caveat must be sounded that the recognition of such relationships has been only when they have been in such relationships for a sufficiently long period of time and it is of the nature of marriage. So, for the parties in a live-in- relationship; to get the benefits of a marriage the relationship should be of such a character that it must be of the nature of a marriage. In the absence of a specific legislation, the Supreme Court of India took the initiative to safeguard the interest of women / of children of live-in couples. In case of *Bharat Matha vs. V. R. Vijaya Ranganathan*²⁹ and others; the SC has held that child born out of a live- in- relationship may be allowed to succeed in inheritance in the property of the parents if any, but not have any claims as against Hindu ancestral coparcenary property.

CONCLUSION AND SUGGESTIONS

The Fundamental Rights under Art.21 of the Constitution of India grants all its citizens “right to life and personal liberty” which means that one is free to live the way one wants without infringing others right.

The legal status of live-in-relationship in India has been evolving and determined by the Supreme Court in its various judgments. The right time has come that efforts should be made to enact a law on live-in-relationship having clear provisions with regard to the time span required to give status to the relationship, registration and rights of parties and children born out of it. As stated by *Aristotle* "For Man perfected, is the best of animals; but when separated from law and justice, he is worst of all".³⁰

Though the concept of live-in-relationship is considered immoral by the society, but is definitely not illegal in the eyes of the law. The court has also tried to improve the condition of the women and children born out of live-in-relationship by defining their status under the PWDVA 2005, if the relationship is proved to be "relationship in the nature of marriage." The guidelines which has been cut out in the case of *Indra Sarma vs. V.K.V. Sarma*³¹ relating to what all should be included in the expression relationship in the nature of marriage should be incorporated under section 2(f) of the D.V. Act.

The Courts should make it mandatory for the couple to get married if the child is born out of such relationship so that the child do not suffer because of the steps taken by the parents.

The wide interpretation of the term "wife" which is discussed in the case of *Chanmuniya vs. Virendra Kumar Singh Kushwaha*³² by Justice G.S. Singhvi and Justice A.K. Ganguly should be made applicable in the cases of live-in-relationship which is as follows:

"A broad and expansive interpretation should be given to the term "wife" to include even those cases where a man and woman have been living together as husband and wife for a reasonable long period of time and strict proof of marriage should not be a pre-condition for maintenance under Sec 125 of the Cr. P.C. so as to fulfill the true spirit and essence of the beneficial provision of maintenance under Sec 125".

The recommendation of Justice Malimath Committee should be incorporated which says that definition of "Wife" under Section 125 of the Cr.P.C. should be amended and it should include female partner who are living with male partner for a long period as his wife while the first marriage of man is still subsisting. Same should be interpreted for female partner in live-in-relationship if female is unaware of married status of man.

It was suggested that the benefits awarded to live-in-relationships under the PWDVA should be extended to woman claiming maintenance under Sec 125 of the Cr. P.C as such an interpretation would be a just application of the principles enshrined on our Constitution.

For determining the rights of women in relationships in the nature of marriage given in PWDV Act 2005, the guidelines issued by the Court of South Africa should be incorporated in PWDV Act 2005. Those are as follows:

1. The commitments of the parties to the shared household;
2. The existence of a significant period of cohabitation;
3. The existence of financial and other dependency between the parties including significant mutual financial arrangements vis-à-vis the household ;
4. The existence of children of the relationship; and

5. The role of the partners in maintaining the household and the children.

Live-in-relationship in India still considered a taboo and not accepted by the majority of people and considered immoral but we can't ignore such relationship as it is rapidly growing in metro cities. Therefore there is an urgent and dire need to recognize such relationship through specific legislation defining the rights of spouse and children without hampering the institution of marriage.

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SMART CLASSROOM PEDAGOGICS: IN QUEST TO REALIZE THE FUTURE GOALS OF EDUCATION

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ABSTRACT

Education is the ultimate paragon that humanity possesses to meet the challenges of present and future. Indeed, the shape of the future world would pivot on the firm shoulders of education. The ever-growing demand of 'Education for All' with huge diversity of culture and socio-economic upliftment in India, calls for the 'Smart Classrooms Learning'. Smart classroom is like a field, where smart educators assist their students to nurture into smart learners by means of smart learning content and techniques. It is a need of the hour and a stipulation for the sustainable development of education. This paper discusses literature studies with relevance to the instructive pedagogies and the emerging perspectives of education. The paper explores the fragmented components which act as learning obstructions, and aims to propose a solution for the unification of these fragmented components of learning. The paper posits for a smart classroom pedagogics to realize the future goals of education.

Keywords: Education for All, Future Goals of Education, Learning Obstructions, Smart Classrooms, Smart Classroom Pedagogic, Sustainable Development of Education.

INTRODUCTION

Education leaves its imprint on the society, by providing mankind with the greater awareness, sensibility to newer concepts and inculcating the capability for envisioning and wisdom. The wisdom and insight are not just needed in research laboratories, but are necessary for

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every aspect of life. Knowledge, thus disseminated during the process of education, leads to the continuous skill development, suitable behavioral changes and quality life. Education is, certainly, not the complete answer to every challenge that we face. But, in a broader sense, it must be the source of our most effective participation in visualizing and creating new associations in every sphere of life. The success finally depends upon the yields of educated minds, which play an important role in problem solving.

Education is not only limited to what children learn in schools, but it also includes the informal mode of learning which develops at home and while interacting with society as a whole. Hence the instructive pedagogies of today and tomorrow should be such that, it helps in engaging learners to look for the learning opportunities in their each engagement and to make them fitter to take responsibility for their own knowledge construction. This genre of learner is considered as a 'smart learner' in modern education system.

HUMAN COGNITION AND LEARNING FRAMEWORKS

Education serves our society in numerous ways. The aim of education is to make people better informed and prudent to own the responsibility for their lifelong learning. Education would certainly not solve the entire world's problem automatically but if delivered effectively, it will surely guide us all to address the problems in hand. Scholars have developed theories of human cognition, did experiments and revised them time to time to help researchers and educators understand the vital ways in which people attain and cultivate new knowledge, abilities and understandings.

1.1. Bloom's Taxonomy & Its Revision (Cognitive Domain)

The Bloom's taxonomy of learning objectives developed in 1956 at the University of Chicago, by a team of cognitive psychologists, led by Benjamin Bloom (1913-1999), is a marvelous logical educational framework (Bloom B. S. *et al.*, 1956) that describes the classification of six different levels of human cognition: Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation (moving from *Lower order thinking skills* at the bottom to *Higher order thinking skills* at the top). Though, the original taxonomy was systematized into three spheres: Cognitive (intellectual Knowledge), Affective (Emotional Knowledge), and Psychomotor (Mechanical Knowledge).

The system not only provides a sequence of progressive contextualization of the material (Atherton J. S., 2013) for dealing with the topics included in the curriculum but also proposes methods of organizing different levels of learning, from beginning to the end. It was initially published as "*Taxonomy of Educational Objectives: The Classification of Educational Goals, Handbook 1: Cognitive Domain*". Gradually, the system got wide acceptance among the educators in the United States and all over the world.

The taxonomy was further revised in 2001, by another team of scholars, steered by Lorin Anderson and David Krathwohl. It was published as "*A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*". The revised system represented the educational objectives as verbs (Krathwohl D. R., 2002) in contrast with the

objectives depicted as nouns in the original Bloom's Taxonomy, with the notion of application versus theories. Each cognitive level ascertains what students can do to meet their objectives. The first four levels of educational objectives remained the same in terms of hierarchy and substance. "Knowledge" converted into "Remembering", "Comprehension" became "Understanding", "application" became "Applying", and "Analysis" became "Analyzing". Figure 1 below, shows the transformation of Bloom's original Taxonomy into the revised taxonomy.

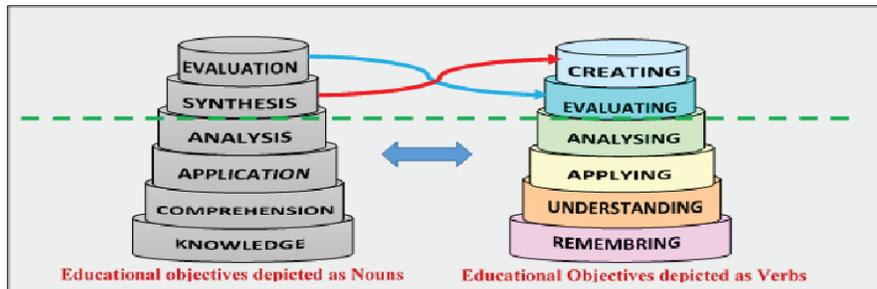


Figure 1: Bloom's Taxonomy and its Revision (Cognitive Domain)

The upper two objectives exchanged their places as well along with transfiguration from nouns to verbs. According to Bloom's Taxonomy, judgement (evaluation) should be done on the basis of synthesis of new functional structure, whereas its revised version advocates creating the new functional structure on the basis of evaluating the standards through testing and reviewing.

Even today, The Bloom's Taxonomy is most widely used method to define educational objectives (Munzenmaier C. *et al.*, 2013), but the methods in which different teachers understand and practice the taxonomy have always remain debatable (*Hidden Curriculum*, 2014). For some, the system is to be followed as a linear recommendation, starting from remembering to creating, while others may put the top level higher-order thinking first and foremost, and the rest levels can be achieved as byproducts.

1.2. Bloom's Digital Taxonomy: 21st Century Collaborative Learning

In 2007, Bloom's work was reformed one step forward, when Andrew Churches introduced Bloom's Digital Taxonomy. The Bloom's original Taxonomy and the revised taxonomy, both advocated that learning is a sequential process where Lower Order Thinking Skills (LOTS) are to be performed first before proceeding to Higher Order Thinking Skills (HOTS). Before a student can *understand* a fact or a concept, he must *remember* it first. And before applying the knowledge of that concept anywhere, he must have understood it first. Similarly, to *evaluate* a process the students are required to have *analyzed* it beforehand. Each educational objective is built on the successful completion of previous one.

The Digital Taxonomy supports teaching the content in context with the real life problems that facilitates students to become problem solvers (Munzenmaier C., 2013). This creative process breaks the sequence and logically incorporates the fundamental objectives of learning.

When a student take up the task of problem solving, all the elements of Bloom’s taxonomy find their places during the process. Here learning goes on while doing. Though a learner need to understand and apply the principles and concepts behind, analyze and evaluate the success of his design, the procedure and conception. However, he doesn’t need to start at LOTS and then build fragmented pieces of knowledge following the taxonomy towards HOTS. By providing students with a well-planned task and inspiring him to do, the lower order skills of remembering and understanding become integral in the course of learning. By challenging our students to be investigative, evaluative or innovative, they develop understanding by means of problem solving. The real knowledge thus gained, will remain with them forever.

The Digital Taxonomy provides a framework for students to move from Lower order thinking skills to Higher order thinking skills. Much of the content, what is taught becomes outdated after a span of few years, but the thinking skills learned by the students make them a lifelong learner. The Digital Taxonomy was designed on the same belief. This effort was done with an intention to marry Bloom’s cognitive levels to 21st-century digital skills (Churches A., 2009), which a student generally use while learning. The key to Bloom’s Digital Taxonomy is the association of ways to use Web 2.0 technologies (current online technology for greater user interactivity, collaboration and enhanced communication) at each cognitive level of Bloom’s revised taxonomy in order to accommodate didactics of today’s generation. Table 1 depicts the Bloom’s Digital Taxonomy and association of its learning objectives with the modern instructional tools & techniques; and digital activities which could be performed using these tools to achieve the respective objectives.

Table 1: Bloom’s Digital Taxonomy by Andrew Churches

	Educational Objective and its Description	Associated Techniques	Possible Digital Activities (within these Techniques)	A few examples of web 2.0 Tools
L O T S	REMEMBER-ING* Retrieving, recalling or recognizing knowledge using memory to produce definitions, facts and other material.	Word Processing, Mind Mapping, Presentations, Internet Browsing, E-mails & Social Networking, Personal web publishing & blogs, Search Engines.	Recognizing, Listing, Describing, Identifying, Retrieving, Naming, Locating, Finding, Bullet Pointing, Highlighting, Bookmarking, Social Networking, Searching,	Microsoft Word, Pages, Open Office, Flash Cards, Google Documents, Moodle, Hot Potatoes, PowerPoint, Mind Maps, Google, Yahoo, Excite, Metacrawler etc.
	UNDERSTAND-ING Construction of meaning from different type of textual and graphical content.	Word Processing, Graphic Organizers, Web Publishing, Desktop Publishing, Blog Journals, Audio & Video tools, Search Engines, Social Networking Sites, Blog readers, RSS aggregators	Interpreting, Inferring, Summarizing, classifying, paraphrasing, Comparing, Explaining, Exemplifying, Advanced Searches, Boolean Searches, Blog Journaling, Twittering, Categorizing and tagging, Commenting, Annotating, Subscribing.	Microsoft Word, Pages, Open Office, Google Docs, Mind Maps, audacity sound recorder, Google, Facebook, Delicious, Adobe acrobat Reader, Mail, Safari, Blogger, News aggregators.

	<p>APPLYING Applying learned knowledge and carry out procedures through products like models, presentations, Interviews, and Simulations</p>	<p>Illustration, Simulation, Sculpture or Demonstration, Animation & Screen capture, Presentation, Interview, Performance, Editing, shared document playing</p>	<p>Implementing, Carrying out, Using, Executing, Running, Loading, Playing, Operating, Hacking, Uploading, Sharing, Editing.</p>	<p>Corel, GIMP, Paint, Comic Life, Inkscape, Blender, Movie maker, Skype–Audio-video Conferencing, PowerPoint show, Google Presentations, Wiki editing, mmorpg’s online games</p>
	<p>ANALYZING Breaking down the material or concept into parts, determining their inter-relationships & relationship to the overall structure</p>	<p>Surveys and Processes, Database management, Relationships & Mind maps, Reports, Spreadsheets & data Processing, Checklists, Graphs and Charts</p>	<p>Comparing, Organizing, Deconstructing, Attributing, Outlining, Structuring, Integrating, Mashing, Linking, Reverse-engineering, Cracking, Media clipping, Mind mapping</p>	<p>Survey Monkey, Google Forms, Word Processing, Spreadsheet, Google earth, Google Maps, Fish bone mind maps, PMI, Venn, Word and Excel</p>
	<p>EVALUATING Making Judgements based on criteria and standards through checking and critiquing</p>	<p>Debate or Panel Discussion, Report or Evaluation, Investigation, Persuasive Speech, Critical Commenting, moderating, reviewing, posting, collaborating, networking</p>	<p>Checking, Hypothesizing, Critiquing, Experimenting, Judging, Testing, Detecting, Monitoring, Blog/Vlog commenting, Reviewing, Posting, Moderating, Collaborating, networking, Reflecting, Reflecting, Product (Alpha & Beta) testing, Validating.</p>	<p>Podcasting or vodcasting, mind maps, chatrooms, IM, video & phone conferencing collaboration tools like elluminate, blog entry, wiki entry, web page, Google Earth, Google maps, Flickr, sound recorder, discussion boards, bulletin Boards, chat rooms, messaging (text, audio, video), Twitter, Facebook.</p>
H O T S	<p>CREATING Putting the elements together to form a coherent or functional whole, reorganizing elements into a new pattern or structure through generating, planning or producing.</p>	<p>Media Production, Presentation, Story Creation, Programming, Planning, Blogging/vlogging, Modelling, Song making</p>	<p>Designing, Constructing, Planning, Inventing, Devising, Making, Programming, Filming, Animating, Blogging, Video blogging, Mixing, Remixing, wiki-ing, Publishing, Videocasting, Podcasting, Directing or Producing, Building or compiling Mashups</p>	<p>Movie maker, Adobe Premiere, iMovie, Powerpoint, Photostory, Google present, comic life, Visual studio.net, Lego Mindstorm, Scratch, Alice, Gantt project for Gantt charts and PERT charts, calendars and flowcharts, wordpress, Skype, Sketchup, Blender, Maya3D PLE, autocad, tinkercad, audacity.</p>

* Remembering may occur as a discrete activity like learning facts and figures, as well as consequences of higher order thinking skills

In Bloom’s Digital Taxonomy, collaboration is added as an active element. “Collaboration is not a 21st Century Skill, it is a 21st Century Essential” (Churches A., 2009). It does not mean that learning can’t occur in the absence of collaboration, but if it is done in collaboration with other people, it necessarily enhances the knowledge of all the learners involved. Digital

taxonomy possesses a room for collaboration in its numerous digital activities as an element as well as a device to achieve higher order thinking skills. 21st century students can be enabled with lifelong learning, if supplemented with the models of collaborative learning.

International Commission on Education for the 21st century also advocates collaboration as a principal element in all the four pillar of learning (“*Learning, the treasure...*”, 1996). The first pillar ‘*Learning to know*’ describes learning as a discovery and understanding of humankind, its existence and also let the learner experience the pleasure of knowing it. The second pillar, ‘*learning to do*’ deals with application of what learners have learnt leading to skill development. The third pillar ‘*learning to live together*’ deals with learning about diversity and similarity among the human races; and appreciating the same. The fourth pillar ‘*Learning to be*’ deals with the holistic development of the learner including his moral, cultural and intellectual realms; development of reasoning, critical thinking, creativity, innovation, sense of commitment and accountability.

COLLABORATIVE LEARNING

Collaborative learning help students to get engaged in the process of creative thinking by means of **sharing each other’s knowledge**. It reassures active student participation. All the students of collaborative learning environment get equal opportunity to contribute in the rise of their own as well as others’ knowledge (Chandra R., 2015). Teachers, though have vast knowledge about the content and appropriate delivery mechanism of their subjects, but sharing the personal experiences and learning approaches, students bring to the classroom add to their knowledge as well. Collaborative Learning helps not only in sharing knowledge but also in **sharing the skills and expertise** of others. They start learning that each individual is different and is versed well with different ability. This learning brings respect and understanding in their relationships. The teacher acts as a **facilitator** and guides them to connect the collected information with their experiences and hence make new learning. Cultural and socio-economic diversity also enrich knowledge during collaborative learning. Due to the **heterogeneity** in grouping of students, their diverse backgrounds, languages, cultures, perceptions and experiences, all the factors aid in the tremendous growth of their knowledge. Figure 2 illustrates the participants of a collaborative learning environment and the factors influencing learning.

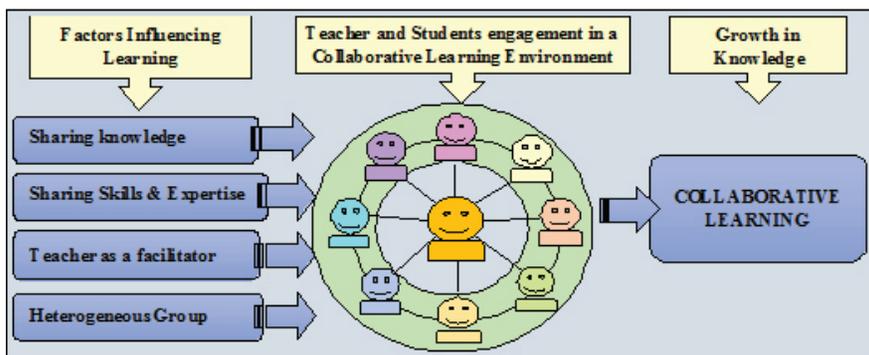
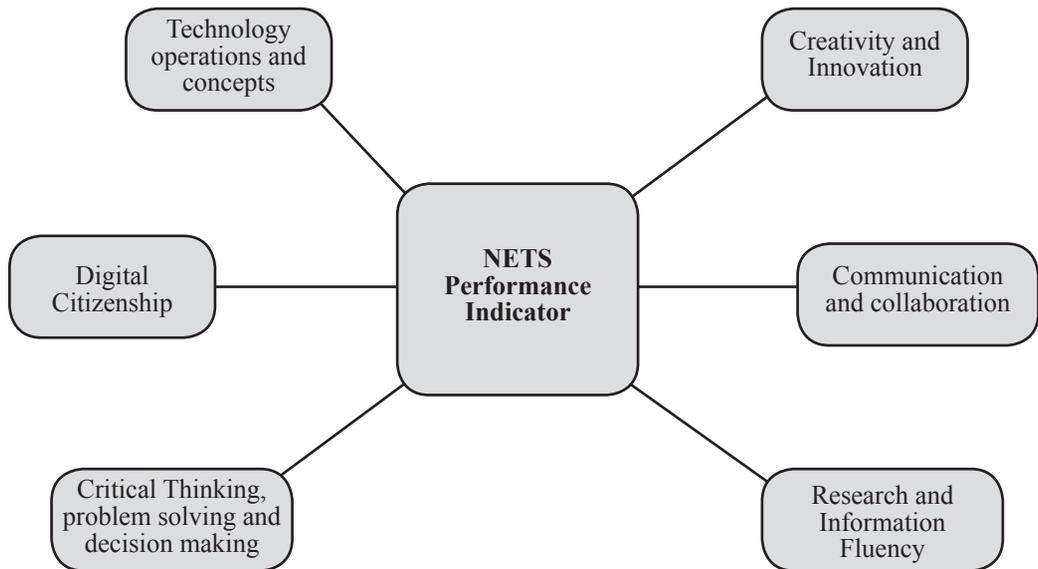


Figure 2: Collaborative Learning Environment

1.3. NETS for students – A guide to Technology Assisted Collaborative Learning

The International Society for Technology in Education (IETS) delineated the purpose of the use of technology in K-12 education to enable students to learn meritoriously and live efficiently in a progressive digital society by developing National Educational Technology Standards (NETS). IETS has developed, released and revised the educational technology standards for students, administrators and teachers. NETS provide the students with six NETS Performance Indicators (ISTE Standards for Students, 2007). Each Performance Indicator specifies the programme goals a student should be able to accomplish for gaining technological knowledge during a school year to meet NETS standards as depicted in Figure 3 below.



**Figure 3: NETS performance indicators for students
(Re-illustrated on the basis of ISTE Standard for Students)**

Programme goals of the 21st century learning can be met with the technologically assisted collaborative learning environment. This includes not only the technological support systems but the pedagogics of using this support system at the best as well. While considering the exposure of collaborative systems to students of today’s world, we must ensure that the students are suitably oriented to technology-enhanced learning and they are not just left floating in the deep oceans of technology, with no direction at all. Digital natives of today spend more hours in playing video games, talking on cell phones, and watching television and considerably less amount of time in reading books (Prensky M., 2001). So, the key is, to educate them in the way they are fashioned and engage them with their own tools used in the context of learning.

1.4. Smart Classroom Pedagogics – A Key to Meet 21st century Education Goals

Smart Classroom is a smart concept for Smart Educators to facilitate their students to become Smart Learners. A Smart Classroom embraces state-of-the-art technology for Smart Learning. This includes Smart Learning Environment, Smart Learning Systems, Smart Classroom Management Systems and Smart Learning Materials. The Smart Classrooms are the workspaces for smart creators and collaborative learners. These are the Classrooms that rejoice design and innovation. Smart learners sculpted in the Smart classrooms learn by doing, they learn to overcome challenges and collaborate with each other; and develop confidence within that they can solve problems on their own. This way, they learn to become competent problem solvers guided by their own experience and drive and don't need to be told the step ahead.

1.4.1. Tools of Smart Classrooms

Smart class is a class of modern age; hence the tools used are also modern. Wireless networks, whiteboards, internet, projector, laptops, i-pads and other multimedia devices are the essential parts of smart classrooms. Apart from this, educational institutions have also started to adopt the newer Smart Classroom tools to empower hands-on learning. These are the 3D printers, robotics kits for students of all age groups, microprocessors, wearable computers, multimedia-enabled smart learning materials and new programming languages. These new tools give students the power to innovate and transform them from passive receivers of knowledge to real-life creators and reform the whole education system.

1.4.2. Smart Classrooms - Enablers of Collaborative Learning

The Smart Classrooms are on the way of becoming enablers of collaborative learning. Bloom's Digital Taxonomy also advocates collaboration in 21st century learning for improvised results and holistic development of the student. Smart classes should be the one which can provide the learner with interactive learning contents, just one click away. The one which could enable the students with constructive learning tools for all type of the educational activities, including one-to-one learning, group based learning, problem based learning, collaborative learning, mobile learning, facilitating learning through social and content interactions, using personal electronic devices, and virtual learning. Interaction with the peers during almost each type of learning approach is rooted deep in technology based instruction, which makes the Smart Classroom, an enabler of collaborative learning (Stephen S. Yau, 2003). The Smart Classroom being student-centred makes learner an active learner. The Smart Classroom should have the facility to accumulate, collect, calculate, and investigate the enormous data of learners so as to further improvise upon the pedagogical judgements. The smart classroom should be a wide-open learning environment that can stimulate students' enthusiasm for learning, engross students with innovation and collaboration, and give them practical learning experiences to make them authentic lifelong learners. Table 2 presents the features of Smart classroom of 21st century in contrast with the traditional classrooms.

Table 2: Smart Classrooms vs Traditional Classrooms

Features	Smart Classrooms	Traditional Classrooms
Infrastructure	Information Technology Infrastructure including smart learning equipment, sensors and wireless networks	Blackboard and chalk Teaching
Technology usage	Using Technology for teaching and learning	Teaching lessons on Technology
Spatial Design	Wide-open to accommodate students' Tablet, PCs and other digital learning resources, and facilitating movement for interaction	Table and chairs arranged in rows and columns accommodating school bags and books
Flexibility	Flexible enough to convert classroom into a theatre at one point of time and a research laboratory at another	A closed environment designed for teacher's monologue allowing no students' movement
Learning Material	Multimedia-enabled, interactive, digital learning material available just a click away	Available in form of text books and lecture notes
Type of Assignments	Constructive in form, helping students to gain experience and learn on their own	Subjective in form, asking students to cram the facts and figures to reproduce in exams
Teacher	Facilitator of learning, a mentor and a guide	Main source of Information
Teaching Methodology	Student-centred	Teacher-directed
Equality	Equality in opportunity for all students to learn	Survival of the fittest
Cooperation	Contribute to others' knowledge as well	Self-focused students, no cooperation
Response System	Electronic student response system, all students can respond together	Students respond one by one to the teacher
Type of Learner	Cognitive Learner, Self-confident, experimental and problem solver	Learning to score marks in exams, needs guidance at every step to move further
Type of Learning	Self-paced, practical, knowledge oriented, collaborative, project based	Theoretical, Result-oriented, Non-collaborative
Take Home	Higher order thinking skills, sense of responsibility and Lifelong learning attitude	Lower order thinking skills, academic grades

1.4.3. Role of a Smart Classroom Teacher

The role of Smart Classroom teachers is that of a facilitator of learning, a mentor and a guide. The classroom technology assists teachers in meeting with their day to day classroom challenges and enhancing students' knowledge and skills. Teachers are aided with instant access to interactive multimedia content and instruction materials mapped with the course of study. The Smart Technology also enables them to instantly assess and evaluate students' assignments and subsequent learning. The teachers are now on the way to ensure that every child in the class learns by means of his preferred learning style and pace. This helps in maintaining student's interest and involvement in learning. The teacher in the Smart Classroom helps and guide the students to understand the critical concepts through the facility of 3-Dimensional, interactive multi-media learning modules. The students thus learn by doing and active engagement.

1.4.4. General issues in Smart Classroom Learning and Proposed Solutions

The whole scenario of Smart Learning seems splendid, being equipped with endless possibilities for realizing the future goals of education, when the Smart Classroom features, tools, productive pedagogics and role of teacher as facilitator of learning are observed in the light of ideal management. But, in the real scenario, there is no system, which is infallible. Smart teachers and learners also face obstructions in teaching and learning (Guang Chen, 2015) and there is a need to regularly update the system according to the ever-growing demands. A few of these general issues and possible solutions are outlined below:

Cost Support System

The Smart Classroom tools and technology equipment are costly. It is challenging for an institution to purchase all the required equipment for setting up Smart Classrooms. There is an initial cost of purchasing and installing instructional technology, which institutions still bear to showcase themselves for the marketing of institution. But, the ongoing cost of maintenance, updation and repair of equipment also needs to be considered to keep the system running.

Access to All

The future goal of education can only be met if equal opportunities of education are provided to all. But, underprivileged educational institutions do not have access to technology and hence students of these institutions lag behind. Even if the basic infrastructure is provided in these institutions, students do not have access to it in an applicable manner. This huge split between different types of educational institutions needs attention and a way out. Only then, the aim of "*Education for all*" would be achieved.

Distraction

The ocean of technology and internet is so vast and deep, that it may distract the students leading them nowhere, however keep them engrossed in the gleaming networked information. Here the role of teachers as a facilitator arises. The students when provided with bundle of technology need to be guided properly on how to proceed to achieve their goals without getting distracted. A teacher can make students learn a lesson in a day, but if they are taught how to learn, they will become self-guided learners for the rest of their lives.

Lack of Teachers' Trainings

While technology can be a wonderful teaching tool, it is only fruitful, when teachers are made expert in using them in their classrooms. But, teachers often lack sufficient trainings on how to use technology proficiently in the classroom which often results in minimal use of available technology and hence waste of resources. The process of training teachers for technology integration must be initiated at the pre-service level and must be made mandatory to learn. Apart from this, their knowledge should be updated time to time, with the introduction of newer technologies by means of professional development programmes.

1.4.5. Structural Design Issues in Smart Classroom Learning and Proposed Solution

Along with the general issues of cost, access, distraction and trainings, the educational structure itself face design problems, as the components of learning in school and after school are often found fragmented and move in succession as separate entities, without supporting each other. Figure 4 illustrates the fragmented components of learning, which often lead to infuriating experiences and poor learning outcomes. The students, when dissatisfied with learning at school, invest in after-school supplementary digital products and personal tutoring methods, leading to monetary wastage due to duplication in teaching and further add to frustration.

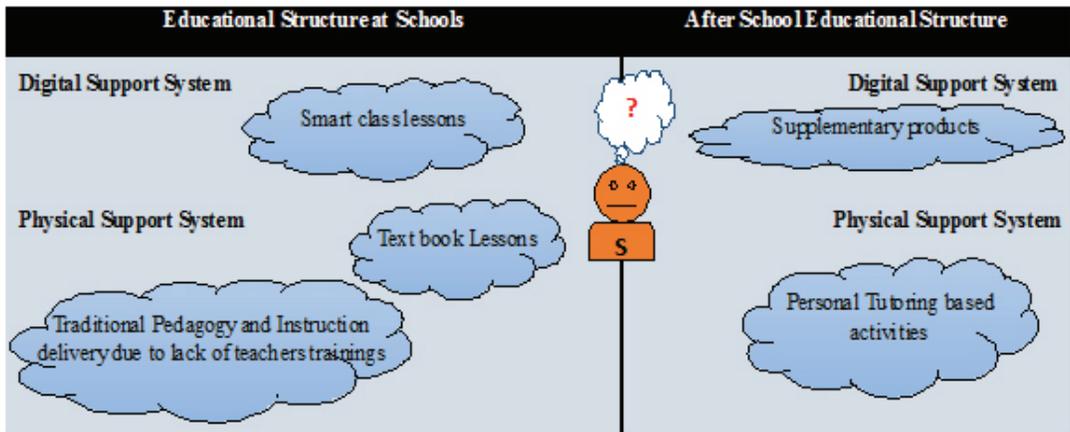


Figure 4: Fragmented components of learning

At schools, along with the Smart Class lessons, students are also asked to learn from text books, which are published in traditional ways and there is no direct association planned with the Smart Class lessons. Content of the textbooks is generally not updated time to time and related. Even the pedagogy of instruction used in classes by so called Smart Classrooms, is actually traditional in form. The reason behind this is the lack of teachers' trainings to use technology aptly in the classroom. Pedagogy and teachers trainings initiatives are usually not customized to their teaching capacity. Most Smart-Class technologies have become a marketing tool for improving student enrollments rather than for improving learning outcomes. Similarly, after-school tutoring and supplementary digital methods were opted by students to add on to

their learning. But, due to the fragmentation in learning components, schools have not been able to provide students with customized education. This has given rise to after-school tutoring systems as parallel learning systems, which doubles the education cost and overload students with assignments resulting in frustration rather than learning. Now the point of concern is, how to find a solution of this **problem**?

The **solution** lies in the unification of these fragmented components of learning. To make the Smart Schools function really smart, they need to have potential enough to tailor their learning resources as per the preference and need of the learner. The whole system has to be student centered, working in quest of his ultimate satisfaction with his learning resulting in his holistic development. Figure 5 illustrates the proposed unification of smart learning components.

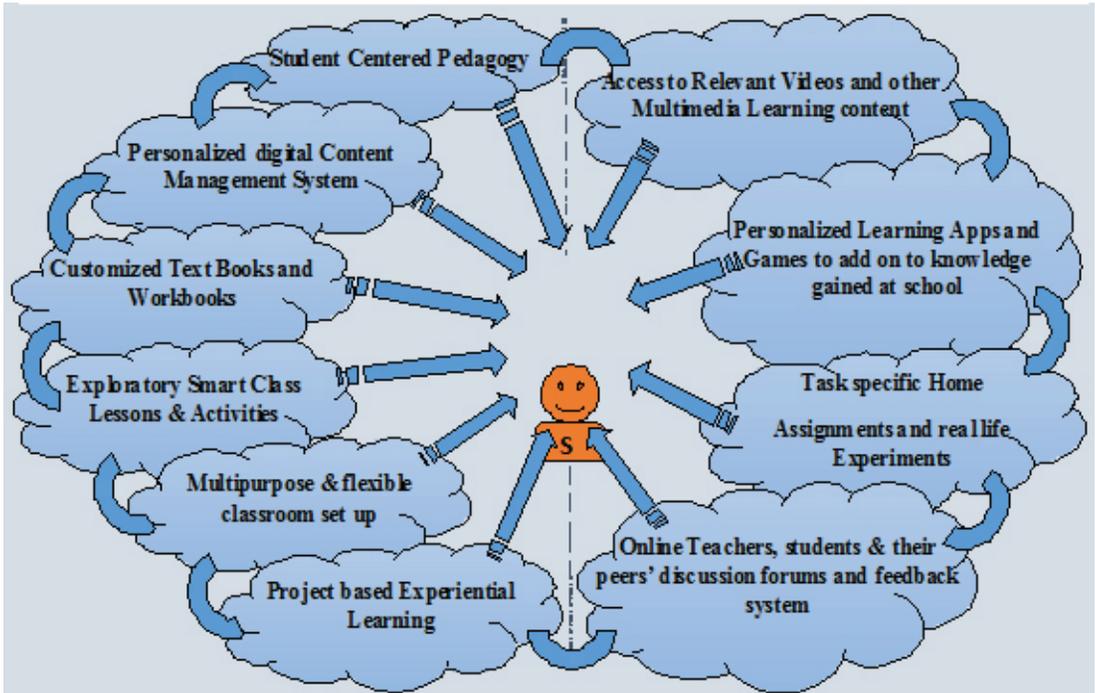


Figure 5: Proposed unification of smart learning components

Student-centered Pedagogy

No two students are exactly the same, but are expected to learn the same content in a teacher-directed manner. It is important to understand that each student has a natural inclination towards learning of some kind which is known as his/her preferred learning style. Identification of preferred learning styles of students can be done through assessments at school by teachers and by using standardized learning style assessment tools (Hawk T. F. *et al.*, 2007). It implies that if learning styles can be identified, student- centered teaching and learning experiences can be provided to help them effectively.

Personalized digital content management system

Digital content management system in the Smart Classes can be made personalized by giving open access to problem based open learning environments (Waseem M. *et al.*, 2014), connecting students to worldwide available learning content, subject-matter experts and mentors. Learning activities designed for all types of learners can also be made available for a specific concept at hand. This way, all students will be able to actively participate in learning process matched up to their own pace and preferred learning style already identified.

Customized Textbooks and Workbooks

The latest approach of customized textbooks and workbooks appears commendable, if designed in a close association with digital versions of instructional content delivered to students. The idea is, to tailor them in accordance with multiple pedagogical approaches and personalized trajectories (Allen C. Schulz, 2013) to match with different cognitive abilities, aptitudes, learning pace and retention level of the students in order to create personalized instructional path.

Exploratory Smart Class Lessons & Activities

Interactive multimedia based Smart Class lessons and their contiguous activities designed in exploratory form, will surely increase students' enthusiasm for learning. The multimodality of multimedia helps increase the comprehension and retention levels of students. The increased use of multimedia in teaching provide many opportunities to present multiple representations of content in form of multi-sensory interactive elements to cater more effectively to the different learning styles (Sankey M. *et al.*, 2010) of an increasingly diverse student body.

Multipurpose and Flexible classroom setup

A multipurpose and flexible classroom is a mandate to a Smart Teacher's aptitude to adapt to students' diverse learning needs. The classroom design must permit for a variety of learning environments and grouping formats catering to all type of learners, increasing student populations and varying new subjects. It must also allow students-teacher interactions and collaborative work, which are the vitals of 21st century learning (Hanover Research, 2011).

Project based Experiential Learning

Project-based active learning is one of its own kind where the instructor actually flip the classroom and the learning takes place outside the classroom by means of gaining experience while doing (Ramos P. H. *et al.*, 2009). Not only the content knowledge is expanded significantly by this method, it helps in the rise of Higher Order Thinking Skills as well. The smart classroom projects are even more smarter and the essence of technology assistance make the students enquire more, explore more and attempt multiple times, before they actually reach to the results and create. Take home is a lifetime experience of self-controlled learning.

After- School Educational Structure

The methodologies of learning which a student adapt after reaching home from school also play very important role in his academic growth. The Smart Classroom learning, if extends its help to the student even at home in a unified manner, attract him to progress with his studies by

using personalized learning Apps and games to augment his knowledge gained at school, by accessing relevant videos and other multimedia learning content which stimulates his learning further, doing real life experiments based home assignments and interacting with teachers and his peers through online discussion forums and feedback systems. This way, no student will lead to frustration and ever try to find alternative after-school tutoring systems.

CONCLUSION

Smart Classroom pedagogics proposes the greater buoyancies of personalized and experiential learning, which is certainly a key to achieve the futuristic goals of education. When a learner starts learning, nothing can stop the process ever. But, it is also important to remember that even if the Smart Class system is equipped with world-class technological infrastructure like projectors, whiteboards, wireless networks, sensors, computers and i-pads; its successful implementation lies in the apt usage of technology by humans, be it teachers or students. Hence, the duty of Smart Teachers and Smart Students is to make the classroom 'Smart', not only by means of nouns (Smart Classroom tools) but also by means of verbs (exploring, collaborating, constructing, debating, annotating, analyzing and designing using the available infrastructure). Unless a **verb** is added to the **noun**, it remains a non-working entity. A similar approach was also advocated by revised Digital Bloom's Taxonomies, where **nouns** were replaced by the **verbs** to make learning a lifetime experience.

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BANGLA-ORIYA LANGUAGE DEBATE AND THE LANGUAGE-SECURITY MOVEMENT IN COLONIAL ORISSA

Sarangadhara Hota*

ABSTRACT

The paper analyses how Bangla was in usage in schools and colleges of Oriya speaking areas, even after the British government's decision to use vernacular languages and English in educational institutions. Further, it investigates the major personalities, both natives and the British, involved in the movement—either to save Oriya as a separate language or to replace it by Bangla. Among the important personalities and their efforts under our analysis are: T. E. Ravenshaw (the then Commissioner of Orissa), John Beames, Gourishankar Ray, Rajendralal Mitra, Kantichandra Bhattacharjee, Fakir Mohan Senapati, Madhusudan Das and Madhusudan Rao. This paper further explores the dominance of Bangla over Oriya language and its consequences. It will examine the growth of Oriya-consciousness among the natives resulting into “Oriya Language-Security Movement.” Subsequently, the victory of the Oriya language led to the formation of separate province of Orissa.

Keywords: Bangla, Fakir Mohan Senapati, John Beames, Oriya Language-Security Movement, Vernacular.

INTRODUCTION

“Bengali and Oriya are like overgrown children always returning to suck their mother’s breast when they ought to be supporting themselves on other food.”

– John Beames, District Collector, Balasore

Bengali and Oriya both the languages have higher dependencies on the classical parent language of Sanskrit. Though Oriya was rich in ancient literature long before the Bangla emerged as an independent language, the latter was dominant over the earlier during the British colonial

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period until the unification of Orissa in 1936. Old Oriya literature held barely some place in the modern system of education, and Oriya language had no place in the colonial governance both in the offices as well as in the court of law. The modern Orissa then was scattered under three different provinces and the costal districts were under Bengal Province. Hence, like the other two parts where Hindi and Telugu were dominant, in the costal part of Orissa, Bangla was in use in the offices as well as the courts and was also the medium of instructions in educational institutions. Bangla was quite the prevalent language in modern textbooks and most of the offices had Bengali officials in the higher positions during the colonial administration. Bengali people also had contact with the English population and administrators much earlier than the Oriya people had a chance to as the centre of the East India Company being the city of Calcutta, which was also the capital city of Bengal province itself. Bengali *bhadraloks* were better educated and those who could not get a job in Bengal sought job even in Orissa (the part under the Bengal Province). Bengali employees were dominating in almost every office and every educational institution in Orissa and hence use of the Bengali language throughout was natural.

Bengali Indologist Rajendralal Mitra, without knowing and researching on the exact numbers of Oriya people over the vast Oriya-speaking geographical area, opined that the Oriya speaking population was only twenty thousand and argued that, Oriya is a dialect of Bangla and for this limited number of people there should not be a separate official language but they should learn Bangla. But he must not had the idea of the Oriya population under the other two provinces and under *garjaats*, which was almost 30000 during the period of time on discussion. Few official speeches of Mitra himself gives clear instances of proof which put him to admit his ignorance regarding the population and the enriched classical Oriya literature available and followed by many Bengali intellectuals for religious knowledge and researches. In addition to this, the educated mass on government jobs or seeking government jobs in Orissa supported the argument for their personal benefit. But few Bengali personalities such as Gouri Shankar Ray thought themselves as the natives of Orissa and supported the *Oriya Language Security Movement* and defended Oriya.

Both Oriya and Bangla originate from the parent classical language—Sanskrit.¹ Scholars then claimed that Oriya was a well settled language long before Bangla has a unique identity.² Sir John Beames writes on Oriya language and literature:

*“Looked at from the purely linguistic side, there is no doubt that Oriya has ample proof of its individuality. ... It retains unchanged forms which are older than the oldest Bengali or Hindi and others which can only be compared with Bengali forms of three centuries ago, but which long since have died out of that language.”*³

To show that until the nineteenth century Bengali did not acquire a definite shape, Beames writes:

“Finally with regard to Bengali itself there is much difficulty in making any accurate statement. The crowd of dialectic forms which occurs on all sides is absolutely bewildering ... Even in Calcutta till quite recent times, people spoke in twenty different ways and no one was sure which was correct way.”

John Beames ⁴

But the modern system of education put Oriya behind Bangla due to the use of modern textbooks which were not available in Oriya while their number in Bangla was abundant. The textbooks were plenty in Bangla either in the original writings or the translation of the modern subjects were incorporated in the school curricula. Bangla was totally dominating over Oriya during the second half of the nineteenth century in educational institutions. No attempts were made for the educational development in Orissa even after six decades of the occupation of Orissa by the colonial government. Hence when steps were taken for the development of education in Orissa, there was the need of the school textbooks and the trained teachers. Since both, textbooks and the teachers were in scarcity in Orissa; hence the Bangla texts and the educated Bengalis who were unemployed in Bengal were deployed. Against the few educated among Oriya population, the Bengali job holders in Orissa was very high. Bengalis were appointed not only in educational institutions but in each and every government offices. The educated Bengali people imposed their superiority over the Oriya people only due to the use of Bangla as official language and presence of huge number of Bengali officials all over Orissa. One of the most important supporting factors was the support of the Bengali landlords holding huge amount of land and collecting revenue were in support of the Bengali officials in Orissa as they wanted to use them for the judicial purposes to increase their land and revenue.

In the year 1870 publication of the small book entitled *Oriya Ekti Bhasa Naye* which means “*Oriya is not a language*” by one Kantilal Bhattacharya, a teacher of Balasore Zilla School was just the reflection of the privileged Bangla-speaking proto-Middle class. Uma Charan Haldar, the Deputy Inspector of School also advocated the use of Bangla in schools giving the reason of scarcity of textbooks in Oriya.⁵ Bengali Indologist Rajendralal Mitra supported this and delivered speech at Cuttack to use Bangla in Orissa instead of using Oriya for overall development of the state. Adoption of Bangali as the official language was in the interest of Utkal, Rajendralal Mitra, argued in his lecture in Cuttack in 1865.⁶ He even goes to the extent of proving that Oriya is not accepted by the natives of Orissa and which can be seen from his speech in Asiatic Society in favour of Kanti Chandra Bhattacharjya’s book and against Beames’s essay.⁷ The speech goes like this:

“... I prepared a map of India in Bengali and it brought me a profit within one year of over six thousand rupees. The same map was subsequently translated into Uriya, but even the School Book Society could not venture to undertake it on their own account and the Government at last had to advance, I think, some two or three thousand rupees to help the publication. The map, however fell still-born from the press and almost the whole edition is, I believe, now rotting in the godown of its publisher; Let but the Government introduce the Bengali language in the schools of Orissa, and the Uriyas, instead of seeking grants-in-aid from Government and private individuals for occasionally bringing out solitary new books, will have the whole of our Bengali publications at their disposal without any cost...”

Again, the report of 1864-65 by Harrison, Inspector of the Department of Education mentions that Deputy Inspector of Cuttack Department of Education Umacharan Haldar had proposed to replace Oriya with Bangla in schools of Orissa. (*General Report on the Public Instruction in the Lower Provinces of Bengal Presidency 1864-65, p-250*)

British government implemented the use of vernacular languages in educational institutions

but still Bangla was used in the schools of Orissa. Oriya was a subject in the schools and used as the medium of instruction in the primary and secondary schools of Orissa was also tried to be banned. The linguistic issue had certain social and economic overtones. The Oriyas were being looked down upon by the Bengalis in Orissa, Fakir Mohan Senapati (1843-1918) complained in his autobiography.⁸ Gangadhar Meher (1862-1924), a great poet, described non-Oriya officials working in Orissa, as foreigners, who ‘surround’ the king, ‘misinterpret our words’, eat up our ‘food and water’ and ‘kick us at our head’. This gradually took the shape of language debate when it was demanded that Oriya should be taught and should be the medium of instructions in schools, and the official language of Orissa should be the spoken language Oriya instead of Bangla. A group of Oriya officials held meetings and wrote a petition to the Government against the probable abolition of Oriya from schools.⁹ A group of people went in favour of the use of Oriya as an official language and another against it supporting the use of Bangla.

To save Oriya from linguistic and to keep it as a language and as official and educational language, voices from the educated people and natives from the Oriya speaking area began to rise. The language debate and the language security movement in Orissa picked up steam. The intellectual fight to keep Oriya language survive as a separate language turned into an intellectual mass movement in Orissa and Bengal. The movement named as the *Oriya Language Security Movement* was quite influential. The activities included literary writings, writings in the Press, sending of petitions and appeals and holding of meetings on issues related to public matters. There were two categories of people on the language debate: one in support and another in opposition.

J.G. Medlicott, the Inspector of Education suggested the use of Oriya language education among the lower classes in the higher schools in Orissa. It was because he marked that due to lack of sufficient textbooks all the students were opting Oriya as second language and almost everyone was succeeding in the examination. Further he added that it was mischievous to consider Oriya as a chief subject in the University education. He was supported by W.S. Atkinson, the then Director of the Department of Education who wrote to the Bengal government to omit Oriya from the entrance test of University education. R.N. Shore, the then Commissioner of Orissa strongly opposed the proposal and wrote to the government of Bengal:

“...the students from Orissa shall be subjected to the disadvantage of being required to pass in two foreign languages while all other candidates are examined only in one... The proposal will, however, if carried out, have one tangible effect, viz., to close the university to all but the sons of Bengali parents. I trust His Honour the Lieutenant-Governor will not permit such a blow to be struck at the cause of education in this province.”

The beginning of *Oriya Language Security Movement* sprouted on the fourth of January 1868 when the first Oriya newspaper *Utkala Dipika*, edited by legendary Gouri Shankar Ray severely criticised the proposal of abolishing Oriya language from the schools of Orissa. The newspaper stated that this decision was crushing the hope of the improvement of Orissa. Further, “...it gives the ironical statement that government is wasting money for the vernacular education and vernacular languages but it is pathetic that the officers in the education

department are trying to abolish Oriya.” It was the day when the topic of the use of Oriya in University education was taken seriously by the natives of Orissa. On 13th April 1868, T.E. Ravenshaw declared in the Cuttack high school Annual Meeting that there is no use of Bangla in the schools of Orissa. But his report was slightly different: “... exclusively in favour of establishing Uriya as the recognised of all schools of Orissa, and leaving Bengali as an extra language if preferred to be taken up in addition to Uriya, but suppression of it.” (*General Report on the Public Instruction in the Lower Provinces of Bengal Presidency, 1869-70, p.63*).

In 1868, in a session at the Cuttack debating club Rajendralal Mitra emphasised in a speech that Oriya people are doing harm to themselves in loving Oriya and trying to make it a separate language. He spoke: “.... the injury which was being inflicted on the Uriya race by their attachment to provincial patios, which they wish to exalt into a distinct language.”¹⁰

One can discern the continuation of the dominance of Bangla over Oriya from the fourth paragraph of the Annual Report on education system of Cuttack High School in 1871-72 by T.E. Ravenshaw the then Commissioner to the Bengal government. To quote: “There has been very satisfactory increase in the number of Ooriya lads under instruction. The only objection I have to make is that too much attention is paid to Bengali and too little to the vernacular, Ooriya, I should be glad to see Bengali teaching prohibited in Orissa schools”.

With the rising language-debate, there arose a sub-national consciousness among the natives of Orissa and it led to the unification and formation of a separate province of Orissa in 1936. This brought to the end the language dominance of Bengali over Oriya. Oriya people renewed their unique identity with the meticulous work of the group of people who led the Oriya Language Security Movement.

ENDNOTES

1. See *Modern Aryan Languages of India*
2. See John Beames's *Modern Aryan Languages of India*, W.W. Hunter's *Orissa* and B.C. Majumdar's *Typical Selections From Oriya Literature*
3. *Odia Sahityara Adiparba*, p. 15
4. See John Beames' *Comparative Grammar of Indo-Aryan Languages Vol. I*. p. 106.
5. See John Beames and Orissa pp. 75-78; Pabitra Mohan Barik's "A Movement for Restoration of Oriya Language"
6. See Surendra Mohanty, 'Odiya Sahityara Andhakar Yug', in 'Dagara'. 16 No, 1. Also, N.N. Mishra, *Adhunik Odiya Kabyadhara*, Cuttack, 1990, pp. 63.
7. Beames essay supported the use of Oriya language in Orissa.
8. Fakir Mohan Senapati, *Atmajivana Charita*, Cuttack, 1991, (Reprint) p. 45.
9. See Fakir Mohan Granthavali, Part II, Cuttack, 1963, p. 55.
10. See Beames(1870),p. 201 and *Utkala Dipika*, 13 March 1869.

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EXPLORING MULTICULTURALISM IN POST- INDEPENDENCE FICTION IN ENGLISH: A STUDY OF SELECT NOVELS

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ABSTRACT

Multiculturalism helps to subvert the dominance of one culture over the others and protects the idea of equality of opportunity and rights of minority cultures. The paper is an attempt to apply the principles of multiculturalism to a few selected novels in English written in post-independent India. The paper shows the manifestation or the debunking of multicultural principles in many of these novels. Anita Desai's "Baumgartner's Bombay", "Bye Bye Blackbird", "Journey to Ithaca"; Nayantara Sahgal's novel, "Rich Like Us", "Mistaken Identity"; Vikram Seth's "A Suitable Boy"; Kiran Desai's "The Inheritance of Loss"; Arvind Adiga's "The White Tiger"; Rohinton Mistry's "A Fine Balance" and V.S. Naipaul's "Magic Seeds" have been reviewed to discern the expression of the principle of democratic multiculturalism.

Keywords: Anti-colonialism, eastern and western culture, minority culture, monoculturalism, principles of democratic multiculturalism.

INTRODUCTION

Many people have the idea of monoculturalism firmly riveted on their minds. Multiculturalism challenges a monocultural society; hence it celebrates above everything, cultural pluralism. One of the primary aims of human beings is to develop a healthy human society. Such a society should be characterized by co-operation, tolerance, respect and love. The creation of such a society is only possible when numerous cultures and sub-cultures co-exist together. The only way by which we can preserve diversity of cultures is by recognizing different cultures, not to speak of representing those cultures in the public arena. We can only

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conceive of an integral and truthful society by the preservation of different cultures. As a principle, multiculturalism is vehemently opposed to cultural hegemony of any group that has within its purview the promotion of its own cultural group. So, multiculturalism appreciates the diversity of culture and respects the notion of multiple identities in the same society.

Minority cultures have always been at the receiving end, on account of the self-assumed superiority of the members of the majority culture. Minority cultures have been suffering for reasons more than one: social injustice, exclusion, marginalization, dispossession, dislocation and social discrimination.

The followers of the principles of multiculturalism, both in theory and in practice, recognize the sufferings of the members of the minority culture as a fact and hence they respect minority cultures. Multiculturalism explores the different ways by which it can break down inter-ethnic, inter-racial discriminatory attitudes and the cultural jealousies among different groups. By doing so, multiculturalism advocates social harmony and mutual acceptance of all cultures. In this paper, an attempt has been made to look at multiculturalism from sociological perspectives.

Multiculturalism has been adopted in the policy decisions made in countries like Canada, Australia and U.K. As an official policy, multiculturalism succeeds to create socio-cultural harmony, mutual tolerance and respect among different cultures. It is the process of appreciating cultural diversity and enabling the visible minorities in attaining equality and social justice. Many people have acknowledged the bearing of multiculturalism on other areas of knowledge. Judith Squares underscores the relevance of multiculturalism for political theorists, for social theorists, sociologists, political scientists and educationists.

Multiculturalism is related to various disciplines. It preaches and practices the harmonious co-existence of multiple cultures and sub-cultures. It recognizes the value of tolerance. It gives equal respect and value to all cultures and does not discriminate between members of majority culture and those of minority cultures. Its diversity is evident on the cultural, religious and ethnic plane. It supports the cultural liberty of all the members of the society. It not only recognizes minority cultures but also recognizes differences between them. It believes in the equality of the members of different cultural groups and grants equal opportunity to them. Its principal goal is socio-cultural harmony. It is ever conscious of the special rights, privileges and exemptions for minority cultures. It stands for social heterogeneity and diversity.

The manifestations of multiculturalism abroad and how they affect Indian immigrants are two ideas explored here with reference to Anita Desai's *Bye Bye Blackbird*. The Indian immigrants' problem of acculturation is an important theme of the novel. In the process of acculturation, there is a continuous dominance of the Occidental culture over the Oriental. That dominance leads to social disharmony, cultural shocks, unrest and friction. Desai presents blackbirds (Indian Immigrants) as marginalized, dislocated, rejected and unwanted foreigners staying in an alien land. The feelings of alienation, emptiness and bareness perturb the immigrants. Throughout the novel, *Bye Bye Blackbird*, we see continuous shifts of ideas in the minds of different characters. Thus the analysis of the novel brings to focus Adit's fascination for and disregard to Occidental culture, Dev's disregard to Occidental culture, Europe's racial discrimination, cultural intolerance, problems of interracial marriage, identity crisis, social

ostracization, marginalization, cultural rootlessness, socio-cultural conflicts, acceptance, rejection, adjustment and oscillation between Oriental and Occidental culture.

There are instances through which Desai underscores the greatness of multiculturalism, which is essentially Indian. Yet she has no illusory belief that the fabric of Indian multiculturalism is strong. Rather, she seems to assert that multiculturalism is possible only when the parties involved have the readiness to forget and forgive. She also seems to believe that multiculturalism can be maintained only with difficulty. The picture of India outside is rosy and romantic, but it is not really so. Desai makes Adit say it for the knowledge of Sarah who is going with him to India with much hope:

...that romantic India in which all flowers were perfumed, all homes harmonious and every day a festival. She's not going to live in a maharaja's palace, you know. She's going to live in a family of in-laws, a very big one, and learn their language and habits.

(Bye Bye Blackbird 213)

The family she is going to is a microcosm of the culturally diverse India. It is large, there are people with conventional and modern viewpoints and there are also chances of friction. Yet such large families still survive; they show how this difficult balance of diversity/differences is maintained. Like these families, India too has maintained the balance of cultures, religions, sects, beliefs and opinions although it has been occasionally made upset by intolerant groups. Shedding of ego, adjustment to unknown set-ups and respecting others' sentiments are the essential factors that have contributed to the continued existence of multiculturalism in India.

Anita Desai's *Baumgartner's Bombay* is a remarkable fiction which deviates entirely from the traditional art of fiction-writing. In fact, this novel begins where its story ends. It is totally based on the working of memories and the stream-of-consciousness. "Accepting but not accepted" is the story of Hugo Baumgartner's life. It is the psychic process around which the entire plot-structure of the novel rotates. Spending his childhood in Berlin and having strained relations with his parents, Hugo visits Venice, Calcutta and then Bombay in connection with his business as a timber merchant.

As a Jew wandering throughout his life, Hugo undergoes social, racial and political pangs. In Germany, he lives with his mother, but his life is not fully contented. Even his mother, like his own anxiety in India, creates in him something to realize the deformity in his physique:

Even if he had used hair-dye and boot polish, what could he have done about his eyes? It was not that they were blue—far from it; his mother, holding him on her knee and clapping game, had called them dark eyes, 'dunkle Augen', but Indians did not seem to think them so. Their faces sneered 'firangi' foreigner, however, lacking in malice. ... Accepting but not accepted; that was the story of his life, the one thread that ran through it all. In Germany he had been dark—his darkness had marked him the Jew, der Jude. In India, he was fair—and that marked him the firangi. In both lands, the unacceptable.

(Baumgartner's Bombay 1).

After spending his early childhood in Germany, he comes to Venice and then to Calcutta in connection with his business of furniture. As he lands in India, he distinguishes between the

East and the West. In India, he arrives at Calcutta in search of his identity. Here he stays in a hotel on the Middleton Row that looks like a substantial villa. He has seen in Calcutta certain unavoidable possibilities for the tropical disease of Malaria. However, he feels satisfied here and intends to make India his permanent abode. He thinks of bringing his mother to India. He confirms the validity of his belongingness. He thinks that he would have to make her accept India as her home. It was becoming clear to him that “this was the only possibility, there was no other” (*Baumgartner’s Bombay* 10). Thus, Baumgartner, instead of thinking of his motherland Germany, he thinks of his mother incessantly.

In the meantime, the outbreak of war between England and Germany haunts him deeply. In another episode he was caught as a German native and was put in an internment camp in the hill regions of Himalayas. He is, thus, torn between his identity as a German and his future belongingness. Here we see the conflict between the two cultures acting on his personality. He is shocked enough to know that “some of the prisoners had not only a past but a future too outside and beyond the camp” (*Baumgartner’s Bombay* 11). In the camp he thinks of his mother, of himself and of his future belongingness. The sense of isolation so haunts him that he comes to Bombay after some time in search of a place for his belongingness. He settles here in a small flat of Hira Niwas. He also becomes a business partner with Chaman Lal. He does not feel now cut off from the remaining world. Living in Hira Niwas, he feels Bombay as his home: “So many years now it is my home, and I have a place for everything, my cats including” (*Baumgartner’s Bombay* 12). By forging an emotional link with Bombay, Baumgartner slowly understands the meaning of multiculturalism. Disillusioned by the havoc of war, “he would have to accept India as his permanent residence” (*Baumgartner’s Bombay* 13). And now, he accepts India as his native land.

He now develops attachment to Bombay. As an inhabitant of it, he torays the adjacent of Hira Niwas where he finds a sleeping man inside the cracks and crevices of the building “like so many rats or lice” (*Baumgartner’s Bombay* 14). They have their predicament that ends only in misery, suffering, squalor, filth, dirt and beating of their wives. The plot goes on through the sensations and emotional upheavals of the narrator. Here at Bombay, women start working long before day-break till late at night in washing and cleaning the pots, “yet nowhere could one see any sign of cleanliness – the tape only created a morass of mud and slime; children squatted anywhere to urinate or defecate” (*Baumgartner’s Bombay* 15).

Apparently, Baumgartner may be a failure, but mystically, he succeeds. He voices forth cruelty, artificiality and the snobbery of human relationships which he finds not only in the European society but also in the Indian society. The chief purpose of the novelist is to show the varied groups of human relationships in order to seek the universal values in them. The principal aim of the novelist is to show the importance of multiculturalism vis-à-vis her principle of universal tolerance. He also strives constantly in search of his life. He finally accomplishes it when he opts to follow the higher vision of life which he attains by his understanding -the essence of India.

The clash of Western and Eastern culture is also the subject of Desai’s *Journey to Ithaca*. Very early in life, the Italian Matteo is inclined towards spiritual pursuits when his tutor,

Fabian enkindles in him a curiosity towards Vedanta philosophy. After his marriage with Sophie, both of them leave for India. Chapter One describes their wanderings from one ashram to another. The culture of the West and the East are brought into headlong collision. Their experience in the Kumbh fair at Allahabad, their arrival in an ashram of Bihar and again their aversion towards the activities of the ashram are brought into bold relief. Their meeting with Mr. Pandey is significant in the sense that it provides them with valuable insight into Hindu religion and culture when he recites some philosophical *shlokas* from the Bhagavad Gita.

Spiritual doubts in Sophie are not out of place for a Westerner trying to comprehend the mysteries of Indian spiritualism:

Can there not be many ways, more than one way ----- the Christians way to glorify God? he raged. Hers is to create belief in people through her powers. Is that wrong?

Sophie who feels more at home with the Christian culture of the West questions Matteo about his purpose of staying in India and his rejoinder is:

“I told you ----- to find India to understand India, and the mystery that is at the heart of India.”

In the ashram in Bihar, Matteo is appalled by the ostentatious life style of some sadhus who flash gold plated lighters and keep cigarettes in their pockets. Sophie deciphers casteist signs in the conduct of the members of the ashram. In this way, Sophie’s idea of India as a multicultural state suffers a rude jolt.

After the birth of her first child, Giacoma, Sophie is pregnant again. She is appalled by the cultural backwardness of the Indians and is opposed to the idea of making her children barbarians in India. So, she with the anxieties of a mother leaves the company of her husband as an ashramite and comes back to Italy to her parents.

The arrival of Sophie in India brings a new turn in the story in the third chapter. Sophie inquires of the Mother from the doctor and he narrates her entire story ----- how she becomes the Mother from Laila, the dancer. In Paris, she purchases books on Oriental philosophy and never bothers about Islamic books. Her opposition to Islamic philosophy and culture is tantamount to her opposition to the principles of multiculturalism. She has imbibed both “sweetness and light”, to use an Arnoldian phrase from his *Culture and Anarchy*.

She read Edwin Arnold’s Light of Asia, Pierre Loti’s L.Inde, Kalidasa’s Shankuntla went through Great Religious of the World, Max Muller’s Sacred Books of the East, Vivekananda’s Raja yoga, the Bhagavad Gita. Tagore’s The Gardener and Gitanjali ---- pouncing on every reference to Krishna, to Radha, seeing in their romance the model of her own affair, and yet clinging, secretly to the name she had first chosen: Laila of Krishna Lila, because that contained the first impulse, the one that led the way.

(Journey to Ithaca 212)

As Sophie feels urgency to report about the secrets of the Mother, she forgets that “for Matteo too, the wheel had turned”. Sophie now heads straight for the Abode of Bliss

where she comes to know from Diya about the *Nirvana* of the Mother. After the death of the Mother, Matteo undergoes “an expression of agonized weariness. Now, Sophie undergoes a metamorphosis at the cultural level. The same Sophie, who denigrated the charitable activities of the Mother now realizes the significance of charity, rightly emphasized in Hindu religion and culture. When Diya asks Sophie whether she would follow Matteo, her quick rejoinder is “I’ll have to, what else?”

Desai’s *Journey to Ithaca* is a compassionate portrait of people struggling to find a spiritual home. It delineates Matteo’s alienation and the concomitant quest for spirituality. Like Hugo Baumgartner, he is a ‘perennial outsider’. He has come to India in search of spirituality. “It is the spiritual experience”, he tells Sophie, “for which you must search in India”, “nothing less” (*Journey to Ithaca* 36). Disgusted with the drab and mundane reality of familiar and conjugal life, he is out for the life of a sage in an ashrama.

Nayantara Sahgal’s novel, *Rich Like Us* explores the hidden wealth of India and Sahgal finds this hidden wealth tucked away in her hoary tradition, her cultural values and her sublime spirituality. As an ardent believer of the principles of multiculturalism, she finds the grim poverty plaguing the economy to be the arch-enemy of multiculturalism. It is from the mouth of the beggar that Rose learns about the hideous fact of poverty baring its ugly teeth in rural India. The beggar relates to Rose the harsh fact of women disappearing into the kilns of their workplace never to return and this factual report petrifies her.

Some theorists of multiculturalism underscore the principle of equality in the society and they further state that different communities should co-exist as equals. But in *Rich Like Us*, Sahgal makes no bones of the fact that two classes exist in the Indian society: the rich and the poor and that the twain shall never meet. The newly rich people of post-independent India who remain aloof from the middle and lower classes, become the butt of Sahgal’s satire. The Minister of Industries thanks God at every turn of his speech, but that, in the opinion of Rose, is a hoax to cover up his ill-gotten wealth stashed away in Venice.

The promulgation of Emergency dealt a shattering blow to the multicultural fabric of the country. The idealist who clung to certain lofty ideals in politics were made to suffer the pains of conscience and memory. The self seeking, powerful politicians were always hand-in-glove with the corrupt businessmen. The case of Dev was an illustration in point. Sahgal was most critical of the Emergency: the illegitimate constitutional amendments, brutal police action, abrupt arrests of politicians and commoners alike, detention without trial, exploitation of the poor, vasectomy camps and press censorship. Sahgal’s language is full of virulent satire:

No one wanted trouble. So long as it didn’t touch us, we played along, pretending the Empress’ new clothes were beautiful. To put it charitably, we were being realistic. We knew we were up against a power we couldn’t handle, individually or collectively.

(*Rich Like Us* 23)

The grim realities associated with the Emergency and its implementation certainly leaves the readers with a feeling of pessimism which is hard to placate. But it is in the latter

part of the novel that Sahgal exhales the spirit of optimism when she glorifies the richness of the Indian tradition, history and religions. The appropriateness of the title of the novel can be found in this section of the novel. Sahgal turns through the pages of Indian history to re-discover the multicultural values which were present during the Mughal reign of the seventeenth century:

The seventeenth century was the great age of the Mughal Empire. Akbar had reintegrated northern and central India and given it a Persian form.

(*Rich Like Us* 300)

It is from the pages of history that Sahgal quotes with a feeling of pride, the legend that was India:

“India presented an impressive picture of the world and created the modern legend of wealth and power which lasted well into the nineteenth century.”

(*Rich Like Us* 300)

The narrative of *Mistaken Identity* is woven round two landmark events of Indian political history, both events of the Gandhian era, the Khilafat Movement and the Dandi Salt Movement and the political repercussions thereof. If *Rich Like Us* is replete with details of various kinds: autobiographical facts, the rich/poor divide, political turmoil with the proclamation of Emergency, the evils in the bureaucratic system, colonial and post-colonial perspectives and globalization, *Mistaken Identity* has very little to do with such details. What accounts for the fictional appeal of the novel is Nayantara Sahgal’s uncanny ability to weave elements of fantasy around socio-political events.

The narrative revolves round two embodiments of love, the principal character Bhusan and his mother, the queen of Vijaygarh and their separate romantic love affairs. The multicultural element is reinforced in the plot itself. The Hindu, Bhusan, takes a Muslim girl as his first love; unfortunately Bhusan is not able to marry her. His mother, the Rajput queen of Vijaygarh falls in love with a Muslim comrade and gets married to him, who becomes her second husband. If this plotline is viewed properly, the real elements appear to be eclipsed by the fantastic elements. Jasbir Jain in an interview with Nayantara Sahgal asked her the seminal question, “Would you say that this can happen in real circumstances in India today?” Sahgal’s quick rejoinder was, “It is” highly unlikely. Today it might happen but not in 1929 – 1930.” (*Establishing Connections: Interview with Nayantara Sahgal* 175).

The novelist introduces us to the nine prison mates of Bhusan. Four of them, Yusuf Iyer, Pillai and Dey are comrades. Bhaji is a committed Gandhain whereas Sen is a political activist. Sahgal touches upon several political events with minute fidelity to truth. The reader follows her closely as she describes the atrocities of the colonizers on the colonized in India. Sahgal throws her searchlight on political events outside India viz. the overthrow of the Caliph of Turkey by Kemal Pasha. She scripts political events with the sense of detachment befitting a historian or a political analyst. We get a kaleidoscopic picture of the Meerut conspiracy case, the Dandi Salt march, the Khilafat Movement, Hindu Muslim riots in India and the emergence of communists in Russia.

Sahgal gives an eye-opening account of the communal riot in which all the principles of multiculturalism are thrown to the winds:

A mob of five or six hundred had made Hindu-Muslim war with knives, stones and broken bottles on the front lawn of the Female College. Someone set fire to one wing and the mob stampeded in to loot pots and pans and sewing machines with yells of 'Allahu-Akbar' and 'Ram Ram'. Then they went on a rampage through the town and the killed and raped count was rising in the hospital.

(*Mistaken Identity* 70-71)

In making Bhusan search for his true identity, Sahgal allows him to keep the values of multiculturalism alive, be it in his relations with Razia or Sylla. Bhusan's relations with Razia and Sylla stand out symbolically in terms of Hinduism, Islam and Zoroastrianism. Sylla cannot understand that Bhusan has "opened and closed and lived and died over and over again" (*Mistaken Identity* 150) around his lost love, that "loving might be a vocation like medicine or the priesthood, that the worshipper in all of us must have the last word" (*Mistaken Identity* 150). Sahgal underscores the multicultural elements in Hinduism of India and the Sufism of Persia. Worship and love are inextricably unified both in Hindu devotional poetry and the poetry of the Sufism of Persia.

In *The God of Small Things*, Roy tries to highlight the need of a casteless and peaceful society where everybody's interest should be protected and respected for strengthening the principles of democratic multiculturalism. Velutha's anti-colonial voice, though defeated, definitely conveys a message to the postmodern society, that, time has come to accept the fact of social heterogeneity because everybody is now very much conscious about his/her caste, culture and religious identities which are more or less equally valuable. If we disrespect any culture or caste, it will lead to conflict and social unrest. Therefore, in the postmodern world, identity recognition and recognition of differences becomes the lifeline of multicultural societies like India. Velutha's act of entering into the 'prohibited zone' challenges the upper caste hegemony and give the message that no community/culture should attempt to dominate another, especially at a time when everyone is getting more and more conscious of his/her own 'space' in society. A multicultural policy in India sometimes becomes lethargic due to misunderstanding of caste stigma and social stratification based on class, culture and religion.

The recurring pattern in the narrative of *A Suitable Boy* is Mrs. Rupa Mehra's efforts in finding an eligible suitor for the hand of her daughter, Lata. This is not to deny the love story which is central to the novel, set in independent India. Though the novel begins in the imaginary town of Brahmpur, yet Seth does well to keep the principal events shifting from Brahmpur to Calcutta, then to Delhi and finally to Kanpur. In shifting his story to the metropolitan cities of India, Seth is able to add an attractive colour to his novel. Seth keeps the interest in his story unflagging by bringing into his narrative, the tale of four families with their diverse socio-cultural backgrounds: The Mehras, the Chatterjis, the Kapoors and the Khans.

Seth's multicultural values emerge on his portrayal of Mrs. Chatterji. Multiculturalism shows respect for people belonging to different cultural backgrounds. By priding on the

culture of Bengal, more particularly the cultural achievements of Tagore, Seth is showing his non-chalance to people of other cultures. His attitude is different from that of an enlightened individual who is respectful towards the diversity of Indian culture.

Seth shows the peculiar mindset of Mrs. Rupa Mehra and her indifferent attitude to the Chatterji family. In her letter to her daughter Savita, she writes with a feeling of amused contempt about the Chatterji family, despite its capability of inculcating the finest elements of eastern and western culture:

'But the Chatterjis are unusual family. They have a piano but the father wears a dhoti quite a lot in the evenings. Kakoli sings Rabindrasangeet and also western music, but her voice is not to my taste and she has a modern reputation in Calcutta. Sometimes I wonder how my Arun got married into such a family but all is for the best as I have my Aparna.'

(A Suitable Boy 937)

One of the greatest obstacles to the multicultural concerns of Seth in the novel is religious intolerance. Differences in religion mar the marriage of Kabir and Lata. There are riots in the name of religion. The inefficiency of the police and its laxity in the administration become evident when there is a clash between the processions led by the actor Rama and the Tazia processions led by the Muslims on Bharat Milap day. The Partition of 1947 dealt the severest blow to the multicultural relations of people in the sub-continent. There were streams of Hindu and Sikh refugees from West Pakistan and hordes of Hindu refugees from East Pakistan. Hindus, Sikhs and Muslims who lived in perfect amity before the Partition, who participated in each other's festivals, who shared each other's joys and sufferings, found themselves uprooted or supplanted from the land of their birth and origin and made to settle in places that were not their homeland. There were dissensions in the Congress Party. Both the Nehruites and the Tandonites differed with regard to the Muslim question.

Multiculturalism always helps to subvert the dominance of one culture over the others and protects the idea of equality of opportunity and rights of minority cultures. However, the principles of multiculturalism referred to above, are not positively reflected in the novel, *A Fine Balance* because of the rigidity of Indian caste system, which divides people on the basis of colour, occupation and the wrong notions of purity and pollution. The upper caste Thakurs in the village of Dukhi is a clear example of how exploitative power is associated with force. The Thakurs of post-independent India do not participate in any war, other than caste war. They waged their wars against the members of the reserved category. They achieved their stranglehold on the members of that category by beatings, torture, rape and what not. Dukhi's story brings us to the apex of the Independence struggle in India. At that time, some people with the zeal for social reform took pledges of waging a crusade against caste injustice. But it is a colossal irony that it is still to be redeemed.

Multiculturalism and poverty are the leitmotif in the novel, *The Inheritance of Loss* and it is in the fitness of things to take up the multicultural theme which Kiran Desai handles in a style, at once distinctive and graceful.

It is the insurgency in Darjeeling and Kalimpong that makes the principles of

multiculturalism melt into thin air. The irrational and frenzied Gurkha militants lose the power to distinguish between a genuine philanthropist and a spy. Father Booty's work on a model dairy for the economic uplift of the poor Nepalis of Kalimpong is reduced to naught. The Nepali militants throw all sanity and humaneness to the winds when they arrest Father Booty as a spy for his possessing the harmless photograph of a butterfly. The diasporic hub in Kalimpong and Darjeeling are comprised of mixed communities, but the narrow regional identity of the GNLFF leave the hills terror struck. More than any community it is the Bengalis who get embroiled in 'generations worth of trouble' (*The Inheritance of Loss* 241). Lola and Noni cannot buy provisions from the stores of the Nepalis. When Lola complains to Pradhan, the GNLFF Chief, about the illegal encroachment on their property by the militants, he proposes Lolita to be his "fifth" queen as he already has four queens about him and to cap it all, he is the 'raja of Kalimpong' (*The Inheritance of Loss* 245). Desai shows how the friendship between different communities which was built over forty years and which defied the lines of race, language and culture was sounded a death-knell by the militant nationalism of the Indian Nepalis.

In *The White Tiger*, Adiga's satirical portrayal of contemporary India has not left any facet of India untouched: ideal marriage institutions, modernization of big cities, parliamentary democracy and electoral system. His pungent satire cuts across people of different professions: businessman, politicians, educationists, social reformers judges and doctors. The 'Rooster Coop' analogy and expression is fittingly used by Balram to describe the poverty-stricken oppressed and confined section of the Indian population. Balram's chequered journey from abysmal poverty to incredible fortune makes the reader pause and think over Balram's observation: poverty and long servitude create monsters and he is one such monster. In his interview to *The Sunday Times* (April, 2008), Adiga spoke of the falling apart of servant-master system and how "*its unraveling will lead to greater crime and instability.*" All these features goaded Michael Portillo, the chief in the chair of Man Booker Prize 2008 to comment, "*The feeling among the readers was that here was a book on the cutting edge reading with a different aspect of India, unfamiliar perhaps to many readers. What set it apart was its originality.*"

The rising debate on homogeneity of cultural practices of nationalism is an opportune moment to look at the alternative discourse of multiculturalism in which thousand flowers bloom and millions feet thump resonating with the music of harmony!

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