



Akadosmos 2014

An Annual Miscellany of
Liberal Arts and Scholarship

Golden Jubilee Year
1964-2014



KAMALA NEHRU COLLEGE
(University of Delhi)

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A view of one of the gates of the Sanchi Stupa. The part of the structure of which our logo is a prototype is visible on top.



Editor's Note

Never doubt that you can change history. You already have.

- Marge Piercy

On 20th July 1964, the Government College for Women opened its doors for the first batch of students. 50 years later, the Government College for Women evolved into Kamala Nehru College, an institution that goes beyond producing mere graduates and instead creates holistically educated individuals. This edition of AKADEMOS commemorates the Golden Jubilee of Kamala Nehru College, and while we celebrate the past, we look towards the future. The challenges of educating a generation that has access to the world provides teachers an opportunity to develop new pedagogical strategies. Teachers must be good learners in order to impart knowledge to students. AKADEMOS was envisioned as a journal that would facilitate the process of learning and researching for the teachers of Kamala Nehru College.

I can only imagine the challenges faced by Dr. Indira Menon, the first editor of AKADEMOS. Working at a time when most colleges did not have academic journals for faculty members must have required a pioneering spirit. Publishing is a leap of faith and the faculty members who wrote for the first few editions must have done so with a combination of enthusiasm and trepidation because publishing one's work exposes the writer to both bouquets and brickbats. But the initial apprehension must have given way to confidence and a drive to rally forward.

It was with this confidence and determination that Dr. Malabika Majumdar took over the reins of AKADEMOS. Her

meticulous editing and far ranging knowledge made AKADEMOS one of the few registered journals of Delhi University. Faculty members contributed diligently to meet the exacting standards that are required to write for a registered journal. At the same time the journal was persistently inclusive and Dr. Majumdar ensured that every discipline was represented in the journal.

In its eighth year of publication, this special edition of AKADEMOS has been opened out to accept the works of eminent teachers and scholars from across the country. We share their research with the teaching community in an effort to learn and absorb the knowledge that is being generated in academic spheres across the country. We are glad that in this historic year AKADEMOS is taking another step forward and evolving to meet the challenges of the future.

-Namita Paul

Acknowledgement

AKADEMOS enters its eighth successful year as an academic journal. As a community of teachers we thank each other for extending cooperation in every form. We thank our principal, Dr.Minoti Chatterjee for her relentless encouragement in making it a journal of repute. Our sincere thanks go to all the contributors for their excellent articles which have lent quality to this journal. We are especially thankful to Prof. Partha S. Ghosh, Dr. Tanuka Endow, Dr. Rumki Basu, Dhritabrata Bhattacharjya Tato, Dr. Fouzia Usmani, Neha Khurana, Vidisha Garg, Kanu Jain and Sahaj Wadhwa for their contributions to this special edition of AKADEMOS.

This endeavour owes much to Dr. Rita Malhotra, Namita Paul and Dr. Debasree Basu for investing considerable effort in proof reading and editing the articles and all the faculty members who have allowed us to publish their scholarly endeavours.

Team AKADEMOS





Right to Education Act and its Implications

Dr Tanuka Endow

Introduction

The Right to Free and Compulsory Education Act 2009 came upon the Indian education scenario like a ray of hope for millions of children in the country. Some of these children are scattered across the countryside, some in remote forested areas, some are in urban milieu, working daily to eke out a meagre living. The reason that this landmark regulation brought hope into their lives is that for millions of children in the country, being educated has remained a distant dream, in spite of the fact that more than sixty years have passed since India achieved independence.

It is a heartening statistic that the number of out of school children (6-14 years) in the country has reportedly declined from 32 million in 2001 to 13.5 million in 2005 to 8.1 million in 2009 to as low as 3 million in 2012.² Clearly, there has been a substantial increase in enrolment in schools. However, the class completion rates are discouraging to say the least. Drop-out rates for 2010-11 were 27% for the primary level (classes 1-5) and as high as 40% at the elementary level (classes 1-8).³ With the Right to Free and Compulsory Education Act, or RTE, all 6-14 years old children can now demand at least an elementary education, i.e. education up till class 8, from the State. They now possess the legal right to this basic school education.

Policy under the SSA

In order to appreciate the difference that a law like RTE can make for children in matters of school participation, we need to examine the policy and strategy followed by the government in the years before RTE was promulgated, much of which still continues. In the beginning of the 21st century, in 2001-02, an umbrella scheme called Sarva Shiksha Abhiyan (SSA) was introduced in India which aimed to universalise elementary education in the country. Till then, education had figured importantly in the government's agenda, but a balanced growth of the various sectors of education had been envisaged.

The school cycle in India is usually segmented as the following: Primary (classes 1 to 5), Upper Primary (classes 6 to 8), Secondary

(Classes 9 and 10) and Higher Secondary (Classes 11 and 12). Further on, there is general college education, vocational education, technical education, etc. In the early years of planning, education was a state subject, i.e. the jurisdiction of state governments and the policy approach was to promote a balanced growth in the sector, so that all the different segments of the sector grew in tandem. In 1976, education became a concurrent subject so that till present it is looked after jointly by the union and the state governments. The Centre has increasingly provided the policy direction for the education sector, and much of the running expenses are borne by the states.

In the backdrop of the global initiative Education for All (EFA) launched in 1990 by UNESCO, UNDP, UNFPA, UNICEF and the World Bank, the policy in India, too, came to focus on providing the basic elementary education to all the 6-14 year old children in the country. As a result of this shift, the existing schemes and initiatives for bringing children into school were all subsumed under the umbrella scheme of SSA. The mission of Universalization of Elementary Education or UEE under the SSA programme had three planks: access, equity and quality.

Access

At the time of introduction of SSA, access to schooling was a still major issue, so improving school access was high on SSA's agenda for UEE. It is also important to realize that SSA had an underlying model for what a school should be and the kind of infrastructure it should have. So improving school infrastructure such as building, classrooms, drinking water, toilets, etc. were very much on the agenda.

Equity

We know that our society is riddled by caste issues and there is considerable segmentation not only by caste, but by religion and class as well. India, a developing country, has a very large population living below the poverty line. In 2004-05, a few years after SSA was introduced, 37% people in India lived below the poverty line, according to official estimates.⁴ In terms of numbers, this was 407 million people. This resulted in many children facing financial barriers to schooling. Even after five years, as the proportion of BPL persons has come down to 29.8% in 2009-10, the number of people is still as high as 354.7 million. As we see from the following Table 1

showing reasons for 6-13 year old children being out of school, financial constraints figured largely among the reasons, according to estimates by SRI-IMRB (2009) survey. This seems to reflect the fact that although government schools have made basic education free and provided incentives such as uniforms, textbooks and scholarships for vulnerable children, in reality, there are other costs of pursuing school education, which can act as a major barrier to school participation for children from poor families. In addition, work opportunities for children in the face of poor family situation often lead to children opting to leave school and work.⁵ Children who suffered from malnutrition also found it difficult to concentrate on the lessons in class, further compounding their problems. Thus poverty spelled a distinct disadvantage for many children towards getting a fundamental education.

Table 1: Reasons for being out of school for 6-13 year old children

Reasons for being out of school	All India (% share)
Poverty/economic reasons	27.1
Child to supplement household income	7.1
Needed to help in domestic work	7.4
Needed to take care of siblings	0.8
Education not considered necessary by parents/head of household	6.0
School location not suitable	21.0
Child suffers from disability/poor health /long illness	8.6
Child too young to attend school	25.9
Child not interested in studies	7.6
Others	4.8
Total	100.0

Source: SRI-IMRB (2009)

Among the estimated 8.1 million out of school children in 2009, 6.1 million children (75%) were never enrolled, and 2 million were drop-outs (25%). Table 2 shows the reasons for dropping out of school, and the most important reason is observed to be that the child is not interested in studies.

Table 2: Reasons for dropping out of school for 6-13 year old children

Reasons for dropping out	All India (% share)
Child is not interested in studies	79.4
Irregular teaching/teaching in school not satisfactory	7.0
Teacher behaviour with student not good	5.8
Repeated failure in examinations	2.8
Child's own long illness	4.9
Total	100.0

Source: SRI-IMRB (2009)

For the drop-outs, nearly 80% of respondents mentioned disinterest in studies as a reason for dropping out. It is likely that class-room experiences do not engage the children enough, indicating perhaps that teaching/learning processes need considerable improvement.

Historically the Scheduled Castes (SC), who constitute a large 16% of the Indian population, have suffered domination by upper castes and faced discriminatory practices for centuries. They have also usually suffered from acute poverty, lacking land and assets as well as well-paid and dignified employment.⁶ Some of the sub-castes such as scavengers are particularly disadvantaged. Scheduled Tribes (ST) is another important segment of the Indian population, comprising 8.2% of the population, who have been poor, without much assets and they also face the problem of remoteness of habitation, since they mostly inhabit forested and hilly terrains.

Children from the SC and ST families have lagged behind the general castes in terms of schooling with high drop-out rates. Recently SC children have been catching up with the general students but tribal children still have a 55% drop-out rate at the elementary level!⁷ Muslims are a religious minority who, although not in as poor condition as the SC and the tribals, have also been excluded from the process of education due to various factors, including a sense of alienation from the mainstream. Both the tribal and the Muslim children have suffered from language-related barriers as well, since the medium of instruction at school is often not the same language that the children use at home. Schooling of Muslim girls, in

particular, can be often discontinued as they reach adolescence due to lack of schools close by or lack of female teachers.

Overall, girls have usually faced a gender bias in terms of education. Research studies show that irrespective of the socio-religious group they belong to, they have received less schooling than boys due to gender discrimination in the form of early marriage and motherhood, withdrawing from school for household work and sibling care, etc. Similarly child workers of both sexes have tended to be out of the schooling process. Other important vulnerable groups of children whose education tended to lag behind the general level were children with disability (CWD), child workers, street children, children in areas affected by civil strife, etc.

The equity agenda of SSA intended to rectify the above disadvantages faced by children belonging to various socio-economic groups so as to bring all on an equitable platform. The idea was to address their problems through affirmative schemes and to provide them with equal educational opportunities.

Quality

The third agenda of SSA, namely, quality, dealt with improving the quality of education imparted in schools. This involved improving teaching quality, pedagogy, the classroom process, engaging the student in learning by improving such parameters as well as improving the curriculum, and so on. The quality of education was deemed to be a very important area of focus since the SRI-IMRB (2009) study found nearly 80% of respondents had been found to drop out of school due to lack of interest (Table 2), implying that the schooling process could not engage them enough.

The government focused on fulfilling the three aims of SSA by using various incentive schemes to enable poor and disadvantaged children to attend school. Fees were removed, free books, uniforms and scholarships provided to vulnerable groups, residential facilities were opened for some selected groups such as tribal children and out of school girls in 11-13 years age groups. A Mid Day Meal (MDM) programme was introduced in schools to abate classroom hunger and promote other social objectives. For some of the children who were working, efforts were made to draw them into the schooling process by promoting non formal schooling with hours to suit their

convenience. Disabled children were sought to be integrated into the mainstream schools as a part of this inclusive education process by building ramps in schools, introducing specially trained teachers and augmenting other resources.

The government also made concerted attempts to convince local communities to send their children to school, on the premise that for schooling to be sustained, the parents need to be supportive of their child's education. Decentralisation of the administration was another strategy followed by the government to boost the schooling process to bring a sense of ownership to local stakeholders. Giving more power to Panchayati Raj Institutions (PRI) and local level bodies such as Village Education Committee (VEC), School Management Development Committee (SMDC) as well as community mobilisation were parts of this decentralisation strategy.

However, inclusive education could not guarantee the opportunity of schooling to all 6-14 year old children. It could only provide incentives and alternative flexible school structures so that they are encouraged to attend school and continue to do so. With RTE, there has been a change from the incentive-based policy framework to a rights-based one. Any child who demands schooling till class eight now cannot be turned away by schools. We discuss in the next section what are specifically the issues addressed by RTE.

Right to Free and Compulsory Education

With RTE, the approach towards elementary education for 6-14 year olds is entirely child-centric and rights-based. To begin with, there is now a right to free and compulsory education till the elementary level 6-14 years olds implying rights of **admission, attendance and completion** of elementary education for all such children. No child can be denied admission to schools. There is a policy of no detention/expulsion till elementary education is completed. The students cannot be punished physically or harassed mentally. The focus of education would be all-round development of the child such that the child can realize his or her potential. Learning through activity, discovery and exploration is to be encouraged. It is of crucial importance that while attending school, the child should be free of fear, trauma, and anxiety. In addition, every child is to learn at her own individual pace.

RTE has given clear guidelines regarding what facilities and infrastructure a school should have. These, as specified by the Act, are:

1. All weather building of at least one classroom for every teacher and an office cum store cum head teacher room
2. CWSN (Child with Special Needs) friendly access
3. Separate toilets for girls and boys
4. Drinking water facility for all children
5. A kitchen where Mid Day Meals are cooked
6. Playground
7. Arrangement for secure school building with boundary wall or fencing
8. Teaching learning material provided to each class as required
9. Library to provide newspapers, magazines, books and all subject books including story books
10. Play material/sports/games material to all classes as required.⁸

The RTE norms for school access at the elementary level are as follows: there should be one primary school within one km reach and one upper primary school within 3 km reach. Teacher adequacy norms have also been laid out under the RTE as have norms for working hours of a school. The teacher-pupil ratio at the primary level must be 1:30 and that for the upper primary level must be 1:35. The schools at primary level must operate for at least 200 days and those at upper primary level for at least 220 days. Working hours for teachers are also specified.

Thus with RTE, there is an attempt to bring a well-structured, quality schooling system within reach of all 6-14 year olds in the country. The SSA programme continues to be the main vehicle for implementing RTE in India. This means that the goals of access, equity and quality of SSA continue to remain side by side with other deliverables accorded by RTE. But in the new scenario, the structure of SSA and its personnel need to be coordinated not only with the education department structures at the central and state levels, but also with other departments such as water and sanitation, ministry of women and child health, etc. since RTE guidelines span various

sectors. Departments of SSA such as Block Resource Centres, Cluster Resource Centres, etc. impact the monitoring, supervision and administration process of reaching elementary education to each child. Thus these are expected to smoothen the implementation process of RTE. Financial management personnel also impact the RTE implementation process considerably.

Above all, RTE intends to ensure that no 6-14 year old child remains out of school and all those attending school receive a quality education.

Stakeholders in a child's journey in elementary education

Who are the main stakeholders in a child's journey as she completes the eight years of schooling? Here we shall discuss the role of four major stakeholders (Chart 1). Teachers and Head Teachers are, of course, a crucial component in educating the child. But the various tiers of government, as well as parents and community also have an important role to play. It is mandated by RTE that School Management Committees (SMC) be set up in each school with 75% parents/guardians as members. So this is an important body via which parents and community members can influence the school functioning. Therefore the SMC and parents/community as stakeholders are discussed in a combined fashion.

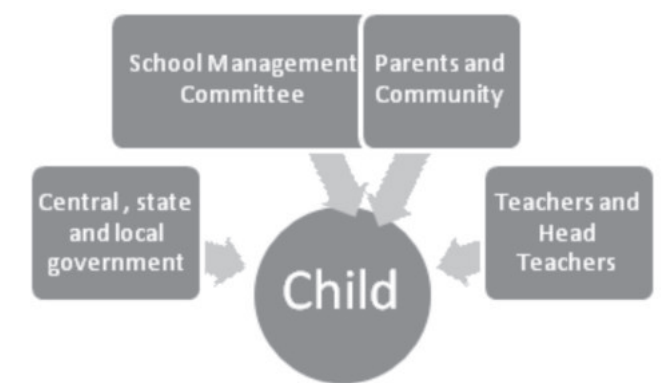


Chart 1

Teachers and Head Teachers

The first step towards eight years of schooling is enrolment. RTE has made it mandatory for schools to admit children and no 6-14

year old child can be turned away by school authorities including the Head Teacher. Moreover, recognizing that the child population is vastly segmented and there are many children from disadvantaged families, 25% seats are reserved for those from EWS (Economically weaker section) category, for both public and private schools. As mentioned, RTE lays down guidelines for what a school should be, in terms of pupil-teacher ratio, number of subject teachers, number of classrooms, availability of infrastructure facilities such as water, toilets, playground, library, etc. In the private sector, only those schools meeting RTE benchmarks will be recognized and can impart education in the future.

In the matter of enrolling children, it has to be recognized that there are still millions of out of school children in India, be it those who have never been enrolled or those who had joined school but have dropped out subsequently. RTE makes special efforts to draw all children into the schooling process, i.e. it aims for school participation of all children in the 6-14 years category. All out of school children are now to be identified by school mapping at the community level and enrolled at age-appropriate grades. In this exercise, the teachers are involved along with SMC members and the Local government. Guidelines have been issued by the government to all the Head Teachers in this context. After admission, these children are to be given Special Training which can be of 3 months to 2 years' duration in order to enable them to attend regular classes and be mainstreamed. The Special Training will be according to a specially developed and designed curriculum. All through this process, although help may be enlisted from experienced NGOs, it is clearly the over-all responsibility of the Head Teachers and the teachers of the school.

The next step is to retain the child in school such that he or she completes eight years of education and attains the appropriate learning levels and the teacher's role is all-important here. In this journey, the child cannot be detained in any class, nor be expelled. Referring back to Table 2, it is seen that inability to cope with studies or failing in class is a major reason behind discontinuing education. Children tend to become de-motivated by failure and often staying back in the same class with younger children results in their eventual dropping out of school. The objective of RTE, as indicated earlier, is

to make the process of learning a joyful one, in which the child must not undergo any anxiety or trauma. In order to attain the levels of learning appropriate in each class, a teacher then has to guide each child by a process of Continuous and Comprehensive Evaluation, known as CCE.

This fresh look at assessment of learning outcome entails conducting formative as well as summative evaluation of children, in other words adopting a Continuous and Comprehensive Evaluation (CCE) approach towards learning. The teacher has to maintain a file for each pupil and note the all-round development of that pupil, including academic, extra-curricular and behavioural aspects. The teacher is expected undertake a continuous evaluation of the child and use the feedback to improve the child's learning process in the school. In each term, a summative or terminal assessment is also conducted, over and above the formative assessment. In case the child has not reached the required learning levels, additional training would be provided to pull her up to the appropriate level.

In addition, the teacher is responsible for maintaining regularity and punctuality of attendance of students, finish curriculum in time, hold regular meetings to appraise parents regarding the pupils' progress, provide special coaching to late entrants and discharge other non-academic duties. Given the evidence of considerable teacher absenteeism in schools, the teachers have been made answerable to SMCs as a counter-measure.

Since the clear aim under the RTE Act is to have a gender sensitive, non-discriminatory classroom that is free of corporal punishment and mental harassment, the teachers need to ensure that there is improvement in quality, design and curriculum of teacher training. The inclusive approach towards teaching means all types of children, including those suffering from disability, those coming from disadvantaged backgrounds, all must get equal learning opportunities in class. So gender and social inclusion concerns have to become an integral part of pre-service, in-service and induction training for teachers. Gender should also be integral to the subject-specific content. For Head Teachers, there would be scope of development of leadership capabilities.

School Management Committee/Parents and Community

The formation of the School Management Committee (SMC) has

been made mandatory following RTE. According to RTE, the schools have to constitute SMCs comprising local authority officials, parents, guardians and teachers and 75% of its members must be parents or guardians. It is as members of this body that the parents as well as the local community can be expected to play a vital role in children's school functioning.

The main duties of the SMC are to prepare School Development Plans, monitor school functioning and monitor the utilization of grants received from appropriate government or local authority or any other source. RTE also makes it mandatory to have 50% women and parents of children from disadvantaged socio-economic groups as members in the SMCs. School Development Plans forms the backbone of planning at the school level and involves planning for enrolment, infrastructure, teaching aids, utilization of resources, etc. Given the low literacy level of many parents, the SMC members at present need considerable capacity-building to meet the necessary challenges in this regard. The Corporate Social Responsibility Organisations (CSR) can also collaborate with the community and Local Authority (government at the local level) for awareness generation and monitoring of RTE. They can bring innovative ideas and resources for more effective implementation of RTE.⁹

The different tiers of government

The financial responsibility for RTE is to be shared by the central and state governments. The state governments will be provided a percentage of the estimated expenditures in this regard, and the state government will be responsible for meeting the remaining resource requirements. Some funding gap may also be met by civil society, development agencies, corporate organisations, etc.¹⁰

In terms of improving access to schools, opening new schools in the area/limit of neighbourhood is the responsibility of the appropriate government. The exercise of school mapping with a community-level household survey to identify out of school children is a very important responsibility of the Local Authority along with the School Management Committee. In urban areas, however, where this exercise is compounded by difficulties of locating street and slum children, homeless children, rag pickers, child workers who live in place of work, etc. a more coordinated approach to the problem

involving convergence of interventions across departments, local bodies, civil society organisations and private sector is required.¹¹ Another particularly problematic group of children spanning rural and urban areas are migrant children who may often escape the scanner of identification. The government has been adopting innovative measures for this group of children such as setting up schools at 'sending areas' (areas from where migration takes place) and the 'receiving areas' (destination sites of migration), but more efforts are needed to mainstream such children effectively.

Concluding Remarks

As we have seen, the RTE Act is a step in the right direction to bring quality education within reach for the young 6-14 year olds in this country. However, as the preceding discussion revealed, the challenges of implementing this Act cannot be over-emphasized. Be it at the level of school, block, district, state or the nation, be it in rural in urban areas, be it for vulnerable socio-religious groups or be it for the differently abled, great efforts are needed to turn this dream of free and compulsory education into a reality.

The government has been actively trying to meet the infrastructure gaps, to improve school access, build more classrooms, provide more toilets, drinking water facilities, ramps, playgrounds, etc. Teacher shortage is being addressed by recruiting more teachers and teaching quality is simultaneously sought to be improved by ensuring that new teachers are TET (Teacher Education Test) qualified. Special teachers are being recruited for children with special needs, language barriers for tribal children are being addressed by starting Multilingual Programmes of Education in tribal areas in states such as Andhra Pradesh, Odisha and Chattisgarh. Community household surveys and school mapping exercises are being carried out to identify the out of school children and to enrol them in school.

However, as mentioned at the outset, drop-out rates are still high, indicating retention is an issue that needs to be addressed urgently. Some particularly hard to reach groups such migrant children, street children, child workers, etc. still cannot be brought into the fold of mainstream education easily. What is more alarming, various studies indicate that children's learning achievements are falling short of expected standards. So the quality of teaching and the classroom

processes must receive priority attention from the government. Associated issues such as teacher absenteeism, low teaching activity, social distance between students and teachers, also are areas to be rectified. Simultaneously, poverty and economic barriers along with socio-cultural barriers such as child marriage and gender bias against girls' education need to be tackled. In all this, community and civil society has as big a role to play as the government.

Thus, RTE marks a beginning in the journey for an Indian child on her way to becoming an educated citizen, but there are still 'miles to go' before the destination is reached.

REFERENCES

1. Government of India (2013), SSA-RTE Framework Final approved accessed at www.opepa.in/website/Download/Framework_finalapproved.pdf
2. – (2012), "Press Note of Poverty Estimates", Planning Commission, March, 2012.
3. – (2011), Selected Educational Statistics, Ministry of Human Resources and Development, New Delhi.
4. - (2001), Census 2001, <http://censusindia.gov.in/>
5. JRM (18th), 2013, Joint Review Mission Aide Memoire, SSA
6. RTE Forum (2013), "Status of Implementation of the Right of Children to Free and Compulsory Education Act, 2009: Year Three (2012-13)", New Delhi.
7. SRI-IMRB (2009), "All India Survey of Out-of-School Children of age 6-13 years and age 5", New Delhi. A Study Commissioned by the MHRD & Ed.Cil, New Delhi.
8. - (2005), "All India Survey of Out-of-School Children in the 6-13 Years Age Group", A Study Commissioned by the MHRD & Ed.Cil, New Delhi.
9. Thorat, Sukhdeo (2009), "Dalits in India: Search for a Common Destiny".

ENDNOTES

¹The author is grateful to CORD (Collaborative Research and Dissemination) for overall understanding of the issues.

²The estimates of out of school children are by the Government of India (2001), SRI-IMRB surveys (2005 and 2009) and JRM 18th (2012).

³Source: Government of India (2011).

⁴Government of India (2012).

⁵Children also combine schooling and work, and there are children who are seen to be neither at school nor at the workplace. Such children are termed 'nowhere children'. In all probability, they are doing household and other not so visible forms of work.

⁶Thorat (2009).

⁷ Government of India (2011).

⁸RTE Forum (2013).

⁹Government of India (2013)

¹⁰www.unicef.org/india/education_6144.htm

¹¹Government of India (2013)

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Interrogating Gandhi's economic ideas in the age of globalization: A political economy perspective

Prof. Rumki Basu

This article discusses the major tenets of Gandhian economic discourse and examines their relevance today. Though Gandhi's economic ideas had been ignored as irrelevant to mainstream developmental thought and economic trends for the greater part of the 20th century, they have been repeatedly invoked in alternative discourses on development, whether in the environmental critique of mainstream models of growth or in critiquing globalization. If one seeks to marshall from Gandhian economics an explanatory theory about the functioning of a modern economy, we are likely to be disappointed since Gandhi offers no such theory. Gandhi was primarily a political activist who was trying to comprehend a particular phase of western civilization based on the post Industrial Revolution period. Since his whole political mission was anti-colonial and anti-imperialistic, he attacked the economics of that civilization based on large scale industrialization, greed and profit. Therefore a reading of Gandhian economics, makes you realize further that perhaps a broader political economy perspective would be much more helpful as a tool in examining Gandhi's economic ideas, since it is inherently relational in its context and holistic in its interpretation of social, economic and political reality.

INTRODUCTION : BASIC ECONOMIC IDEAS

As a student of political science, I had not merely read but studied Gandhi's political thought and philosophy and revered him as one of the tallest figures in political strategizing and action in the 20th century, before labelling the Mahatma as a "political scientist" in the true sense of the term. I did hear however, from my economist friends that his economic ideas had been intellectually ridiculed or ignored as irrelevant to mainstream developmental ideas and economic trends for the greater part of the 20th century. Yet I didn't fail to notice that Gandhi's name was repeatedly being invoked symbolically or otherwise in the alternative discourses on development, whether in the environmental critique of the

mainstream model or in critiquing globalization, where Gandhi's ghost would invariably reappear. I was curious and intrigued and that egged me on to a serious reading of Gandhi's economic ideas to examine their place in his entire world-view and strategy of political action.

Let us examine some of the fundamental assumptions of the Gandhian world view and scheme of analysis. In the Gandhian scheme, it is the individual who is ultimately the end beneficiary of all public policies and therefore the test of a policy is to be weighed by its impact on citizens. The basic purpose of public action is the maximization of social welfare that invariably includes individual welfare. The Gandhian method of focusing on the individual did not by implication mean belittling the importance of other collectives (social groups) in society, but recognizing as matter of priority, the need to equalize the status of all groups by public action. He recognized caste and class as distinct social categories. By empowering all groups through public action, the individual within each group gets suitably empowered in the Gandhian scheme. Gandhi never spoke of a "casteless" or "classless" society as a feasible goal of public action. The centrality of non-violence in his world view can be interpreted as cultivating the virtues of tolerance and a willingness to consider alternative points of view. He strongly felt that this was the only way democracy could survive in deeply divided societies. Since bargaining is a reality in the public policy process, he wanted a more level playing field for weaker sections of society so that they do not become victims of an unfairly bargained consensus about citizen entitlements in society. Ideally, if all groups had equal power and awareness of their interests, it would be easier to forge a consensus that does not treat any single group unfairly. Provision of the basic needs of life and economic self sufficiency is the best guarantee of freedom, equality and justice.

To Gandhi, the creation of wealth is not synonymous with welfare. This is where ethics must intervene¹. Welfare demands a basic humanitarian standard of wellbeing measured as provision of minimum needs for all citizens. Since the Indian population mainly lived in villages, the development of India rests largely on the development of villages. In his ideal state (Ram Rajya) every village has to be a self contained republic, and in such a system, each village

has to produce its own basic requirements for consumption and survival. The Gandhian scheme of village sarvodaya (welfare of all) is based on two seminal principles – it would provide suitable employment and maximum income to its incumbents and second, it would generate equality, freedom and justice.

Reduced to a minimum, the Gandhian agenda includes preference for small, rural and cottage industry instead of large scale industrialization, encouragement of a small scale self sufficient village economic community based mainly on barter, decentralization of the administrative and economic structure, reduction of income inequalities by equalizing the wage structure between the skilled and the unskilled worker and lastly the capitalist and the moneyed class should serve as “trustees” of their personal wealth for the welfare of the whole community.

These basic principles did seem at best pious wishes which were not quite in tune with the mainstream developmental ideas of his times – either capitalist or socialist. Both capitalism and socialism espoused large scale mechanization which is an essential part of modernization of both agriculture and industry. It is only in the ownership of the means and forces of production that there was a difference between the two. Gandhi believed that both these systems are based on “violence”, capitalism does violence to nature and the natural environment, the concept of “class war” in the socialist scheme is also inherently violent and destructive of social harmony. Therefore both the systems are unsustainable, opines Gandhi. The 20th century saw the increasing march of the “administrative” state (capitalist, socialist or developmentalist) within the mainstream model of capital – intensive – environment – rapacious development mode; a fact recognized by Gandhi, but never quite reconciled with in his scheme of things. He questioned the economic sustainability of resource depleting models of development as well as the moral sustainability of systems based on violence.

Years later, the interest in Gandhi’s economic ideas came to be rekindled in critical debates on capitalism, in the search for relevant ideology in a wide range of social movements and more recently in critiques of globalization where Gandhi’s ideas came to be used for “symbolic and iconic significance”. Recurringly, therefore, in times of crises Gandhi was being revoked.

GANDHIAN METHOD

Gandhi's fabled "intuition" led him to understand the need to go beyond theories to comprehend societal needs and find solutions to them. The Gandhian method was inclusive enough to deal with both macro and micro issues and action best suited to the specific dynamics of a situation. The Gandhian "temper" was truly "scientific" based on the underlying assumption that people should be persuaded by evidence and personal practice, never by coercion. Science has succeeded in broadening the frontiers of human knowledge exactly by operationalising this principle. Gandhi was accused several times of flirting with unpractical ideas, of writing against the "laws of economics", of being anti-modern, puritanical and even childish in advocating ideas like "trusteeship". By dubbing the law of demand and supply as "devilish"² Gandhi had completely alienated the "classical" school of economics. Mainstream economists simply ignored him and his ideas as "saintly" (other worldly) thereby relegating them to the ethical domain and pushing them out of the domain of serious economic theory or discussion.

If critics of Gandhi seek to marshall from Gandhian economics an explanatory theory about the functioning of a modern economy they are likely to be disappointed. Gandhi's economic ideas offer no such theory. Gandhi was primarily a political activist who was trying to comprehend a particular phase of western civilization based on the post Industrial Revolution era. Since his whole political mission was anti-colonial and anti imperialistic he attacked the economics of that civilization based on large scale industrialization, greed and profit. Therefore a reading of Gandhian economics, made me realize further that perhaps a broader political economy perspective would be much more helpful as a tool in examining Gandhi's economic ideas, since it is inherently relational in its context and holistic in its interpretation of social, economic and political reality. The interdisciplinary nature of Gandhi's economic ideas cannot be integrated into a neat framework of economic theory or analysis but would qualify more appropriately for the domain of Political Economy.

Political economy is a holistic approach to the study of the state, economy and society and their interactions³. Political economy stresses on the generation and distribution of economic surplus and emphasizes the possibility of unequal distribution of socially created

income and wealth, and also of exploitation and class conflict. The study of the importance of power relations in the distribution of income and resources is an important area of political economy.

APPLYING THE POLITICAL ECONOMY PERSPECTIVE

In this article, I will first try and identify the constituents of Gandhian thought that can be reconstructed in the vocabulary of a political economy approach to highlight its relevance to contemporary state policy and practice. The focal pillars of the epistemic foundation of Gandhian political economy: truth, non-violence, anashakti (non-attachment) and sarvodaya (welfare of all), evolved in Gandhian thinking and thought over a period of time. All these pillars have been culled from ethical foundations.

The explanation of dependency, exploitation and conflict that Gandhi had to confront in the course of his anti colonial struggle in India was not interpreted in terms of pure economic theory and analysis but was more of an attempt to see the political effects of economic actions and economic impact of political actions and policy. For instance, his emphasis on village and cottage industries was not merely suggestive of measures at economic self sufficiency, additional employment and income to villagers, but more importantly, to delimit the market for British goods in India and to weaken the fundamental basis of imperial expansionism of British rule in India. The Gandhian framework of analysis, which demonstrates that the underdevelopment of India was the legacy of imperialist exploitation and surplus extraction, provides an example of modern dependency theory that found its political economy vocabulary in the writings of Paul Baran (1957)⁴ and others. Gandhi's assertion that one of the reasons for rural poverty in India was its exploitation by the urban sector formed the basis of Michael Lipton's theory of Urban Bias (1977)⁵.

The nature of the Gandhian state is different from its neat categorization in political theory. The Gandhian state is an unique institution. Gandhian political economy studies the historical contextuality of India's under-development, and relates it to colonial exploitation. It is a study of a particular phase of British imperialism that goes by the name of colonialism, and in the text of Hind Swaraj, Gandhi lays bare its contradictions⁶. According to Gandhi, all

contemporary conflict, exploitation, violence and war, both at the national and international levels can be explained as the manifestation of uncontrolled materialism and an acquisitive culture of the so-called modern society, which is inwardly “violent” and therefore unsustainable in the long run. Gandhi had opined that modern large scale industrialization with resource depleting and environment rapacious methods of production will lead to a serious fallout in terms of unemployment, capital-labour conflict and concentration of economic power in the hands of a few. According to him, all these will accentuate cumulative inequality, in particular wage and other income differentials. In the case of bilateral conflict, the most effective way to resolve such problems is to have a dialogue based cooperation between the affected parties. Under certain conditions, it is possible to resolve bilateral conflict through peaceful and non-violent negotiations which Gandhi himself initiated. However such negotiations may not guarantee maximum payoffs to both the parties involved in a “compromise formula”, but can give an opportunity to break off the deadlock.

In many of his writings Gandhi spoke sharply against the concentration and misuse of wealth. The wealthy class should not use their wealth arbitrarily but hold it in trust for the benefit of the underprivileged. “Trusteeship” is a means of transforming the capitalist order of society into a socialist one based not on violence but on voluntarism. Under the system of trusteeship, the rich retain only as much wealth as is essential for a good standard of living, the rest is meant for social welfare and distribution among the poor. Trusteeship, which is an important principle in Gandhian political economy, is designed to eliminate economic inequalities between the rich and the poor. Inequality as a byproduct of socially stratified societies, is a given in the Gandhian scheme. Though there are a lot of critics of this principle who ridicule the practicability or otherwise of this doctrine of trusteeship, one must try to understand its rationale in the Gandhian social order where voluntariness alone is truly moral, even public action is based on “coercion”.

Gandhi made it abundantly clear that the knotty socio-political and economic questions of his time are all interdependent and hence by implication, a political approach will not be appropriate in finding a solution to all these cases. He writes:

I draw no hard and fast line of demarcation between political, social, religious and other questions. I have always held that they are interdependent and that the solution of one brings nearer the solution of the rest.

(Gandhi, 1932, 17 Nov)⁷

For instance, his theory of decentralization of political power has both political and economic implications to reorganize the village economy against the onslaught of the growing rural-urban dichotomy and the pernicious “urban bias” during Gandhi’s time. Similarly ideas on poverty and underdevelopment cannot be precisely understood without an analysis of surplus extraction by the British government from India⁸. Likewise his theory of development of village and cottage industries cannot be appreciated unless one understands that through the development of these industries, he wanted economic self sufficiency on the one hand, and the closure of the Indian market for the British textile products on the other. The broad aim of such a type of industrial development was to weaken the base of British imperialism in India. Gandhi’s objection to industrialization is not simply based on economic arguments but on the large scale exploitation and the inequality that it promotes (Ghosh, 2007)⁹.

Human development is another goal that can be derived from a reading of Gandhi’s economic ideas. Gandhi’s plans to empower and entitle the citizens with freedom, dignity, equity and justice took several dimensions. The plan to develop cottage and village industries was to make the villagers self sufficient through better employment. The popularization of swadeshi was another step towards the attainment of swaraj (both economic and political), swaraj itself being the first step towards social and human development. The aim of decentralization of political power was to equip human beings with greater power in the matter of decision making in a true participatory democracy.

Gandhi proposed his theory of equality which was not absolute equality but “equity”. He advocated a basic sustenance minimum for everybody and higher income for the more skilled or deserving in society. However, like the Rawlsian difference principle¹⁰, he advocated affirmative action for the marginalized and the minorities in a state. He wanted to ensure distributive justice for all. In his

scheme of things, “Antyodaya” was the starting point of “sarvodaya”.

This could take the form of developing new industries that offer options to the weaker sections. At a time when economic analysis was dominated by efforts to increase production to meet growing demand, Gandhi argued that controlling wants was also an option. In the Gandhian perspective, the control of the nature and magnitude of individual demand would empower even those who are poor as they would develop non-material options. In the Gandhian scheme, empowerment calls for a two pronged approach. At one level it will require the entitlements of the socially weaker groups through a rights based approach, at another it will require the sensitization of the dominant groups, or else the process of arriving at a bargained consensus for major public policy issues will be neither smooth, nor socially acceptable to all.

In the Gandhian political economy there are various types of conflict, such as those between the landlords and the peasants, between capital and labour, between the rich and the poor, between the village and the city, and between different social classes. Gandhi used four basic methods for conflict resolution – negotiation and persuasion, Satyagraha, education and organizational – institutional reforms.

GANDHI AND THE STATE

Gandhi broadly agrees with some of the Marxist views on the state, and considers the state as a system of organized violence. He was totally opposed to the coercive power of the state and was against the absolutist notion of state sovereignty. However in his ideal polity (ramarajya) the state will not completely wither away. Gandhi recommended several measures of state reform. Power has no necessary class basis nor is it an end in itself, but is always a means that can be used for human capability expansion. The Marxian principle of equality from each according to his “ability to each according to his needs” held an enormous appeal to Gandhi.

In his scheme of village republics, Gandhi advocated decentralization because small scale and village industries can play a crucial role in the development of a country like India with the minimum amount of dislocation and disturbance. Gandhi was against the use of large scale industrialization in a labour surplus

economy like India where the very idea of a capital intensive method of development could signal the adoption of labour supplanting machinery. Gandhi favoured the formation of trade unions in offices and industrial establishments. He was eager to introduce equal pay for equal work in all workplaces and observed that if the distinction between labour and capital is eliminated it would be a giant move towards equity. However he also realized that in the real world, complete economic equality is impossible, therefore he recommended “equity” as the next best desirable goal of public policy. In this context, Gandhi writes:

My ideal is equal distribution, but so far as I can see, it is not to be realized, I, therefore work for equitable distribution.

(Gandhi, 1927, 17 March)¹¹

He was seriously interested in forging a sustainable cooperative bond between labour and capital. He expressed the idea that every person must earn his daily bread by his own labour¹². Bread labour is a sort of physical labour without which no one is entitled to have his food. It will lead to individual self sufficiency and empowerment and it does also incorporate the idea of a right to work for all.

THE GANDHIAN LEGACY

Let us now seriously examine the relevance or enduring legacy, if any, of Gandhi’s economic ideas today, specially in the context of India. If we look at the critique of the western industrial economy and civilization as contained in Hind Swaraj, it appears that his attack is both on the economic logic of profit as much on the ethical logic of sustaining a civilization based on greed, murder, loot and resource depletion. Mainstream economists have consistently maintained that large scale industrialization was an irreversible trend even though it might lead to the dehumanization of labour and occasional cycles of recession or overproduction coupled with a ruthless search for overseas markets (as Marx had predicted). The nature of industrialization did not substantially change in the 20th century and the only serious challenge to this apparently irreversible trend came eventually from the environmental “limits to growth” doctrine. Gandhi becomes relevant today as a precursor of the major ideas of environmentalism¹³ and for pointing out that it was the village agro based economies that had to be strengthened and made

more sustainable for individual self sustenance in poor countries. His insistence on Saryodaya (welfare of all) and a minimum needs programme, emphasizing human development and equity have all been recognised as public policy options for poverty alleviation and removal of inequities in developing countries. That political democracy is meaningless without economic and social empowerment is now axiomatic. The greatest problem in Indian democracy is the notion of “differentiated” citizenship rights (citizenship entitlements are not equally shared) wherein a great segment of Indian citizens do not enjoy a bare social minimum in terms of public goods and services. That this would be a recurring social condition was predicted years earlier by Gandhi.

Therefore, if Gandhi’s seminal ideas on the political economy of India did speak a different language and vocabulary a hundred years ago, its continuing relevance lies in the fact that some of the basic contradictions in our economy have not disappeared even today. However what appears to be a problematic contradiction in the Gandhian political economy is Gandhi’s fundamental distrust of the state, political power and public action. The history of the 20th century state is a history of the potential power of public action to empower the disempowered individual and other marginalized groups in society. The entire development discourse shifted from economic growth to human development in the 20th century which brought to the core, issues of human empowerment centre-stage of the discourse. Distributive justice with a rights based approach to development are the current buzzwords in the development discourse. Even in the Gandhian political economy the individual is the centre of his concern. Gandhi’s theory of development envisages 3 stages: rejuvenation of village and cottage industries that bring economic self sufficiency to the individual (first stage), development of the spirit of swadeshi (home made goods) leading to self sufficiency of the national economy and in the third and final stage, a decentralized people’s democracy and institutional governance¹⁴ would bring in sarvodaya (uplift of all classes). To realize its full manifestation, it lays emphasis on the freedom and free choice of individuals for their fullest capability expansion. As a matter of fact development is a type of freedom (Sen 1999)¹⁵.

The entire dilemma in Gandhian thought begins and continues with the role of the state and public action. He did not believe in

empowering the state to empower the individual. He has a minimalist scheme of public action in Ram rajya. In India, the New Rights discourse¹⁶ since the nineteen nineties centers on empowering the individual with New Rights so that the citizen is truly empowered to play his desired role in society. Gandhi's concept of true democracy entailed that there is no concentration of political and economic power in a few hands, there is decentralization of power and the democratic practices start from the grassroots level through village swaraj in which the village republic would play a critical role. Gandhi's life long dream was to establish the Kingdom of God on Earth – (ram rajya) with a comprehensive package of citizen rights and entitlements based on the principles of justice, equality and truth. This may be called the system of enlightened anarchy. In the Gandhian system of projected perfect democracy, everyone's welfare is maximized and there would be a co-existence of Pareto Optimality with the Rawlsian principle of Justice¹⁷.

What would be the role of the state in a perfect democracy characterized by anarchy of the Gandhian type? Like the Marxian state, it will wither away as a system of coercive machinery, but will still work as a welfare inducing social institution with substantive reforms. It is here that Gandhi, the pragmatist and realist takes precedence over Gandhi, the idealist. He reconciles with the need for public power and action in independent India citing the following reasons:

- for regeneration of the economy.
- to protect the rights of the people specially of the poor.
- as an instrument for better and more equitable public policies for human development, social welfare and justice.

CONCLUSION

In this article I have tried to examine Gandhi's fundamental economic ideas within a political economy perspective. But Gandhian economics can also be better understood with a background study of the political economy and historical specificities of British rule in India. Gandhi came face to face with the political realities of imperialism and colonialism and decided to fight against all sorts of injustice, inequalities, exploitation and

conflict with a new method called satyagraha which was used for the first time in South Africa and later, while leading the anti-colonial nationalist movement in India.

From Gandhi's economic ideas the following positions can be derived which is amazingly relevant for our contemporary era as well. The convergence of values espoused by intellectuals in the post Cold war, post socialist and currently post globalized era can be summarized as a) the need for ending wars and promoting disarmament, in order to reap the benefits of the "peace dividend", b) need for democratization through decentralized institutions, c) environmental protection through sustainable development and d) public policies aimed at distributive justice for citizens. These are the same principles espoused by Gandhian economics – a derivative of his holistic ideas on man, society, economy and polity. He stood for non-violence, equity, distributive justice and an inclusive decentralized democracy, all of which are ideals that universally, are recognized as difficult to attain but nevertheless not exactly non-feasible or non-attainable in any era of history. The entire 20th century is a history of the gradual movement towards the attainment of each of these Gandhian ideas. He rejected capitalism as inherently alienating, dehumanizing and violent because it breeds class conflict. He rejected the idea of a classless society as unattainable and preferred the idea of "class harmony" by promoting "equity" as an attainable goal. The problem with Gandhian ideas is that it premises on the "ideal" man or an inherently "moral and just man", much like the Rawlsian man in the state of nature or Marx's man in the ancient "classless" societies of primitive communism. Gandhi's diagnoses and remedies of the ills of his own times have a "timeless" quality, they are as relevant today as they were hundred years ago.

According to him, modern societies are more of a preparation for war than of peace. War expenditures need to be curtailed and the "peace dividend" diverted for human development which truly means taking care of the basic needs of citizens. The modern state with its huge reserves of police, army, weapons of mass destruction and defence expenditures are nothing but systems of coercion and violence. **Human development is not only about meeting the material needs of human beings but also preparing them towards true detachment or anashakti which alone can help them limit**

their worldly desires, which can also be the beginning of a moral transformation of society. Such detached human beings will be the real social capital of a country and potential satyagrahis, whose actions will be guided only by truth and non-violence. To Gandhi, real progress in this world, can come only from moral progress. He was aware that even in his ideal state (ram rajya) the problem of inequality will remain. He grappled with the issue of inequality and having reconciled with the continued existence of the state he makes sure that state power remains completely subservient to the needs of egalitarian justice. He finally understood that state power can be of enormous instrumental use for the benefit of citizens. Gandhi writes:

But if inequalities stare us in the face, the essential equality is not to be missed. Every man has an equal right to the necessities of life even as birds and beasts have. And since every right carries with it a corresponding duty and the corresponding remedy for resisting any attack upon it, it is merely a matter of finding out the corresponding duties and remedies to vindicate the elementary fundamental equality.

(Gandhi, 1931, 26 March)¹⁸

What emerges from a serious reading of Gandhi's economic ideas is a paradigm of development whose ultimate aim is not only the production of the basic necessities of life but also real moral progress of its citizens. He lamented the fact that modern education systems are devoted to learning the technique of earning bread with absolutely no interest in moral progress. The economic system should have 2 aims – production of the basic necessities of life and the economic surplus should be used for human-centric development. **Development in the Gandhian state should also aim at realizable outcomes : work for all, reduction of inequalities and concentration of economic power, establishment of small scale and rural industries, capital labour cooperation and formation of social capital. All these are socially desired outcomes, at the centre of which lies the individual who by virtue of his moral progress remains the foundation head of a just and self regulatory society.**

To understand Gandhi, one must not forget that unlike many other great visionaries and thinkers, he practices what he preached. As a

practical idealist he sincerely believed in the feasibility of his ideals and the sustainability of his doctrines. His relevance or irrelevance can of course be examined or reexamined many a time in the economic and political practices of our era as much as it had been tried and tested in the decades of the 20th century.

ENDNOTES

- ¹ According to Gandhi, religious, tenets and practices may differ but the principles of ethics must remain the same in all religions. The Gita teaches a spirit of non-attachment which has been called “anashaktiyoga” by Gandhi. To Gandhi, good economics or good politics must be culled from ethical foundations.
- ² Gandhi found the free market mechanism morally abhorrent and cruel. A free market mechanism is a situation where market forces (forces of demand and supply) play their uninterrupted role, where the role played by the price mechanism becomes deterministic, automatically adjusting the disequilibrating factors and forces.
- ³ Classical political economy popularized by Adam Smith, David Ricardo, John Stuart Mill and Thomas Malthus started primarily as an analysis of the behaviour of long term macro economic variables and their impact on the economy. The classical political economy approach emphasized on the importance of the market mechanism, the labour theory of value, the principles of distribution and the genesis of class conflicts. Over the ages, the meaning of political economy has undergone evolutionary changes. Now many other analytical approaches can be included within its jurisdiction. Political economy elements are those characteristics that are included in the definition and ontology of the term. Some of these elements are concerned with the analysis of exploitation, inequality and distributive justice, genesis and resolution of conflict, analysis of the nature of the state, power and policy and explanation of economic underdevelopment in terms of dependency. It studies the economic effects of political action and the political effects of economic policies. See P.O. Hara (ed.) (1999) Encyclopedia of Political Economy, Routledge, London.

- ⁴ P. Baran (1957) *The Political Economy of Growth*, Penguin Books, England.
- ⁵ M. Lipton (1977) *Why Poor People stay Poor*, Temple Smith, London.
- ⁶ Dependency is a form of an unequal international relationship between two types of countries : the economically strong (centre) who exploit the economically weak (periphery) countries through various ways of surplus extraction and unequal exchange. The strong countries are the developed capitalist countries and the weak are the third world countries who have to depend on the strong countries for capital, technology and various forms of aid. There are various dependency theories providing an alternative explanation of economic backwardness of the dependent countries.
- ⁷ The Bombay Chronicle 17 November, 1932, From collected works of M.K. Gandhi, GOI, New Delhi.
- ⁸ This line of thinking was introduced by D.B. Naoroji (1901) *Poverty and Un-British Rule in India*, Swan, Sonnenschein & Co. London.
- ⁹ B.N. Ghosh (2007) *Gandhian Political Economy: Principles, Practice & Policy*, Ashgate Publishing Company, UK
- ¹⁰ John Rawls, (1971) “A Theory of Justice” Cambridge. University Press Rawls in his theory of justice has propounded the principle that all primary goods like liberty, opportunity and so on are to be distributed equally unless an unequal distribution to the advantage of the least favoured.
- ¹¹ Young India (1927), 17 March, From collected works of M.K. Gandhi, GOI, New Delhi.
- ¹² From Ruskin’s book (1862) *Unto the Last: Four Essays on the First Principles of Political Economy*, Gandhi mainly took 3 ideas: all types of work are morally equal, every worker has the right to earn his livelihood and the good of the individual is contained in the welfare of all.
- ¹³ Environmentalists all over the globe recommend participatory democracy, emphasis on small scale and rural industries, use of

appropriate technology and an inward looking political economy.

- 14 Institutional governance is a system of administration through decentralization of political power and functions to organizations and institutions. Gandhi was not at all satisfied with modern so-called democracies with centralized bureaucracies which were corrupt and anti people in attitude and depended on violence and coercion to establish their diktat on the people.
- 15 Amartya Sen in (1999) *Development as Freedom*, OUP puts forth the same thesis.
- 16 The New Rights Discourse in India talks of a rights based approach to development. The “new rights” which are being advocated as a part of the citizen entitlement package are the rights to work, food education and health.
- 17 Pareto Optimality is a situation where it is impossible to improve the economic condition of a single person without adversely affecting another person’s welfare or well being. Rawls’ theory of Justice is similar to Gandhi’s – Antyodaya leads to Sarvodaya. Rawls states that differences (inequalities) in the pattern of distribution can be allowed as long as these are in favour of the poor (The Last Person in Gandhian terms) The welfare of the poorest leads to the welfare of all.
- 18 M.K. Gandhi, “Questions and Answers” *Young India*, 26 March, 1931, From collected works of M.K. Gandhi, GOI, New Delhi.

SUGGESTED READINGS

Awasthi, D.S. *Gandhian Economic Theory*, New Delhi. Usha Publishers, 1987

Bondurant, J.V. *Conquest of Violence*, California, University of California Press, 1971

Chakrabarty, Bidyut, *Social and political thought of Mahatma Gandhi*, London, Taylor & Francis 2007

Copley, A. *Gandhi: Against the Tide*, Delhi. OUP, 1999



Das S. *Foundations of Gandhian Economics*, Bombay, Allied Publishers, 1979

Erikson, E.H. *Gandhi's Truth*, New York, W.W. Norton, 1969

Ghosh, B.N. *Gandhian Political Economy*, UK Ashgate Publishing Company 2007.

Parekh, B. *Gandhi's Political Philosophy*, London, Macmillan, 1989

Raghuramaraju A. *Debating Gandhi: A Reader*, Delhi, OUP, 2006

Richards G. (1995) *The Philosophy of Gandhi*, UK Curran Press, 1995

Rudolph Lloyd and Susanne Rudolph, *Postmodern Gandhi and other essays*, Delhi, OUP, 2007

Sen, A.K. *On Ethics and Economics*, London Basil Blackwell, 1987

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Rights of Internal Minorities in a Democracy: Some Reflections on Muslim Women

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Introduction

Equal respect for persons, equality before law and equal civil and political rights of citizens are central to liberalism and in different degree part of all liberal democratic States. But the existences of cultural and religious diversity in contemporary societies raise problems of how these principles are to be interpreted and applied. Almost every modern society includes groups whose way of life are different from other and wish to preserve this. State is confronted with questions of how to accommodate different groups without losing its social cohesion, how to reconcile the demands of equality and recognition of cultural and religious difference. These important questions were ready for India as well when the nation started its journey after independence. The most important question for Indian democracy was how to define the rights of citizens. The conflicting pulls between the rights of minorities to cultural and religious identity and the concern for an integrated nation were to become major debating issues regarding individual and group rights. Various communities having different traditions and cultural values wanted to preserve them and thus the personal laws of each community became the direct extension of these cultural and traditional values. Apart from protecting cultural and religious identity of its citizens liberal democracy has a responsibility towards all their citizens and thus it was important to uphold their fundamental rights. But in State some of the family and property laws are not in line with liberal democracy norms of sexual equality should they be systematically overridden, why should personal law system continue in the secular democratic republic that India is when secularism that underlies the spirit of the Indian constitution mandates that the state will not be aligned to any one religion and all citizens will have the freedom of religious belief. Personal Law regulating matters of marriage, adoption, succession and divorce was adopted to regulate inter group relations, to manage

irreconcilable tensions between religious groups as well as to spell out the relationship of democratic state with different religious group when religion is an important marker for the identity of a person in Indian society. Secularism by itself may not have been enough to create a supportive social and political environment for minority cultures. This environment was created by incorporating appropriate provisions to protect minority religions. Incorporation of different provisions for minority communities was an attempt to assure all minority religious communities that they will be equal members of the polity. The right to profess, practice and propagate religion was incorporated as fundamental right in the constitution. Another important right was laid down under Article 29 (1) as “any section of the citizens residing in the territory of India or any part thereof having a distinct language, script or culture of its own shall have the right to conserve the same”. Article 30 gave the guarantee to all religious and linguistic minorities the right to establish and administer educational institutions of their choice. The right to religious practice has, among other things, been used to uphold personal laws of different religious communities.

Minority religious groups have been assured by the state that their beliefs and way of life would be given equal respect and that they would not be discriminated against. Equality between communities is pursued through policies that promote cultural diversity. In context of India apart from other rights state accepted different personal laws for different communities, that gave them freedom to decide matters relating to family, inheritance, adoption, marriage, divorce etc. In the matter of personal law the dominant discourse was created to demarcate separate sphere of authority of religion and State, where personal laws are supposed to be an integral part of religion representing eternal religious rules which cannot be modified. In this process religion and minority identity intersect creating space for an argument that minority community must be allowed immunity from state modification of their religious laws. The claim of autonomy to maintain religious identity simultaneously denies the option of claiming gender equality as part of that identity. In this construction of relationship between community and state, group interests are constituted around distinct identity where dominant voice is heard and voice of internal minority is silenced because the institutional mechanism for ascertaining and enforcing

group rights recognize the dominant claims of the group. It is important to understand women are specially affected by minority cultural practices because in powerful state structure communities find it easy to control cultural traditions in areas treated as private by the liberal society. Personal law deals with the matters of private domain of the family which forms the women's universe.

Minority within Minority

Communities to maintain their distinct status or existence or solidarity may discriminate in unfair ways against some members of that culture. The individuals within the group can be deprived of their rights by dominant members of the group on the basis of gender. Cultural arguments can be used to justify or perpetuate discrimination against women in the form of unfair divorce conditions, marriage laws, discriminatory treatment in terms of control of family property and inheritance as well as law's controlling women's sexuality.

Communities are internally differentiated and there exist hierarchies of power and domination within each. Consequently special rights given to the communities for the protection of their culture may be used against minorities within the communities or the existence/maintenance/survival of the culture. There can be certain practices within the group that promote inequalities. So our most important concern is how to accommodate concern of minority within the community along with the commitment to promote equality between communities.

In India, for purpose of personal law, the constitution recognizes four religious communities: Hindus, Muslims, Christians and Parsi. State gives them some kind of autonomy in matters relating to personal law. The whole issue needs to be looked at keeping in mind the claims of most vulnerable and subordinate section within the minority for equal treatment along with the demand of the minority community for equal treatment within the polity to maintain their existence.

By giving rights to communities to protect their distinct identity we extend the relationship domain as it involves not only individual and state but also group. After giving special rights to minorities to protect their culture and distinct identity state interference in their

culture is seen with suspicion because it defeats the very purpose i.e. cultural diversity, for which special rights are granted to the communities. According to this logic no corresponding changes have been introduced in the personal laws of the minority community. Initiative for change has been left with the community and that makes women of these communities disadvantaged. They are the most vulnerable section of the community because they are unequal as compared to the men of their community. Secondly they become unequal as compared to the women of other communities and thirdly unequal as compare to their relationship as citizen with the state is concerned because state has abandoned its responsibility to them and their community in lieu of maintaining their existence wants to project unified identity and suppress their voice because dissent within the community makes community voice weak.

On the one hand women of the community want to maintain their identity as part of the community to which they belong because this provides them “secure cultural context”. On the other hand their own community is perpetuating injustice and is not willing to ensure equal treatment for them. Question is how justice can be done where they got equal status within their community. It is in this context of maintaining cultural diversity but also ensuring justice within the community that whole issue becomes important.

Muslim Women – Minority within minority: Theoretical Explorations

The central analysis of this paper is Muslim women as minority within the minority. I am trying to reflect upon the experiences of Muslim women in India to see how their concerns can be adequately reconciled with claims for protecting their status as members of minority community within the polity.

If we look at the whole issue we realize that matters of community are left by and large in the hands of the minority community. The practices of the community that affect the life conditions of their members, or to exercise their right to decide their way of life are left untouched, to respect the autonomy of community and lead to unequal treatment for Internal minority..

Exit as option for internal minority

Theorists like Chandran Kukathas argue the right of exit for the individual. We cannot give the state or any other external agent the right to intervene in the affairs of the community. What is advocated is cultural communities be conceived as associations, such that individuals have a right to enter into them and abide by their norms if they so desire or they may, if they find that way of life unacceptable dissociate themselves from these communities into which they are born and charter a different life for themselves. The root appeal to the argument of exit rests in the liberty principle itself: people ought not to be prevented from doing those things that they freely and competently choose, provided that they do not harm others. The argument is sound only if members of minority groups do in fact have a fair chance to leave if mistreated. To see how rarely that is the case one must assess the real prospects for exit. When membership is partly ascriptive exit is difficult. Is it so easy to tear oneself from one's religion or culture? Secondly, most of the time members of the community who are weak as compared to others lack the resources to exercise option of exit as for long time they had been under strict intra group control. Thirdly exit is not as such a matter of individual choice as others may continue to identify them as belonging to that community. Most important point is by talking about option of exit we are diverting the whole issue because demand is equal treatment within the community and not exit. Internal minorities want to have equal treatment as member of the community because membership of community plays important role in forming their identity they are not looking for option of exit but equal status within the community.

Argument of Relative Power

The second claim is the internal minority – minority relationship differs from that between minority and majority with respect to relative power. One reason why we want to protect minorities is that they are relatively powerless to protect themselves. But argument of relative power is weak because internal minorities are worse off group and in this way vulnerable to the minority.

Status of women within community

Looking at the internal minorities specially women we find the

personal laws of all communities, the majority as well as minority disadvantage women. The existence of different sets of personal laws is generally perceived as an anomaly within the Indian legal system. But the important logic is having distinct identity and desire to preserve it is not against national integration. It is important to make personal laws gender just and reforms can be initiated. Parsis and Christians introduced some reforms in the personal law and reforms in Hindu personal laws were initiated by the state. But no significant change has been made in the personal laws of the Muslims. It is being presented as irrevocable. It is being defended as if there is a clear equation between religious law and community identity. Women are projected as a symbol of community identity. The example is the controversial judgment in the Shah Bano case. After this judgment a new statute was enacted in 1986, the Muslim women (Protection of Rights on Divorce) Act of 1986. The act deprived Muslim women of the rights granted under a secular provision, sec 125 of the criminal procedure code (Cr. Pc) on the basis of religion. The judgment became so controversial that finally Shah Bano herself made public declaration renouncing her claim, "If this entitlement was against her religion, she declared, she would rather be a devout Muslim than claim maintenance."

The state responded to the concerns of gender justice by legislating the special marriage act in 1954. Individual could choose to be married under this act and be governed by the law of the state, which was more gender just. If they did not make this choice, however, then they would be governed by the personal law of their community.

But the issue is women who are marginalized minority, with very few resources to support their independent existence can challenge the existing orthodoxy and take a decision about their lives to marry under more gender just Special marriage Act. Moreover such strategies ask the individual to choose between community membership and fair treatment and this is by no means a choice that any individual should be expected to make. This is something like asking a person to give up what has in past given meaning to her life plans.

A policy needs to be structured in such a way that accepts that cultural community membership is valuable to the self and cultural

diversity enriches society where doors are open for reforms. The larger question associated with this is who will initiate reforms? Reforms initiated by the state often meet with hostility and suspicion from the minority community because of perceived danger to the distinct identity of the community and the principles that are endorsed as universals may reflect the sentiments of the dominant community within the polity, thus the idea of accommodating minority within minority democratically through consensus building within the community is most sensible in context of India.

But the success of reform process depends heavily upon the way in which a community relates to the state. The process of internal change is least successful in the case of Muslim community. The negative perception of the state has helped to consolidate and privilege the religious identity of the community, it has made the community more resistant to change even when the demand for change come from within.

On issue of tolerance within the community it is important to consider that if one has learned to expect that one will be attacked from above it is natural to fear that one may also be assaulted from below and to strike pre-emptively. Moreover it is hard to build defenses that shelter from one direction only – institutions and practices of minority community that promote solidarity, unanimity and so on keep both majorities and Internal minority in check whether that is their intention or not. The circumstances of their lives simply make it extremely prudent to strive for unity. In as much as there is strength in numbers, the minority will seek to avoid costly internal dissent. And the majority also finds it convenient if there is one authoritative voice that speaks for the minority. As a result there is strong pressure for minorities to discipline themselves. In this process they become stronger but often silence and disempower their own internal minorities. In the Indian context the religio-political leaders have invariably been men, they manage to be the exclusive voice of the community and state recognize the same. All India Muslim Personal Law Board constituted in 1973 became the representative voice of the Muslim community and recognized so by the state. The heterogeneous nature of the community was not considered.

The relation of the state to the women of minority community is negotiated through their community where the state has persistently defined women in relation to men and establishes triangular relationship between representatives of the community, state and women. Past history shows different phases of relationship sometimes cooperation sometime confrontation but almost always leaders of the community are considered as the sole spokesperson and state itself make loopholes in laws and sustain discriminatory laws. The goal of national integration and political stability often appears to be more important and thus state abandons its responsibility towards women even denying them their right as equal member of the state. With special reference to post partition realities in India Muslims became the largest religious minority. They were faced with a dilemma of establishing their strength from group solidarity because due to some past considerations Muslims were always identified with Pakistan, while being citizens of India. Religious identity of the community became more pronounced and personal law constituted an important component of that group identity. Special Marriage Act raised grave concerns over the refusal of the government to exempt the Muslim from the purview of the act. The adoption Bill 1972 (reintroduced in 1980) excluded Muslims from its purview. The Muslim Women's Act of 1986 established again that their right to control personal law would be respected. K. C. Pant Minister of Steel cautioned extreme care in dealing with Muslim Personal Law and argued alienation of Muslims would threaten political stability and national integration. The essence of government policy was summed up in the words of Law minister "if the majority of the Muslim feels that the bill is in their interest we cannot impose our views on them". The opinion of Muslim Women and others within the community was ignored. The government justified its position by stating that it was the constituent policy of the government that in matters pertaining to the community priority would be given to the leaders of the community.

State denied to women right to question the traditional authority and practices, denied autonomy and selfhood and reinforced existing hierarchies and gender inequalities thus embedded in identity politics Muslim personal law became untouchable. Because when the survival of its distinct existence is challenged then community become more sensitive and it becomes difficult for individual

members to critically interrogate and revise existing framework of belief or practices. Since cultural identity is constructed relationally it consists in marking off that which is other, that which a given group of people with a common identity asserts itself not to be. The important point is that change in regard to issue concerning women might well be viewed as the first step down a slippery slope at the end of which lies cultural annihilation and full scale assimilation.

When minorities find themselves in a situation of objective numerical threat, the temptation to police identity through incentive, sanction and manipulation becomes great.

Conclusion

Minority-majority relations are often historically related to the uneasy settlement of conflicts and wars. Majorities and minorities are not unrelated groups that happen to have been juxtaposed on the same territory. So regardless of the way in which the state acts towards minorities, there is already something in the very cultural make up in the political history of the societies that give rise to the tendency of defensiveness on the part of the communities. This leads to hardening of the cultural lines between groups.

In Indian context and the problem of internal ministries, the whole question revolves around the relations between Hindus and Muslims and the disadvantaged position of the Muslim minority. Political context matters and it has proved hard in the Indian context to detach the whole issue from the attacks on Muslims. The failure of the state to provide economic or social security has become a critical component in the growing distrust of the state, whose communal bias in general and during communal riots in particular aggravate the social divide.

Whenever threat is perceived to any community's identity there is often a rallying around at least emotionally of all the members around crucial issues and symbols. Personal laws are utilized for marking out group boundaries and any move for reforms are perceived as threat to a community's identity. Women became the unfortunate victim of the process as personal laws discriminate against women.

BIBLIOGRAPHY

Agnes, Flavia, 1996, "Family Courts and Minority Rights" in Indira Jaising (ed.) *Justice for Women: Personal Laws Women's Rights and Law Reform: The Other India Press*, Goa.

Agnes, Flavia, 1999, *Law and Gender Inequality the Politics of Women's Rights in India*: Oxford University Press, Delhi.

Agnes, Flavia, 2004, "A Muslim Cannot Divorce his Wife at his Whims", *Communalism Combat*, July.

Agnes, Flavia, 2011, *Family Laws: Family Laws and Constitutional Claims Vol.1*: Oxford University Press, New Delhi.

Dalmia, Vasudha & Stietencron, Heinrich Von (ed.) 1995, *Representing Hinduism the Construction of Religious Traditions and National Identity*: Sage Publications, India.

Deveaux, Monique, 2000, "Conflicting Equalities? Cultural Group Rights and Sex Equality", *Political Studies Vol. 48*, Political Studies Association: Blackwell Publishers, USA.

D'Souza, Diane, 2012, *Shia Women Muslim Faith and Practice: Zubaan*, New Delhi.

Eisenberg, Avigail & Spinner –Halev Jeff, 2005, *Minorities within Minorities Equality Rights and Diversity*: Cambridge University Press, United Kingdom.

Hasan, Zoya, 2002, "Religion and Politics in a Secular State Law Community and Gender" in Zoya Hasan (ed.) *Politics and the State in India- Readings in Indian Government and Politics-3*: Sage Publications, India.

Hasan, Zoya & Menon, Ritu, 2004, *Unequal Citizens A Study of Muslim Women in India*: Oxford University Press, New Delhi.

Hasan, Zoya & Menon, Ritu, (ed.) 2005, *In a Minority Essays on Muslim Women in India*: Oxford University Press, New Delhi.

Jaisingh, Indira (ed.) 1996, *Justice for Women Personal laws Women's Rights and Law Reforms: The Other India Press*, Goa.

Jaisingh, Indira, 2004, All Unjust Personal Laws must go, be they Hindu, Muslim or Christian: Communalism Combat, July.

Kumar, Radha, 1993, The History of Doing: An Illustrated Account of Movements for Women's Rights and Feminism in India 1800-1900: Zubaan, New Delhi.

Menon, Nivedita (ed.) 1999, Gender and Politics in India: Oxford University Press, New Delhi.

Parashar, Archana, 1992, Women and Family Law Reform in India, Uniform Civil Code and Gender Equality: Sage Publication, India.

Sangari, Kumkum, 1995, "Politics of Diversity, Religious Communities and Religious Patriarchies", Economic and Political Weekly, December 23.

Suneetha, A.2012, Towards Understanding Muslim Social Reforms- Jamait-ul-Mominath & its Fatwa's for Women in Flavia Agnes, Shoba Venkatesh Ghosh in Association with Majlis Legal Center (ed.) Negotiating Spaces legal Domains, Gender Concerns and Community Construct: Oxford University Press, New Delhi.

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India's Partition: With the Humans, Music too Migrates

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The Partition of India in 1947 is one of the human tragedies the like of which the world has seldom witnessed. A million people were killed and scores of thousands of women were raped and dishonoured. In the midst of untold violence about 20 million people were displaced looking for shelter in unknown places. All this happened in just two to three years. The subject has received considerable amount of scholarly attention and the process is still on although six decades have passed in the meantime. Still, what has not received adequate attention is the migration of culture along with these human movements. In this short essay I would try to say a few things about the impact of Partition on music.

So far as music and lyrics are concerned there was no visible impact of Hindu-Muslim-Sikh migrations though the Indian People's Theatre Association (IPTA) reflected some of these influences. IPTA included many notable names like sitarist Pandit Ravi Shankar and poets and lyricists like Sahir Ludhianvi and Kaifi Azmi. What is, however, most fascinating was the impact of Goan (a Portuguese colony annexed by India in 1961) musicians on Hindi film music, which is largely unsung, unnoticed. If the period 1940s through 1960s is known to be the golden age of Hindi film melodies it was equally the golden age of fusion music, long before Ravi Shankar brought it to the world stage—the fusion of Indian ragas and western instruments and jazz. It was possible only because there was a huge migration of Goan musicians to Bombay. In the words of a researcher in the field: 'The arc of their [the Goan Catholic musicians] stories—determined by the intersection of passion and pragmatism, of empire and exigency—originated in church-run schools in Portuguese Goa and darted through royal courts in Rajasthan, jazz clubs in Calcutta and army cantonments in Muree. Those lines eventually converged on Bombay's film studios, where the Goan Catholic arrangers worked with Hindu music composers and Muslim lyricists in an era of intense creativity that would soon come to be recognised as the golden age of Hindi film song.' The journey of the Goan musicians did not always end at Bombay but often that served as 'a

stepping stone to other territories held by the British' such as East Africa as well as other parts of the subcontinent, mostly in the princely courts.

In the realm of Hindi film music the Partition had a significant impact though it is often not mentioned. In the 1930s and early 1940s film music was a mix of Indian classical music as well as folk music. In this the Bengal music industry had a significant impact because of two things, one that the Calcutta-based studio, the New Theatres, was a leading film studio in India those days which produced mostly Hindi films which invariably had many songs, and two, these songs derived considerably from the folk music tradition of Bengal as well as from Rabindra-sangeet. But the sentimental and melodious appeal of these songs was seriously challenged by 'the sudden and robust calls of the Punjab in a film from Lahore (Khazanchi—1945) which shocked the nation by its appealing vulgarity. A new conception was born. Rhythm, which had hitherto been dormant shot up in glaring prominence while melody which had been so far following set semi-classic formulae suddenly welded itself into catching, almost folk-like, and haunting shapes.' Following the Partition and the resultant migration of many important artistes and technicians from Lahore film industry to Bombay this new trend took the shape of a 'Bhangra-inspired music: a whole-scale importation from the West. The more vulgar the "find" the better. The famous champion of this western "oompism" was Naushad and later O.P. Nayyar.... Naushad adopted the West without ever fully understanding it.'

The other most fascinating impact is in the migration of music beyond the South Asian region along with indentured Indian workers in the British plantations in several parts of the British Empire. Bhojpuri folk music's influence on Caribbean pop music, which Surabhi Sharma's documentary, *Jahaji Music*, brilliantly presents, is one such example. The idea of the film came from Tejaswini Niranjana's *Mobilizing India: Women, Music, and Migration between India and Trinidad*. After having heard Goan musician Remo Fernandes, Niranjana observed that his music contained strains of the Trinidadian Calypso. Intrigued, she contacted Fernandes who responded with enthusiasm. Sharma notes: 'This was the journey Tejaswini asked me to document: 'Remo's encounter with the music and musicians of Jamaica and

Trinidad. But this journey had to resonate, I felt, with other journeys—of African slaves and Indian indentured labourers being shipped to Jamaica and Trinidad to work on the colonial sugar plantations in the mid nineteenth century. The world was on the move.’ According to ethnomusicologist, Peter Manuel: ‘Indo-Caribbean music culture is a rich and heterogeneous entity, comprising syncretic commercial popular hybrids like chutney-soca, unique neo-traditional forms like *tassa* drumming and local-classical singing, and traditional genres like *chowtal* which are essentially identical to their south Asian forebears.’

The Bhojpuri connection of the Indian Bhojpuri-speaking Indian diasporas, particularly through Bhojpuri movies, has been noted by many. The noted Hindi film song singer Udit Narain’s recent Bhojpuri flick *Kab Hoi Gavna Hamar* (English: When would I get married) shot in Mauritius, which depicted the plight of these migrant workers brought there 150 years ago, was successful not only in Mauritius but also in several parts of India encouraging Udit Narain to produce more movies in Bhojpuri. The songs in these movies are runaway hits.

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The Buddhist Traits in Sufi Traditions

Dhritabrata Bhattacharjya

“Today, Sufism is a name without a reality, but it used to be a reality without a name.”¹

Today, when we talk of Sufism, it does not have a single meaning. It covers a wide range of cultural, religious and spiritual characteristics of people ranging from different parts of the world. The diversity in those groups is so extreme that often it becomes very difficult to point out the similarities between two Sufi denominations.

In this connection, Sufis are known to have their own codes, struggles, freedom and magic. They may be spiritual persons, poets, musicians, dancers, wanderers, charmers or they can even be commoners. Irrespective of the criteria, the only unquestionable commonality amongst Sufis, in the past as well as in the present, is that they hail from places where Islam has been a prominent religion.

The world of Sufi is constituted by poets, saints, heroes of the legends, literature and different form of arts. The Sufis are identified locally. And at places, these local Sufis took the shape of an institution. Hence, the rituals are codified in that particular Sufi order. If we refer to the spiritual aspects of Sufism, then it can be stated that the Sufis possess free mind and spirit. They are free to live and free to die. The death of Sufi is not a matter of grief but of celebration, since it reunites the Sufi with the celestial power. This is the reason, why in the Indian subcontinent, the death of a Sufi is observed through a festival known as ‘urs’.

Sufis have a different way of looking at life. A celebrated Sufi poet from Iran says, “Oh brother, since we end up being dust, be as humble as dust before becoming dust”². As far as the Sufi spirit is concerned, a brilliant definition was provided by Robert Graves; *“Sufism has gained an Oriental flavour from having been so long protected by Islam, but the natural Sufi may be as common in the West as in the East, and may come dressed as a general, a peasant, a merchant, a lawyer, a schoolmaster, a housewife anything. To be “in the world, but not of it”, free from ambition, greed, intellectual pride, blind obedience to custom, or awe of persons higher in rank – that is the Sufi’s ideal”³*

Undoubtedly, going by this definition we cannot classify Sufis as a religious sect. They are a group of people living in society without any name, having no religious book, no place of worship, no sacred place and without any monastic organization. An intelligent way to know them and to grasp their philosophy of life is through the reading of the texts penned down by those strangers to the world.

*"The ordinary man repents his sins: the elect repent of their heedlessness."*⁴

- Dhu'l-Nun Misri

"There is a community of the spirit.

Join it, and feel the delight

of walking in the noisy street,

And being the noise.

[...]

Be empty of worrying.

Think of who created thought!

Why do you stay in the prison

when the door is so wide open?

Move outside the tangle of fear thinking.

Live in silence.

Flow down and down in always

*widening rings of being."*⁵

- Jelaluddin Rumi

"The secret is still the secret but we say it's manifest,

*It's in a dream we wake, "We're awake!" we opine."*⁶

- Ghalib

"One stranger, on this wretched earth.

Shines at his work.

*In odd time, without remembrance"*⁷ – Lalan Fakir

These are only the pearls that are exposed from under the ocean of their creative world. Every individual has his share of this treasure in his mind. It is only a sparkle in life that may flash the door towards this treasure. The work of these poets appears as a sparkle for many.

At present, we are destroying the very essence of Sufism by putting forward a historical analysis of its origin and its contents in order to retrace its probable origin. For a layperson, the word Sufi stands for a spiritual path, poems, rituals and different forms of art. As far as the scholarship is concerned, Idries Shah writes, "Let us presume no background of Sufi ideas on the part of an imaginary student who had recently heard of Sufism. He has three possible choices of source-material. The first would be reference books and works written by people who have made this subject their special province. The second might be organizations purporting to teach or practise Sufism or using its terminology. The third could be individuals and perhaps groups of people, not always Middle Eastern countries, who are reputedly Sufi."⁸

Sufism can be examined under several aspects: cultural, religious and spiritual. In this essay, we will attempt to demonstrate all these three aspects of Sufism in order to locate the common space that it might share with Buddhism. Although, it cannot be classified as a Muslim sect, the so called Sufis are located mainly in Muslim society. French expert on the subject Jean Chevalier underlines that "the title *al Sufi* comes up for the first time, as per the traces discovered till date, in 776, attributed to an Iraqi ascetic. During the 9th century the term *sufiyah* points to a group of ascetics and mystics reputed for their austerity in Kufa and Baghdad, in 821 in Alexandria to a group of puritans who revolted against the corruption of the power. In 980, the first chair had been created for Sufi teachings at a mosque in Cairo, and 11 years later in Baghdad."⁹

As far as the word *Sufism* is concerned, Idries Shah says, "[...] (it) is a new one, a German coinage of 1821."¹⁰ The origin of the very word Sufi is well-debated. Some opine that during and after the Arab invasion in Iran, many people fled to different places. The Sassanian dynasty took refuge at the Chinese court, some Zoroastrians came to India and different branches here and there. The Arabs persecuted the people, who were of free spirit and could not conform to the rules of the new regime. In this context, it would certainly be relevant

to quote a poem of Firdausi to show to what extent the Iranians were unhappy with the Arabs:

*"They drank camel's milk, and desert lizards they ate
The Arabs have since much improved their state,
So that on Persia their eyes are now fixed,
Fie! on you, revolving sky, fie! on such a fate."*¹¹

According to this group of experts, there were people who went towards Afghanistan and Kashmir. Due to extreme climatic conditions they had to wear long woollen gowns. Once political situation became stable, they returned to their homeland. In Arabic, *suf* stands for wool and if they were wearing woollen gowns, they were called Sufi. This might explain why the Sufis were persecuted initially in the Islamic society and why they lived at the outskirts of the cities. And finally "[...] the popular upsurge forced orthodox Islam to accept Sufi Tariqa (way) as part of Islam, despite reserves, in succeeding centuries."¹² It is quite enlightening to note here that till date few Sufi orders do have a cult of gowns.

Another group suggests that it originates from the word 'safa'. This word means pure in Arabic. According to them the Sufis are supposed to have the purity of mind and soul. Thereafter the word Sufi came into existence.

A third opinion suggests that it originates from the Greek word, *Sophos* or *Sophia* that designates knowledge.

By taking into consideration all these arguments, we observe that the geographical limits of Ancient Iran were the heartland of Sufism. The earliest of the Sufi orders, *Qadiriya*, *Rafaiya*, *Suharawardiya*, *Maulaniya* are from that region and few others from Central Asia.

Now we would like to explore to which extent, Buddhism was spread over this region, in order to find a common space where the Buddhist ideals may have been imbibed in Sufism. In this context, I am enclosing few political anecdotes of Iran, in order to have a chronological idea of the events:

7th century BCE: Media a Great Power.

Around 600 BCE: Zarathustra lives in eastern Iran.

6th century BCE: Persians win the whole of Iran and the Middle East (under kings like Cyrus II -the Great, Cambyses II, Darius I). The Persian Empire rules from the capital Persepolis.

5th century BCE: Wars against the Greeks. Land is gained all the way to the Ægean Sea.

4th century BCE: The structure of the State dissolves.

330 BCE: Alexander the Great's warfare subjugates the northern and most populated parts of Iran.

324 BCE: The returning campaign of Alexander takes control over the southern parts of Iran.

3rd century BCE: After years of fighting at the aftermath of Alexander, the Partians become the new rulers, and their kingdom becomes one of the big powers in the Middle East.

225 CE: Kingdom of the Sassinids, a new grand era. Zoroastrianism becomes the state religion.

630s, 640s: Arabs conquer Iran. From this time on, the people of Iran are slowly converting into Islam.

1000- 1500: Time of Seljuqs and the Mongols.

In sixth century BC, Gautama Buddha lived on this earth. His Iranian counterpart was Achaemenid dynasty. Oskar Von Hinüber elaborates that Buddhism spread over "from the eastern end of the Silk Road, through the Karakorum and Hindukush regions, Kashmir, parts of the present day Pakistan and Afghanistan, up to the Oxus as far as Merv."¹³ According to Ali Asghar Mostafavi "[...] Buddhism crossed the India borders and the domain of Buddha preachers stretched to Kashmir and Qandahar and Kabul from the Indian north-western borders. Later on, the religion spread to the Jeyhoon Sea and greater Khorassan and Balkh and Bukhara and eventually to the Persian Empire."¹⁴ He further states that "Barkamians were one of the biggest and oldest tribes of Iranian scholars and rulers among who several dignitaries served as ministers for the Abbassid caliphs. The Barmakian tribe which dwelt in Khorassan were followers of Buddha before the birth of Islam."¹⁵

The present essay is not the first of its kind to discover the strong presence of Buddhism in Ancient Iran. On the contrary, it attempts to proceed further from what has been already accomplished. Daniel Guimaret published an essay entitled *"Buddha et les bouddhistes dans la tradition musulmane"* (*Buddha and the Buddhists in Muslim tradition*) in *Asiatic Journal* 1969-70. In this context, the first thing which comes to our mind is to relate Buddhism with the word 'But' which stands for *idol* in Persian. However, it would be quite unfair to claim that the word 'But' signifies only idol. In a passage cited by Baily in his article "The Word 'But' in Iranian, reproduces a word used by Joveyni where the word *bot-parasti* (the cult of Bot) means Buddhism. *Cac-name* is one of the texts compiled in 613 H. which elaborates at length on Buddhism. Today these manuscripts are conserved in the *Bibliothèque Nationale in Paris*."¹⁶

Before reconstructing the history of Buddhism in Iran, let us find out, the archaeological traces of the Buddhist monuments that had been located by different experts till now. According to A.S. Melikian-Shervani, the Eastern Iranian world adhered to Buddhism across its territory. He says in his essay, *L'évocation littéraire du bouddhisme dans l'Iran musulman* (*Literary Evocation of Buddhism in the Muslim Iran*) that Marv, Balkh, Qunduz in Khorassan, in Samangan (now known as Heybak and Bamiyan) were full of stupas and biharas. Ghazni, the extreme southeastern capital of Iran, was a centre of Buddhism like Kandahar or Kabulistan. The findings of Mavara an-nahr (Transoxian) also reinforce the Buddhist presence.

Temrez had magnificent monasteries. In addition, Bukhara was as an essential centre for Buddhism along with Nishapur and its surrounding region. The last two regions also happen to be the land of first Persian literature.

Moreover, Buddhism had its impact on the art of Iran as well, which continued from the mid-eighth century till 13th century Mongol invasion. During five centuries the Buddhist symbol such as the wheel of law and the mudras were at large in Iranian painting.

Buddhism underwent a golden time under the reign of the Western Indian dynasty Kusanas (from Saka). During this period emerged the Buddhist iconography from Easter Iran, which possessed Hellenic characteristics as well. Perhaps this is the reason why we find Buddha's statues with curly hair from Greek tradition.

Here is a small list of archaeological sites of Buddhism:

1. Monasteries of Kara-Tepe near Termez
2. Carx-e-Falak in Balkh in Khorasan
3. North to Balkh, near Siyad-gerd, Hackin – A stupa taken by the Muslims called Yaka or Orta Gumbaz
4. Bamiyan
5. Buddhist foundations of Hedda in the South East border.
6. Archaeological site of Tapasardar in Ghazni.

Persian literature also reiterates the existence of those Buddhist monuments. In the works of Gorgani in the 11th century, a curious description of the Buddhist monuments of Marv:

“Naxostin ruz bansast an pari-ruy

Por az naz o por az rang o por az buy

Miyan-e Gombadi sar bar do peykar

Negarid be-zarin nasq-e botgar.

The first day, the beautiful face of this fairy

Full of grace, colour and perfume

Held in the middle of a monument with a dome

Made golden images painted of Buddha.”¹⁷

The description of Yaqut in his work Mu’gam an-Buldan focuses on the Nawbahar at Balkh. Later, another author Ibn al-Faqih talked about the same rituals.

In this regard I would like to highlight about the majority of the Persian Sufi poets. Indeed they had some relation with former Buddhist centre. The first name which springs mind is Rumi. He was born in Balkh, before we discovered that the proof of Buddhism in Balkh was a stupa taken by the Muslims called Yaka or Orta Gumbaz situated in the north of Balkh, near Siyad-gerd, Hackin. Melikian Chirvani says “[...] The Muslims had not only the knowledge of the Buddhist monument, but also the rituals

performed at Balk and at Bamiyan.” He further states that the Nawbahar of Balkh, can be the literal meaning “New Vihara”. Samani states in his article “Sabuhar” that it is “one of the villages of Balkh. Sir H. Rawlinson has the credit to find out about the nava vihara from Nawa Bahar. The second poet who might have been the inspiration of Rumi, was Attar of Nishapur. Ta’alibi of Nishapur says in his book about Buddhism in his book *History of the Kings of the Persians*. This further reinforces the fact had a direct contact with the religion. This present essay does not leave much scope to discuss this co-incidence in greater details.

At present we can say that we have located the probable zone of contact between Buddhism and Sufism. Hence we will try to explore where parallels could be drawn in between these two spiritual paths. Since there is no hard and fast set way in the spiritual quest in Sufism, how about proceeding by the standard idea of the Sufi orders which Idries Shah calls *organizations purporting to teach or practise Sufism, or using its terminology*?¹⁸ The basic concept of Sufism is attaining a state of *baqa* through *fana*. In the book “*Studies in the tasawwuf*” Khaja Khan writes about *baqa* and *fana*:

“Fana in its literal sense is the state of a shay (thing), that does not last, i.e., when permanence of the state comes to an end, it is said to have attained fana. The world will attain the state of fana; and the Futurity will remain in Baqa (Wal akiratu khiarun wa abqa).”

In “Sufism: A Short Introduction”, William C. Chittick says:

“In the frequent discussions of the relative virtues of sobriety and drunkenness, teachers often speak of three stages on the path. [...] The two higher stages of this tripartite scheme – that is, “intoxication” and sobriety after intoxication” – correlate with the famous expressions fana’ and baqa’, or “annihilation” and “subsistence”. Through the journey of self-purification and devotion to God, the travellers reach a stage where they become fully open to the divine light, and the brilliance of this light annihilates all the human limitations that had held them back from seeing their true selves and their Lord”¹⁹

It is quite difficult to elucidate the noble spiritual guidelines of Gautama Buddha in mere words. What we can utmost state is that Buddhism aims at a selfless existence in complete freedom which

cannot be described through worldly means. To illustrate the comparison that has already been established between Sufism and Buddhism, it is justified to quote from Professor Bijli's well researched book *Mysticism*:

"It is interesting to note that the Sufi theory of fana (absorption in God) in Islamic mysticism, comes from the Buddhist Nirvana. "But we cannot identify 'fana' with Nirvana unconditionally" says Professor Nicholson, "for, whereas, Nirvana is purely negative, 'fana' has a positive aspect: it is the prelude to 'Baqā' (everlasting life in God)". Now, whereas this 'Baqā' – the positive aspect of Sufism, emanated from Islam 'what the Persian did was to make the negative 'fana' even more negative by introducing the concept of 'fana-al-fana' (i.e.) unconsciousness of unconsciousness, for, "if the mystic were conscious of their unconsciousness" says Jami, "he cannot be the conditions of consciousness" and then he adds: discard self; and preserve until the very Being mingles with thy soul and thine own individual existence passes out of sight. Then if thou does refer to thyself, thou art referring to Him; and 'I am the truth' becomes, 'He is the truth.' Therefore, the Persian defence of Hussain bin Mansur al-Hallaj, even as He spoke to Moses through the medium of the "Burning Bush" says Mohammad Shabistry in his Gulshan-i-Raz.

[...]

It appears indeed that Sufism took into itself two different elements: Firstly, Christian ascetics which came strongly to the front even in the beginning of Islam, and then, later a Buddhist contemplative, which soon, in consequence of increasing influence of the Persians on Islam, obtained the upper hand and called into being the mystic prophet of Islam. The former aim expressed more the Arabian character, the latter the Persian. However, Sufi present far more analogies with Neo-Platonism, than with either Vedantism or Buddhism, or to generalize about the Aryan genius from which, it might have been derived: while historically it is much more likely that it borrowed from the first, from either of the two last."²⁰

In addition to that, another comparison can be drawn between these two spiritual paths. Sufism at a popular level tends to adopt the same path as Buddhist Zen tradition does as far as an adequate respond to problems in daily life is concerned.

In conclusion, I would like to state that the objective of this essay is not to establish a relationship between Buddhism and Sufism, but to widen the scope of our spiritual quest through diversity and multiplicity. This paper is a preamble to a further in-depth research in order to demonstrate the cultural and spiritual exchanges between prominent religious entities. In this context, it will be justified to point out that all noble ideas that have transformed the spiritual quality of human life have undergone a mutual exchange and unfortunately our contemporary religio-political regime fails to identify that commonality.

“When you enter the dance,

You leave both worlds behind.

The world of dance

lies beyond heaven and earth.”²¹

ENDNOTES

¹ Sufism: A Short Introduction/Chittick, William C., One world, Oxford, 2000; p. 1

² «*O frère, puisque notre fin est la poussière, sois humble comme la poussière, avant de devenir poussière.*»

Si loin de l’Euphrate une jeunesse d’artiste en Iraq/Hassan Massoudy, Albin Michel 2004 p. 171

³ The Sufis/ Shah, Idries; introduction by Graves, Robert, Anchor Books, New York, 1971, p. viii

⁴ *ibid*, p 35

⁵ Essential Rumi/ Translated by Coleman Barks, Penguin, p. 3

⁶ Diwan-e-Ghalib, Translated by Rahman, Sarvat, The Ghalib Institute, 2003, p 249

⁷ Bhabsangeet/ ed. By Khondakar, Rafiuddin; Dhaka, p. 25

⁸ The Way of the Sufi/ Shah, Idries, Arakana Penguin Books, 1990 p. 13

⁹Le Soufisme/ CHEVALIER, Jean; Presses Universitaires de France.- Paris; 1984 Collection « Que sais-je » p. 3 «Le surnom al soûfi apparaît pour la première fois, d'après les documents aujourd'hui connu en 776: il est attribué à un ascète irakien. Au IXe siècle, le terme de soûfiyah désigne à Koufa et à Bagdad, des groupes d'ascètes et de mystiques, réputés pour leur austérité: à Alexandrie, en 821, un groupe de 'puritains' insurgés contre la corruption du pouvoir. En 980, à la Mosquée du Caire, est instaurée la première chaire d'enseignement soufi; onze ans plus tard, une chaire se fonde à Bagdad.»

¹⁰ Ibid; p.13

¹¹ An Introduction to the Poetry of Ghalib / RAHMAN, Sarvat ; Ghalib Institute. – New Delhi ; 2003; page 17

¹² Ibid; p. 18

¹³ The World of Buddhism: Buddhist Monks and Nuns in Society and Culture/ ed. Bechert, Heinz; Gombirch, Richard; Tames and Hudson 1984. Expansion to the North: Afghanistan and Central Asia, p. 99

¹⁴ Iranians' Role in Expansion of Buddhism/ Mostafavi, Ali Asghar, The Circle of Ancient Iranian Studies. www.cais-soas.com/CAIS/Religions/non-iranian/budhiran.htm

¹⁵ ibid.

¹⁶ Le monde iranien et l'Islam: L'évocation littéraire du bouddhisme dans l'Iran musulman/ Melikian-Chirvani, Assadullah Souren; Librairie Droz, Geneva, 1974, p. 1

¹⁷Gorgani, p. 161-162, distique 17, 26-27.

«Le premier jour cette belle au visage de fée

Pleine de grace et de couleur et de senteurs

Se tint au milieu d'un monument à coupole (gombad) posé sur deux silhouettes

Faites images par la peinture d'or du facteur de Buddhas» translated from French into English by DB Tato

¹⁸ The Way of Sufism/Shah, Idries; Arakana Penguin Books, 1990 p. 13

¹⁹ Sufism: A Short Introduction/Chittick, Willian C; One World, Oxford, 2000, p. 35-36.

²⁰ Mysticism/ Bijli, S. M., Idarah-i-Adabiyat-i Dilli; Delhi, 1999, IAD Religio-Philosophy (Original) Series No. 32; p. 11-13

²¹ Kulliyyat 13685; SPL 328. Cited in Sufism: A Short Introduction/ Chittick, Willian C; One World, Oxford, 2000, p.74

Dhritabrata Bhattachariya



Proust and the Modernist Aesthetic

Namita Paul

Divergence is the fundamental idiom in the discussions of the tumultuous cultural moment of Modernism. The catastrophe of the First World War, and before that, the labor struggles, the emergence of feminism, and the race for empire were not simply looming on the outside as the destabilizing context of cultural modernism; they penetrate the interior of artistic invention. Along with the intellectual challenges offered by Marx, Nietzsche, Freud, Frazer, Heidegger and Wittgenstein, the new art of film changed perception. As a historical period, modernism does not always appear to be friendly to sexual dissidents. It is circumscribed by the 1895 London trial of Oscar Wilde and homosexuals wearing pink triangles before joining millions of others who had been marked for extermination in the Nazi death camps. These actions however were not merely retrograde battles mounted by the old culture; modernism itself had an ugly subtext of sexism, homophobia, anti-semitism and sometimes fascism.

However as Colleen Lamos writes, homosexuality in modernist texts is both interior and exterior to the “natural” sexual order because of its concealment (174). It provides a fertile, incoherent ground for exploring and analyzing the modern world and the slippage and spillage of signs, meanings, signifiers and referents. This paper will begin with a brief exploration of the story of Sodom and Gomorrah and look at the possibility of subversion that Marcel Proust exploits. The paper will then examine the representation of Charlus and Albertine in the novel and the debates surrounding them by drawing on the works of Eve Kosofsky Sedgwick and Colleen Lamos. A large part of the paper will be devoted to investigating the areas of dissonance created by the schematization of homosexuality in the novel and the extended analogy which compares homosexuals with the Jews. The conclusion will consist of tracing the influence of Impressionism and Cubism on the text.

In Proust’s cartographic depiction of France, sex occurs on a terrain of spaces. It reveals the role of territory and individual navigation in the performance of identity, perhaps most of all in the identities of sexuality that emerge in the moment of performance¹. One aspect

of this has been the interest in community formation around sexual identities. In “The Cities of the Plain” the categorization of sexual dissidents is based on the biblical story of Sodom and Gomorrah (Proust 621-778). In Genesis 19:4 -11, two angels are sent to investigate the cities of the plain and the grievous sins of its people (*The Bible, King James Version*). The two angels are invited by Lot into his house. Soon the townspeople gather around Lot’s house and ask him to bring out the visitors so that they can “know them”. Lot offers them his daughters instead but they refuse and attack the house. God retaliates and rains down burning sulphur on Sodom and Gomorrah. The original version of the story does not specify the offense of the people. However in the popular versions, the sin of the people is identified as that of homosexuality (*The Family Devotional Study Bible; The Holy Bible, New International Version*). Proust creates sexual zones and maps based on this popular myth. Marcel the narrator, is almost a Baudelairean *flâneur*. The *flâneur* is the stroller, the pedestrian, the incarnation of the ‘painter of modern life’. Charles Baudelaire writes:

...the crowd is his element, as air is that of birds and water of fishes. His passion and profession are to become one flesh with the crowd. For the perfect *flâneur*, for the passionate spectator, it is an immense joy to set up house in the middle of multitude, amid the ebb and flow of movement, in the midst of the fugitive and the infinite (9).

Marcel charts the mythic reverberations of Sodom- a city destroyed because of its sexual surfeit, giving its name to the pleasure seeking unproductivity of anal intercourse. The story of Sodom is a cautionary tale: profanity leads to annihilation, wantonness spreads until a city cannot even rely on ten righteous men among its population. At the same time, there is a promise of a possibility- a city overtaken by the demands of sexual fulfillment, endless opportunity for sexual experimentation and diversity, a whole society organized around the pursuit of pleasure. However elaborate the warnings, the tale cannot help but advertise the temptations and pleasures of this depraved existence- only the most intense and distracting of pleasures could call for such absolute punishment. Even God gives up the battle for these souls; only destruction can reassert the role of morality.

Although frightening, the story of Sodom and Gomorrah is a poor argument for sexual restraint. The image of a city of people so intent upon the pursuit of physical pleasure that they cannot even save their own lives, can be seen as the obverse and the mirror image of the modern, alienated human being, who is completely isolated in the city landscape. The danger of telling horror stories about depraved places is that some listeners will choose the path of depravity and try to find the place of kindred spirits. If it does not exist, the story shows its possibilities and people use the warnings as a blueprint for creating their own society. The citizens of Proust's Sodom and Gomorrah shape a social order of their own with its own policies. If the scare stories try to condemn existing places of sexual tolerance, the story becomes a route map for those eager to reach this other possibility. In the case of Proust perhaps this is no accident. He recreates the world of sexual dissenters as it existed in France during the *Belle Epoque* ². Stories are hard to control—warnings become fantasies, one can never be sure what the reader will hear. Even the goriest warnings acknowledge that there are other ways to live (Bhattacharyya 148-50). Proust's ostensible homophobia is an illustration of such a deployment of conservative positions for the purpose of subterfuge.

Proust writes that God should have sent a sodomite instead of two angels to Sodom because authoritative worldliness is only available to an observer who is both himself "a descendant of sodomites" and at the same time someone who has himself inherited the dishonesty of homophobic denial and projection, therefore the world as a whole can be articulated only if the closet is viewed as "the spectacle of the closet" and if the world is viewed from "the viewpoint of the closet" (Sedgwick 222). Proust himself occupies such a position with access to both these viewpoints and the ability to represent them.

An important aspect of this representation is the "endlessly lavish production of Charlus- as spectacle" (Sedgwick 223). Charlus is in the closet and therefore possesses a secret knowledge. At the same time most of the people in his social circle are aware of his sexual preference. Their incessant reading of his plot to preserve his secret makes the book more eventful. However, Lamos critique's Sedgwick's reading of the Baron as a homosexual prototype, which

consigns lesbianism to an incoherent alternative (Lamos 176). According to Lamos it is actually Albertine's possible lesbianism which drives a wedge between Marcel the narrator and Proust the author (Lamos 176). They both seem to be united as *the* narrative voice in the text. Most critics perceive the text to be a thinly camouflaged autobiography of Proust³. This theoretical position, like any other, has been contradicted by Lamos based on the following argument. Marcel the narrator endlessly labors to learn about Albertine's sexuality but never succeeds. Her close friendship with lesbian characters like Odette seems to hint at the possibility of same-sex relationships but she closely guards her past from Marcel. In contrast Proust the author seems to possess the key to all her secrets. This marks the limit of Marcel's knowledge and thus the difference between himself and Proust.

Marcel employs the means of eavesdropping to compensate for his limitations. The "Cities of the Plain" begins with Marcel's voyeuristic viewing of an encounter between Charlus and Jupien (Proust 624-25). As Lamos reiterates, the narrator's continual peering into the secret lives of others invites the reader to do the same (215). Voyeurism is crucial in the production of desire. Although Marcel terms the meeting between Charlus and Jupien "grotesque" and "repellent", yet he derives spectatorial pleasure and continues to watch (Proust 626-27). This is only one instance of the duality of representation that opens up areas of dissonance in the book⁴. The voyeurism of Marcel is combined with the exhibitionism Charlus and Jupien in the encounter which demonstrates the performative aspects of both gender and sexuality. Charlus and Jupien destabilize gender figurations by playing the male and female roles respectively. Yet Charlus is labeled a "woman" later in the novel, when Marcel exclaims, "I had managed to arrive at the conclusion that M. de Charlus looked like a woman: he was one!" (Proust 637). The exclamation mark at the end of the sentence not only cues us to the element of surprise in the narrator's voice but also tells us about the narrator's gullibility in the text.

Charlus' visibility is posited against Albertine's resistance to visualization (Sedgwick 231). Albertine is actually in a privileged position of invisibility. She is the 'woman', 'beloved object' – but the lover can never know her completely and has no power over

her. Charlus on the other hand is never the love object in a Proustian sense because everyone else has power over him. Charlus is seen as 'typical' of the species of 'invert' – Proust's favored term- while Albertine does not come under any such heading. Sedgwick recognizes this as embodying the two stages of homosexual definition- The post-medicalization of homosexual types and the pre-medicalization of same-sex acts (Sedgwick 232).

Michel Foucault writes that the homosexual as a personage was inscribed in the popular imagination only around the nineteenth century when scientific discourses created the category of the homosexual (43). Proust borrows the language of the popular botanical and zoological discourses of his time to create a catalogue of the varieties of "inverts". As Friedrich Nietzsche wrote in 1872:

...great men... have contrived, with an incredible amount of thought, to make use of the paraphernalia of science itself, to point out the limits and relativity of knowledge generally, and thus to deny decisively the claim of science to universal validity and universal (112).

This strategy of using science to deny its power was crucial to several modern writers who deliberately used science as just one of the possible orders of understanding rather than as the ultimate form of truth statement.

Sedgwick writes that the layering of images from nature each with its own cluster of contradictory moralizing appeals to what is finally "natural" (220). On the one hand the categorization of homosexuals in terms of biological classificatory schemes seems reductive and homophobic but at the same time it may have the effect of denaturing nature itself as a resort of the explanatory in the same way that the use of drag destabilizes the notions of essentiality associated with the gender it imitates⁵. Although Marcel tries to distill homosexuality for the reader yet the categorization is internally rife with contradictions that surround it. The varieties of inverts and the historicizing of inverts demonstrate that they are not just the exceptional few but vast crowds. Early critics failed to acknowledge the incoherencies around homosexuality in Proust and compartmentalized his work. J.E. Rivers only saw "negative stereotypes", while Leo Bersani criticized "the banal thematization

of homosexuality..." (qtd in Sedgwick 214). Such comments warrant a closer look at the text. Proust describes inverts as a race of people who do not admit any "outsiders" into their fold (641). However within this group are various types. The first type is the kind who goes after heterosexual women in order to hide their sexuality. Women interested in him are doomed to disappointment, like the characters in Shakespearian plays, who fall in love with women dressed as boys (Proust 644). This fits in with his depiction of homosexual men as women. The second type form liaisons with the women of Gomorrah: the lesbians who procure young men for them. In an elaborate and complex gender bending exercise, the lesbian plays the role of the gay man while the gay man plays the role of the lesbian. This arouses jealousy and bewilderment in homosexuals who are exclusively homosexual like the Baron Charlus (Proust 645-46). The next types are the "solitaries", who initially apprehend their own homosexuality with horror: an onset of homosexual panic. They finally come to terms with their homosexuality- albeit grudgingly- and form close bond with other men around them. In a manner reminiscent of E.M. Forster's protagonist in *Maurice*, the solitaries feel forsaken when their lovers marry women. Then there are the men who desire only older men and others who desire younger men. These conceptual incongruities yoke together minoritizing and universalizing views of homosexual definition (Sedgwick 217). In such circumstances the hero's drive for knowledge is at once incited and overwhelmed by the unfeasibility of any sure understanding of the inscrutable text of the other's and one's own desires.

Homosexuality in the case of Charlus is a characteristic factor that penetrates every aspect of his personality and behavior, which for Proust, separates him into another species. The means by which Proust conceives the discovery of Charlus's secret by Marcel suggests that underneath the trivial chaos of social conceits, there are powerful and submerged forces of which Marcel had not previously been aware. Although Charlus's sexual preference is known to most people yet he is part of the social milieu. Infact, he is so important in Guermentes that he has the power to arrange customers for Jupien's tailoring business and to keep out those who fail to fall in line (Proust 673).

Proust uses two metaphors in his account of homosexuality- apart from the biological model he also uses the political or social model whereby he associates Jews with homosexuals (Sprinker 122) . One of the first connections he makes is one whereby both homosexuals and the Jewish people try to create a historical lineage for themselves: the Jewish claim that Jesus was one of them and similarly, inverts claim that Socrates was one of them (Proust 639). In an almost Foucauldian insight, we are told that when pederastia and same-sex love were the norm there was no question of abnormality and deviation (Proust 639). Like the paranoid conspiracy theories of the Nazi's who claimed that the Jewish were everywhere, plotting in secret societies, Proust also envisions a covert club of homosexuals. Homosexuals not only exist as a separate race like the Jews but also as a cursed race, *la race maudite*, who often support one another by surreptitious means. The narrator is against the separatism of homosexuals and Jews to emphasize his stance that only assimilation is possible because it is in the nature of both to depend on dissimulation and deceit (Sprinker 123).

Another extension of the analogy between the Jews and homosexuals is the contained in the reference to the Dreyfuss Affair⁶. Proust writes that homosexuals are treated like Dreyfusards: they are served because they are paying customers, but begrudgingly so (642). The contingencies of economic gain overcome prejudices in the case of both the Jews and the homosexuals in the modern world. Interestingly, the Jewish character Swann is one of the very few people who refuse to believe that Charlus is homosexual. He calls gossip about Charlus's sexuality "idiotic rumours", but these rumours are one of the most reliable sources of information in the text (Proust 734). Rumours and gossip like voyeurism and exhibitionism may seem insubstantial but in the text they circulate along networks of discourse and power to give us versions of reality and truth. They serve the dual purpose of revealing and creating desire in the book.

This duality is also an integral part of impressionism and cubism, both of which influenced Proust. Impressionism in art was concerned primarily with light and colour. Monet's use of pure colour to define space called attention to painterly technique and the flat surface of the canvas (Fig. 1). Similarly Proust constantly addresses the reader to draw their attention to the fictionality of the book and questions the reliability of the narrator.



Fig.1 Claude Monet, *Saint-Lazare Station*, Paris, 1877.

Proust's interest in blurred dividing lines and the interchangeability of solid and liquid also connects him to the impressionists. One of his major concerns is the depiction of interior experience, where reality is the subjective apprehension of the world and is an 'impressionist' record of stream of consciousness (Fig, 2).



Fig. 2 Paul Cézanne, *Château Noir*, 1900-4.

When Proust was planning and writing his book, Cubism was developing in Paris. In cubist paintings the eye is not led back into an imaginary distance but is held on the paintings surface to create a three-dimensional object. It dislodges the spectator from a single perspective location and forces them to consider together the different sides or angles of the painting. Instead of reproducing the

object in realistic conventions dating from the Renaissance, the painter is free to break apart the object and distribute its pieces as the composition requires (Fig. 3).



Fig. 3. Pablo Ruiz Picasso, *Guitare sur un guéridon*, Paris, 1915.

The painter can show the back and front of a chair at the same time or paint a face with one eye viewed frontally and the other in profile as in the case of Pablo Picasso's *Femme Assise* (Fig. 4).



Fig. 4. Pablo Ruiz Picasso, *Femme Assise*, Paris, 1927.

The Cubist techniques of fragmentation, multiple perspectives and juxtaposition are part of standard modernist repertoire. When Proust cuts up the narrator's experience into disparate and even contradictory portions we can clearly discern the techniques of the cubists. Lamos has detected a connection between textual errancy and inversion, which can be extended into Proust's use of modernist aesthetic which is inseparable from an acceptance of paradoxical or polymorphous sexuality.

Proust wrote in "Days of Reading: I":

Indeed, the great, the marvelous power possessed by a good book ... lies in this, that what the author may treat as "Conclusions" can for the reader be "Incitements" (142).

The reason for Proust's ambivalence towards homosexuality is pardonable given the harsh punitive attitudes that operated in most western countries. Ostensibly, Proust gives us a "male paranoid theatricization of the male closet", but at the same time his examination of homosexuality through a homophobic lens need not be conclusive for the reader, it can and infact does open the field to varied interpretations.

ENDNOTES

¹ The pioneering work on the performativity of gender and sexuality is Judith Butler's *Gender Trouble: Feminism and the Subversion of Identity*, especially the chapter "Bodily Inscriptions, Performative Subversions" (163-180).

² The *Belle Epoque* refers to the years preceding the First World War, beginning roughly around 1900. For more on the term *Belle Epoque* and the period see Cronin and Gamble.

³ For such interpretations of the text see Meyers. The comparison of Albertine to Proust's chauffeur Alberto Agostinelli is reiterated vehemently in note 13 (170).

⁴ More examples of dissonance brought about by a voyeuristic drive is visible in Marcel's account of an encounter between Mlle. Vinteuil and her partner and Charlus's whipping in Jupien's brothel.

⁵ As Butler points out, the act of cross-dressing does not simply "imitate" an original stable identity- "In *imitating gender, drag*

implicitly reveals the imitative structure of gender itself- as well as its contingency." (175).

⁶Captain Alfred Dreyfuss was accused of being a spy in an espionage scandal and used as a scapegoat because he was Jewish and anti-semitism was rife in France. His case was taken up by many French intellectuals notably Emile Zola, André Gide and Proust himself. For a detailed account see Gamble and Cahm.

BIBLIOGRAPHY

Baudelaire, Charles. *The Painter of Modern Life and Other Essays*. New York and London: Da Capo Press, 1986.

Bhattacharyya, Gargi. *Sexuality and Society: An Introduction*. London and New York, Routledge, 2002.

Butler, Judith. *Gender Trouble: Feminism and the Subversion of Identity*. 1990. New York and London: Routledge, 1999.

Cahm, Eric. *The Dreyfus Affair in French Society and Politics*. London and New York: Longman, 1996.

Cézanne, Paul. *Château Noir*. 1900-4. National Gallery of Art, Washington D.C. 16 April 2005. <<http://www.ibiblio.org/wm/paint/auth/cezanne/paris>>.

Cronin, Vincent. *Paris on the Eve: 1900-1914*. London: Collins, 1989.

Foucault, Michel. *The History of Sexuality: An Introduction*. 3 vols. 1976. Trans. James Strachey. New York: Basic Books, 1962.

Forster, E.M. *Maurice: A Novel*. 1971. New York and London: Norton, 1993.

Gamble, Cynthia. "From Belle Epoque to First World War: the social panorama". *The Cambridge Companion to Proust*. Ed. Richard Bale. Cambridge: Cambridge U Press, 2001.

Lamos, Colleen. *Deviant Modernism: Sexual and textual errancy in T.S. Eliot, James Joyce, and Marcel Proust*. Cambridge: Cambridge U Press, 1998. 170-216.

Meyers, Jeffrey. *Homosexuality and Literature 1890-1930*. London: Athlone Press, 1977.

Monet, Claude. *Saint-Lazare Station*. 1877. National Gallery, London. 16 April 2005. <<http://www.ibiblio.org/wm/paint/auth/monet/paris>>.

Nietzsche, Friedrich. *The Birth of Tragedy Out of the Spirit of Music*. Trans. Walter Kaufmann. New York: Random, 1967.

Picasso, Pablo Ruiz. *Femme Assise*. 1927. Museum of Modern Art, New York. 16 April 2005 <<http://www.tamu.edu/mocl/picasso/>>.

— *Guitare sur un guéridon*. 1915. Kunsthau, Zurich. 16 April 2005 <<http://www.tamu.edu/mocl/picasso/>>.

Proust, Marcel. *Remembrance of Things Past*: 2. 3 vols. 1921. Trans. C.K. Moncrieff. Rev. Terence Kilmartin. Harmondsworth: Penguin, 1989.

— "Days of Reading: I". 1905. *Modernism: An Anthology of Sources and Documents*. Eds. Vassiliki Kolocotroni, Jane Goldman and Olga Taxidou. Edinburgh: Edinburgh U Press, 1998. 140-144.

Sedgwick, Eve Kosofsky. *Epistemology of the Closet*. Berkeley and Los Angeles: U of California Press, 1990.

Sprinker, Michael. *History and Ideology in Proust: A la recherche du temps perdu and the Third French Republic*. 1994. London and New York: Verso-New Left Books, 1998.

The Family Devotional Study Bible. 1987. India Bible Literature: Madras, 2002.

The Holy Bible, King James Version. Project Gutenberg. 1971-2005. 16 April 2005. <<http://www.gutenberg.org/etext/8001>>.

The Holy Bible, New International Version. International Bible society: Madras, 1973.

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Art and Agency: Notes on the Agency of Viewers in Contemporary 'Timed' Visual Art Representing Delhi's Modernity

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Modernity, the more material and technological aspects of the larger cultural attitude termed as 'modernism', focuses on technological advancements in terms of communication (through wired and now wireless means) and travel (through motor cars and aeroplanes) and thus as a corollary, on accessibility and a more organized living in master-planned cities. However as is evident through practical experience and also as has been theorized by Henri Lefebvre and Michel Foucault, there is always a wide gap between the conceived reality of a geographical space (master-plans) and the lived and/or the perceived realities brought to it by the inhabitants and their imaginations. Similarly the interpretation of a work of art relies not only on the intention of the artist but also in a large part on the imagination of the viewers and what their imaginations bring to the viewing of the work. If the given-ness of master-plans and the top-down nature of the hierarchy between the artist and the viewer of a work can be seen as representations of oppression, then any acts including walking freely in a city, writing, interpreting at will a work of art, and so on represent acts of resistance to that oppression: as spaces that expose the fallibility of master-plans. It is in this sense that this paper will talk about spaces of oppression and resistance, of surveillance and counter-surveillance. Thus in focussing upon artistic visual representations of 'modern' Delhi, this paper proposes to look at the agency of the viewer of art as analogous to the agency that inhabitants of spaces enjoy in making what they make of master-plans that can never predetermine the use of every little space of the city.

This process of interpretation and understanding the process of interpretation is complicated further by the critique of Habermasian 'modernity: an unfinished project' that this paper maintains by looking at modernity as a project that is not quite teleological (moving towards an end but still unfinished) as Habermas proposed but as a project that will always be an ongoing one, never reaching

an end. Further, keeping in mind the time-space compression that seems to be a characteristic of the process of modernization, in this paper I re-visit the role of time in this space-time dialectic and explore primarily the effect of what has been called 'timed art'. By this term I mean videos and moving installations in which the time taken by the viewer in viewing specific scenes and objects is sought to be regulated to some extent) on the agency or the lack of it in the subjects/viewers experiencing it.

Since this paper forms a part of a larger work which sought to analyse surveillance mechanisms of the city as they evolve through the ongoing process of modernity, certain immediate qualifications are in order. Drawing from and yet moving forward from the model of Foucauldian panopticon, this work casts a slightly different glance at technologies of surveillance by focussing not on a direct analysis of the modes of surveillance but rather by observing closely the responses of those subject to these modes and their representations of surveillance in what has been provisionally called 'visual media'. Thus the relationships of people with each other and the relationships between people and images and/or spectacles become focuses of investigation. The figure of the flaneur remains in the background of this work as a theoretical framework to comment upon the changing nature of relationships amongst people and those between viewers and art. Since surveillance relies on vision and visibility, and since flanerie also relies on vision, the medium that this work uses is the visual medium rather than the literary medium. Further keeping in mind the role that technology has played in bringing about the time-space compression discussed above, this paper also brings into its focus the dynamics of virtual spaces. This is done through an analysis of the participation of the viewer in real time in different forms of visual art (videos, installations). Apart from looking at whether the (virtual) mobility of the gaze in various media empower or dis-empower the viewer this paper also explores virtual spaces of the internet world as spaces of both possible resistance and co-option, of the largest protests (as distance is not a barrier) and the most stringent forms of surveillance.

I begin by looking at time as a constraint in how the subject experiences the city and then go on to look at possible ways of overcoming that constraint. While Jacques Ranciere's short

philosophical piece 'I No Longer Have Faith in Time' proposes a two-fold operation including wandering aimlessly in space (thus connecting to my central figure of the flaneur) and writing to circumvent time, I think what Ranciere terms 'writing' here could also be extended to the various media of visual culture including video art, photography, and installations as significant ways of dealing with (if not successfully circumventing) time. Gigi Scaria's video 'Conscience Keeper' and installations 'Wheel' and 'Wind Chime' will be discussed in this regard with Boris Groys's theoretical work 'Going Public' and comments on individual versus collective emancipation as backdrop. The 'modernization' of cities has led to a time-space compression of an unprecedented order which makes the analysis of the concepts of space and time significant and even necessary in some ways. Technology and more specifically, digital technology has played a major role (if not the single most significant one) in bringing about this change in how we experience and respond to time. Interestingly enough, the use of technology is also inextricably linked with the processes of surveillance and finding spaces of resistance to or blind-spots in the various modes of surveillance. Therefore, an analysis of agency (or lack of it) of the users of technology through Pramod K. Nayar's recent work 'Digital Cool: Life in the Age of New Media' and Ravi Sundaram's 'Pirate Modernity: Delhi's Media Urbanity' forms the second part of this paper. Further, as has already been explicated, the changing notion of time which is neither static nor clearly linear and/or teleological forms the most pertinent critique of Habermas's notion of the project of modernity as one that is still unfinished but will one day have an end.

Jacques Ranciere in his short piece 'I No Longer Have Faith in Time' effectively describes time as a constraint as it pre-determines the nature of spaces and their uses by those who inhabit these spaces. Examples given are those of workers whose work and leisure time and spaces are strictly divided by the number of hours they are required to work and/or the capital they are required to generate. Similarly, someone who roams the streets looking for a job will not be able to use that time and his walk across the city to absorb and learn more about and engage differently with the city itself. That space and that time have already been set out for a particular purpose that he must achieve which also binds him and takes him farther

and farther away from any kind of emancipation (whether individual or collective). Ranciere proposes a two-fold operation of dealing with this constraint: first, “loosening the circle of time through wandering in space” (Ranciere, 2012: 76) which implies travelling through the ordinary and engaging with space that belongs to everyone. An example of this would be the work of the feet when the job-seeker decides to use the time to wander aimlessly on the streets rather than being fixated at achieving a particular purpose. However, this is seen by Ranciere as inadequate by itself in re-appropriating time. Thus he suggests the second part of the operation which he sees as directly linked to the re-appropriation of time and that is writing.

Ranciere singles out two forms of writing specifically: poetry and diary-entries each of which deals with time differently. While poetry through its descriptions of spaces and selves effects a “spatial redistribution of time” (77), a diary-entry deals with time even more directly by making an account of how the time of the day was spent and what activities were undertaken at what particular time of the day. Also, as is evident from Heeraprasad’s diary (which is printed in the same collection as Ranciere’s essay and is a text of reference for Ranciere’s analysis), the distinction between “ordinary” and what by corollary is ‘extraordinary’ shows the agency of the subject in making these decisions. For Ranciere whose larger project seems to be also an analysis of emancipation and how it might be achieved, asserts that it is only after we get through the ordinary that emancipation becomes possible. Getting through the ordinary by means of writing opens up possibilities that had been left unexplored and thus rather than looking for solutions and resolutions, writing must work to maintain the enigma of the various possibilities. The discretionary element also suggests for Ranciere that emancipation, which is “the discovery of an ‘individual’ capacity which is at the same time the experience of sharing a common and impersonal world” (77), could be approached through writing but the “individual way into the world of writing is disconnected from a horizon of collective emancipation” (78).

It is indeed surprising that Ranciere, well aware of and even interested in artistic works other than the ones that rely on writing and even participation of individuals in the virtual world, does not

mention a similar possibility of emancipation through these activities. This domain, of participation of individuals through artistic works and in/through virtual spaces, is what I wish to extend Ranciere's suggestion to. As the first part of this exploration I will look at three of Gigi Scaria's works (the video 'Conscience-Keeper' and installations titled 'Wheel' and 'Wind Chime') to comment upon my perception of the notion of time and space in these works and will then go on to the second segment of this exploration through an analysis of Nayar's 'Digital Cool...'.

Scaria's 'Conscience Keeper' is a 5-minute long video that shows us a single spotlight that moves along with the artist's camera and illuminates the city in small sections one after the other while the non-illuminated sections remain entirely dark and unavailable for viewing. Not only is the spotlight constantly moving, the camera also zooms in to present a better view of a particular section of the city at a given moment before zooming out, moving again and zooming in on a different section of the city at another moment of time. The video is accompanied by an eerie audio that sounds like the music either out of a suspense thriller or a horror movie with its alternate ascending and descending waves. The viewer is shown nothing 'suspicious' happening in any part of the city but the camera and the spotlight continue to move till the video comes to an 'uneventful' end after a total of five minutes and thirty seconds. Thus the suspense generated with each segment of ascending music remains unresolved as nothing worthy of the gaze of an overseer or panopticon-guard takes place. But perhaps that itself is the point of the video then, appropriately titled 'Conscience Keeper'? Showing a strange allegiance to Foucault's panopticon model, perhaps this video makes the point that due to the knowledge of being visible, everyone in the structure (irrespective of whether they are actually being watched at that precise moment or not) does nothing that would be 'objectionable' thereby keeping their conscience clear.

However an interpretation of the content is not what concerns us much here. Instead how the video directs the gaze of the viewer and whether that direction accords the viewer with agency or takes it away are questions of concern here. While in the first viewing of this video, the viewer is likely to focus on what 'happens' or what 'events' take place (like the reader of the 'whodunnit' novel), in the second or the third viewing of the video when the viewer already

knows that nothing will ‘happen’, s/he is likely to focus upon other aspects. It is then that the viewer becomes aware as it were of how the gaze of the camera and of the spotlight is also his/her own gaze meant to give him/her a bird’s eye view of the city with the potential of zooming in and out to focus on the different sections of the city. It is then that the viewer tries to control this gaze and almost voyeuristically wishes the camera would zoom in just a little bit more and give him/her a view of the insides of the buildings that s/he sees. (In conversation with me, Scaria mentioned that it indeed was a part of the initial plan to zoom in to focus inside the buildings but he dropped it for privacy reasons). Thus realizing that this is not a gaze that the viewer can control fully as the moving image has the viewer in its grasp and will show only what has been pre-recorded and edited by someone else (the artist), the viewer feels devoid of agency and almost frustrated. Thus the video which initially seemed to promise agency and even voyeuristic pleasures actually takes away even the agency that the viewer might have had if this had been a still photograph (with all parts illuminated simultaneously at all times): that of the sequence of viewing the specific parts. And this is what has been seen as one of the major disarming characteristics of a video as has been commented upon by several theorists of visual culture: the moving image might seem to give more agency but it actually deprives the viewer of the agency to make his/her own sequence of viewing the different parts of the art-work or of moving around the work in a movement preferable to and desired by the viewer¹. These are possible with paintings, still photographs and conventionally most so in installation-art. However one could say that at least in this particular video, the feeling of being deprived of agency might actually help the viewer realize the politics of vision and visibility in a modern state: even what is see-able and what is to be ignored are ideologically determined.

Further, to be visible might not always be favourable or even desirable. Thus agency here constantly shifts between the artist who could choose to focus on specific areas and ignore others, the viewer who at least momentarily derives voyeuristic pleasure (even though it is mediated) and the diffused power centres of the ‘State’ that seem to be represented here indirectly. If the viewer is able to realize that his/her gaze is directed and that whatever s/he does see is

highly mediated and not under his/her control, that knowledge too would contribute to the viewer's agency. Similarly the successful representation of this knowledge through his art-work and the re-appropriation of time by making these five odd minutes of the video 'uneventful' could be seen as the artist's exercise of agency in the same sense as Ranciere sees 'writing' as an agential act.

Another interesting representation of time comes from Scaria's own installations: 'Wheel' (2009) and 'Wind Chime' (2012) and these two works, similar in their inspirations and in their workings, will be discussed together here. 'Wheel' (made of wood, iron, mirror glass and paint) is a giant wheel of the kind found in amusement parks (and indeed an amusement park in Rohini, close to the artist's house was his inspiration for this) with the miniature models of residential buildings in the place of passenger trolleys on the giant wheel. Though the version of the work represented here is a multimedia work: a photograph of the installation being showcased as a photographic work, what we are really concerned with here is the installation itself. The installation is complete with a real motor that drives the wheel. 'Wind Chime' similarly is a larger-than-life-sized wind chime which again has miniature models of residential buildings (modelled on the basis of photographs taken of houses in New Delhi) as hangings. The wind chime too, equipped with a motor, constantly rotates in slow motion (see photographs of 'Wheel' and 'Wind Chime' below).



'Wheel' Installation: Gigi Scaria

Photo by: Gigi Scaria



'Wind Chime'

Installation by: Gigi Scaria

Photo by: Gigi Scaria

A curious kind of time-space compression seems to be represented in these installations. The city seems to be moving in different motions and different directions with people perched here and there like an amusement park with varied rides next to each other. The comment seems to be that the (modernizing) world is going round in circles with the fate of its inhabitants at stake (as it were). The question being asked seems to be- for whose amusement (/interests) is the world (the city) going round like this? Also, it seems implied that there is no way of stopping the ride and getting down once the ride has begun until the ride takes its toll and stops by itself after losing all momentum. If the ride is assumed to be modernity, then the comment makes immediate sense in the context of modernity being seen as an unfinished project and one that seems unlikely to come to any kind of an 'end' as the process seems to be cyclical (with the constant production of what Soja calls 'metropolarities') rather than linear and teleological. The time-space compression

brought about by modernity becomes evident as so many houses and (presumably) inhabitants are shown to occupy only so much space as can be spun around by a giant wheel and which needs only so much time to spin around.

Does installation, as an art-form, give more or less agency to viewers and artists? For this we must turn to some theoretical formulations about installation as an art-form. Theorist Boris Groys in his short work 'Going Public' looks at installations as an enabling art-form both for the artist and the viewer. For the artist, according to Groys, it means an expansion of the domain of his rights from the individual art-work to the exhibition space itself. On the other hand, to a mass of individual flaneurs (/viewers), contrary to Benjamin's view of the loss of aura due to mechanical reproduction, the installation offers an aura of the here-and-now as it brings to them the aura of being in a place different from their real geographical location for that particular duration of time. This duration too could be regulated by the viewer to quite an extent by staying in and/or around the installation for an extended amount of time if the viewer so desires. At the same time, Groys further argues in favour of the enabling qualities of installations for the viewers as according to him installations help the viewers see the ambiguous notion of freedom that functions in our democracies where rules are set by those who are conspicuously not subject to them while at the same time the tension between a sovereign set-up where subjects appeal to a semi-divine authority for justice and an institutional set-up where institutions of the state decide the fate is evident (similar to what Sudipta Kaviraj argues in the case of democracy in India). For Groys then, "the artistic installation is thus a space of unconcealment (in the Heideggerian sense) of the heterotopic, sovereign power that is concealed behind the obscure transparency of the democratic order" (Groys, 2010: 69).

Let us take up the agency of the artist and that of the viewer one by one. From the artist's point of view, it seems an acceptable proposition to me that artistic influence exceeds beyond the work itself and influences to some extent the exhibition space too when as far as an artistic installation is concerned. While Groys offers no examples, I could offer some examples from my own visits to exhibitions in the last few months. Through the three episodes of

Sarai Reader 09, an exhibition on 'the city as studio' was on at Devi Art Foundation, Gurgaon (from September 2012 to April 2013). The exhibition space itself had undergone such a transformation with the set-up of the exhibition as the works (paintings, installations, still-open-for-writing graffiti, among others) were not displayed one after the other in either different compartments or even in virtually demarcated spaces but in an overlapping pattern where even the space between two works was not what one could call 'neutral' or devoid of contemplative value (see photo below). The lack of this 'neutral' space meant that one could not clearly distinguish between any two works and as one moved around the space, it showed itself as one mega work of art.



Devi Art Foundation, Gurgaon

Photo by: Neha Khurana

Very reminiscent of Sundaram's work in which the viewer could be a flaneur and sift voyeuristically through a heap of framed photographs, the first floor of this space had hundreds of small black-and-white photographs pasted on several sections of the floor where an exhibition-visitor could stand and gaze at the (literally and symbolically) overlapping bits of visual material offered to him/her. In one corner one saw bean bags placed seemingly on the pasted photographs for the visitors' convenience of sifting through and (perhaps more so of) pondering over this proliferation of images (see photograph below).



Devi Art Foundation, Gurgaon (photo by: Neha Khurana)

As I move on to the second segment of Groy's formulation which focuses on the agency of the viewers, I wish to make my point clear at the very outset: the freedom that artists experience with installation art does not necessarily transform itself into critical insight and viewing freedom for the viewers of the work, least so in the case of installations that are 'timed' like those of Scaria. The viewer is very likely to be lost in the movement of the giant wheel which by its repetitive nature could hold the viewer in its grasp. Also, though the viewer could experience the here-and-now of the magnanimity associated with the wheel and move around to look at the wheel from various angles, the direction and the speed of rotation are never under the control of the viewer. Similarly, in the case of the wind chime too, the viewer could be preoccupied with the movement of the houses (as hangings) and the first reaction might be awe and wonder in most cases, the second might be to notice how the varying lengths of the hangings and the rotational movement give the feeling of being a panopticon-guard to the viewer as all houses make themselves visible from all angles at different moments, but the reactions are likely to stop there. It would take a very engaged viewer and one bent on applying his understanding of the workings of democracy to be able to see that perhaps how the artist remains out of the movements and the space of the installation

while the viewer is absorbed by it symbolises how the quasi-democratic structure of our cities and country keeps a quasi-sovereign power(s) outside the system of the rules that they make for their democratic subjects. Exhibition spaces become then, spaces of co-option and containment of any subversive potential that might be there in works of art rather than sites of the formation of collectives that would take the potential to the street.

Further a proliferation of images of the kind already explicated in the case of the SARAI exhibition at Devi Art Foundation and the merging of different works actually seems to make for the viewer a spectacle which the visitor can view for sure but never engage with it through an analytical perspective. Here, the sense of the term 'spectacle' that I use is derived indeed from Debord's 'Society of the Spectacle' in which he argues that spectacle is not as much an object as it is a set of social relations between people themselves and between people and images. Spectacle for Debord, is capitalism (in its broadest sense) taken to such a level that it becomes an image. The proliferation of images (like in the case of images of war and the 9/11 attack) seems, in what has been called the 'postmodernist' sense, to distract the viewer from paying close attention to the work, as if saying- as Nicholas Mirzoeff argues in the case of war photography- 'there is nothing to see here, move on'. A proliferation of images ensures that the experience of all reality is mediated for subjects (/spectators) and it further leads to a blurring of reality and image. In being unable to distinguish between reality and image, spectators/viewers/subjects lose their analytical powers and more specifically and significantly their subversive powers. A symbolic representation of viewers seeing the lines between reality and image blurring comes from a visit to the India Art Fair 2013 (at NSIC Exhibition Grounds, Okhla, New Delhi) where a chamber of glass was so arranged that one could mistake reflection for the real and think of the real as the reflection (see photograph below, though the photograph cannot quite reproduce the experience of being on that spot where my friend and I stood and took a self-portrait). That space made one feel that one was not where one really was and gave the impression of observing oneself from the perspective of another standing right opposite while it really was one's own reflection that one saw-

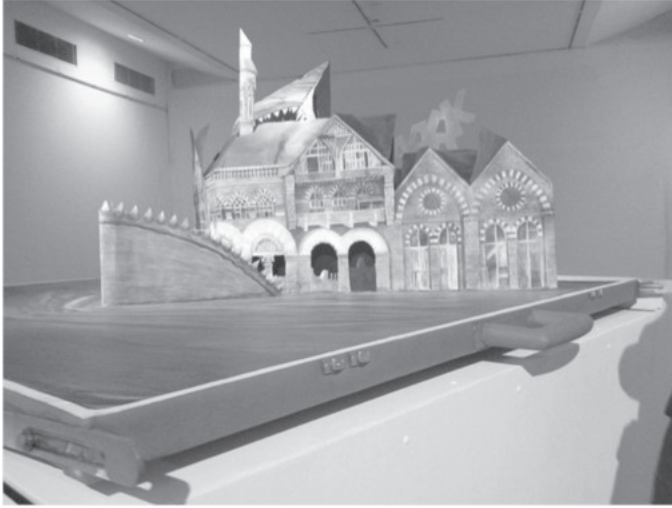


India Art Fair, 2013

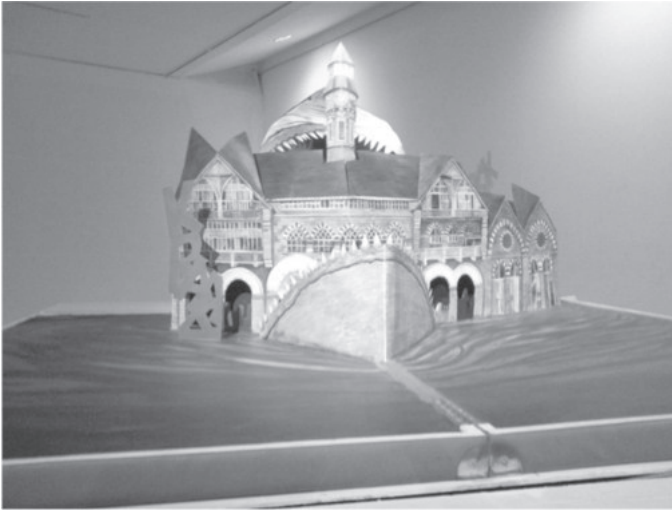
photo by: Neha Khurana

This transformation of reality into a spectacle (or as Debord would call it, the close linking between reality and spectacle such that they become indistinguishable, since reality is a spectacle and the spectacle is real) in a given space seems the fate of most exhibition spaces in the present day. Exhibition spaces, cut off from the rest of the world, become at best spectacles to be consumed by visitors who are always already aware of the politics behind and the politics being hinted at by the works. This is particularly true of India where exhibition goers are precisely and only people who are already 'initiated' as it were. Thus the political and subversive angles of art are likely to be blunted in such a case. Further, with timed exhibits in exhibition spaces, catching the viewer's attention for long enough becomes the foremost task as due to a constant scarcity of time (in the sense that Groyes describes²) the viewer is likely to skip certain parts of the video/installation and move on to the next.

This seemed to be case with Tushar Joag's 'timed' installation work 'Suitcase of the Urban Planner' recently seen at an exhibition titled 'Ideas of the Sublime' (curated by Gayatri Sinha) and organized by Vadehra Art Gallery at Lalit Kala Akademi (New Delhi). This work uses an open suitcase as the base for a card-board model of a city represented by a big building presumably an administrative one surrounded by cardboard jaws on two opposite sides (see photographs below).



Suitcase of the Urban Planner: Tushar Jaog photo by: Neha Khurana



Suitcase of the Urban Planner: Tushar Jaog photo by: Neha Khurana

The suitcase, equipped with a motor, begins to shut and pressed between the two sides of the suitcase, the jaws close taking in all that represented the 'city'. The suitcase would then open again after a short pause and repeat the process. The point seems to be that while urban planners would like cities to be so neat and organized that it would be possible to even neatly pack it in a suitcase, the

plans spiral out of control and prove devastating for the city instead. While the points about the package-friendly consumerist city and the schemes of the urban planners going awry such that the city is crushed under the plans' own weight seem abundantly clear, the reactions of the viewers were notably interesting. While several viewers were attracted to the work because of its size and movement, many would not wait to see it perform a complete cycle of movement in case they happened to arrive in midway in one cycle.

This was exacerbated due to the presence of other 'timed' works (videos and so on) on the same floor of the exhibition. One saw very few people actually pausing to observe and ponder over the work.

This participation required from the viewers takes us to the last part of this chapter and that is digital technology. Digital technology has manifested itself not only in laptops, desktops and mobile phones but also in tablets and the like that can store, display and let you operate upon the audio and video of your choice. This audio and video could range from movies and programmes of one's choice to games that one plays and social networking sites that one is connected to, among several other possibilities. Thus we see again a proliferation of images on the internet- on social networking sites, on websites of news channels, on blogs of several people, and so on. Thus in a sense now, as Groys argues, everyone is an artist to some extent as the lines between active and passive have been blurred significantly. However, does this blurring of the active and passive accord more agency to the users by making each of them an author or an artist in his/her own right? Do virtual spaces allow for greater surveillance? Do online protests contribute in a significant way to protest movements on the street? Or are these virtual spaces, like exhibition spaces, sites of co-option and containment? These are the questions that the following passages will explore.

Pramod K. Nayar in his book 'Digital Cool: Life in the Age of New Media' seems to be convinced with the potential of online spaces as spaces of resistance and looks at heightened surveillance only as a bi-product. On the other hand, Ravi Sundaram in his book 'Pirate Modernity: Delhi's Media Urbanism' does a comparison of space in the geographical sense and technology (most notably that of cable television) to identify spaces of resistance, of proliferation and a

mixing of legal and illegal activities in both. if we were to extend Sundaram's perspective which seems to follow the Lefebvre-esque model of conceived reality being different from perceived and lived realities, one would think of surveillance structures and intrusions into privacy in the virtual world (of the kind that Simson Garfinkel in his 'Database Nation' talks about and Nayar himself refers to as 'dataveillance') before thinking of what could be seen as 'excesses' of technology as it pilfers into other domains like social networking and the like. However Nayar's analysis, as already pointed out, works the other way round looking at agential spaces before surveillance-spaces and this is what makes this comparison more interesting.

Nayar cites participatory culture including online discussions about politics and online pages for spreading awareness about certain issues (like the Pink Chaddi Campaign, and perhaps the December-January 2012-13 protests against the gang rape in Delhi would also bear testimony to this to some extent) that have come to be considered 'cool' particularly by the youth now as evidence for the formation of collectives between people who might be separated by long geographical distances. Thus one can imagine that Nayar would object to the analysis of Scaria's 'Triviality of Everyday Existence' in the previous chapter, suggesting that the people on the metro station who are engrossed in their own electronic devices rather than talking to each other might actually be involved in forming collectives with people in other geographical locations. Thus at least those photos cannot be used as evidence to gesture at the disruption of the formation of collectivities. This in fact is the definition of 'techno-cool' for Nayar: "techno-cool is made of technologies that help us become immersed in another environment altogether and remain indifferent to our physical one" (Nayar, 2012: 19). It would be unfair to say that Nayar does not realize the paradox about this definition of tech-cool as he clearly does: "Techno-cool's paradox is the simultaneous celebration of detachment, individual pleasure and identity *and* commitment, social responsibility and collectivity: the immediate that is mediate and the distant that is made im-mediate" (21). Yet the celebration of what he calls being 'digitally cool' which means for Nayar being both a party-animal and a political animal at once, seems more hopeful than one can easily digest in this era of internet censorship, restrictions on Google

and arrests made for posting satirical cartoons on social-networking sites.

From everyday experience of being on these sites one knows that an invitee's response as "going" on an event-page of a social cause or a protest march means 'not going as I have already done my bit by "liking" this page' in perhaps one out of ten cases. Setting the r.s.v.p as 'going' seems to absolve people of the responsibility of actually going physically and making themselves seen and heard. Further if we were to think of the situation that Shelly Tara describes the women's coach in the Delhi metro as a space of collective resistance, one might find it difficult to accept for reasons already cited but one realizes that this kind of collectivity, if ever made possible, would be a real impact on the state of several women passengers. However one has little (if any) hope from a collectivity formed of people interested in representing themselves as digitally cool by talking about politics and sounding engaged in and concerned with issues of social concern. Further, the knowledge of constant surveillance ensures that everyone in the virtual world nowadays is highly conscious of how their self appears to the world and thus people constantly engage in some kind of self-censorship keeping an eye on themselves and what they post even as they indulge in discussions. This kind of self-censorship then might actually disrupt the formation of collectivities. These too then seem to become spaces of containment and absolving real responsibility rather than acting in real time. Thus while Nayar's analysis does well to take away the stress on virtual spaces as useless and/or wasted spaces, his emphasis on the subversive potential of these spaces also seems misplaced and thus I have emphasized more on the first part of Nayar's formulation- technology helps you dissociate yourself from your immediate surroundings much more than the second part of his formulation- technology makes the distant immediate and makes you visible to the distant similarly.

As we therefore realize that the virtual mobility of the gaze (through videos and other timed art forms) and greater visibility due to use of ever-evolving digital technology does not ensure active resistance, we feel an affinity towards Sundaram's formulation in his very detailed study of the comparison between unauthorised constructions and technological piracy that it is a combination of

visibility and invisibility, of authorised and unauthorised means that actually shields these proliferations from being considered a clear 'outside' to be drained out of the system. Sundaram points out instances where copyright producers themselves leak pirate copies in order to avoid paying taxes while also beating competition in the pirate market with their better quality as well as instances where cable operators illegally airing new releases are stupendously mobile, with their cars as control rooms. Thus Sundaram highlights two significant points about piracy through this: one, that piracy often uses the pre-existing established structures and networks of production and even circulation; and second, that piracy is such a "mix of place, time, and thing... that dissolves and reconstitutes itself regularly." (Sundaram: 138). This is the kind of argument that I would want to extend to virtual spaces as well: particularly due to the underdeveloped and even inefficient nature of cyber laws in India, social networking sites and other virtual spaces survive (and thus their users also are able to continue with their activities online) not because these sites have become so prevalent and are able to make their users more and more visible but due to being simultaneously visible and invisible to law and other institutions of the 'state'. Further, I think to argue that certain spaces are visible and invisible at the same time and that agency (whether in timed art or in virtual spaces) constantly shifts between the various parties concerned (the artist, viewer, 'state' and so on) has also been one way for me of extending the argument that I have also argued in my own paper 'Celebrity Sting Operations in India: an Analysis of Technologies of Surveillance in Public Interest' where I argued for a similar shifting nature of agency in terms of the parties involved (the presupposition and plan of the sting reporter, the 'desiring' subject on whom the sting is conducted, the TV channel that aims at high TRP's, and the viewers).

Finally, what in this paper I hope to have done is to have done is to have explored the interaction between master-plans of all kinds that tend to overtake, demarcate and define 'valid' ways of interpreting these spaces, and their corresponding counter-plans and/or non-plans evident in several agential acts carried out by walkers and flaneurs on the city-streets, writers in language and discourses, voyeurs in the virtual world, viewers in visual arts, and so on. The focus has been on the role of time in empowering or disempowering

the 'participant' subject in each of these cases even as the comparisons between the varied kinds of geographical and conceptual spaces are explored. It is through this logic and its extension that in the larger work from which this paper is extracted, the idea of surveillance (and the dynamics of compartmentalization, visibility and invisibility) is understood as a more participatory concept through an analysis of the relations amongst people and relations between people and images.

BIBLIOGRAPHY

Adajania, Nancy. 'The Unbearable Heaviness of Being: Parables of a 21st Century Nagrik'. *Gigi Scaria: catalogue*. Mumbai: Chemould Prescott Road, 2011. 6-23. Print.

Ananth, Deepak. "Seams". *Trash: Vivan Sundaram*. Bombay: Chemould; New Delhi: Photoink, New York: Sepia, 2008. Print.

Bachelard, Gaston. *The Poetics of Space*. Trans. Maria Jolas. Boston: Beacon Press, 1969. Print.

Beauregard, Robert. "Between Modernity and Postmodernity: The Ambiguous Position of US Planning". 1989. Bridge and Watson 502-12.

Benjamin, Walter. *The Arcades Project*. 1999. Bridge and Watson 393-400.

Bridge, Gary, and Sophie Watson, eds. *The Blackwell City Reader*. USA and UK: Blackwell, 2002. 393-400. Print. Readers in Geography.

Certeau, Michel De. "Walking in the City." *The Practice of Everyday Life*. Trans. Steven Rendall. Berkley, Los Angeles and London: University of California Press, 1988. 91-110. Print.

Chakrabarty, Dipesh. "Of, Garbage, Modernity, and the Citizen's Gaze." *Habitations of Modernity: Essays in the Wake of Subaltern Studies*. By Chakrabarty. Delhi: Permanent Black, 2002. 65-79. Print.

Debord, Guy. "The Society of the Spectacle". 1994. Mirzoeff 142-4.

Fiske, John. "Videotech". Mirzoeff 383-391.

Foucault, Michel. "Of Other Spaces". 1986. Mirzoeff 229-36.

Foucault, Michel. "What Could be Otherwise". Conversation with Fons Elders. 4 May 2013. Web. <http://www.epw.in/commentary/foucault-what-could-be-otherwise.html>

Friedberg, Anne. "The Mobilized and Virtual Gaze in Modernity". 1993. Mirzoeff 395-404.

Garfinkel, Simson. *Database Nation: The Death of Privacy in the 21st Century*. Beijing, Cambridge et al.: O'Reilly Media, 2000. Print.

Groys, Boris. *Going Public*. Ed. Julieta Aranda, Brian Kuan Wood, and Anton Vidokle. Trans. Steven Lindberg and Matthew Partridge. New York: Sternberg Press, 2010. Print.

Habermas, Jurgen. "Modernity versus Postmodernity." *New German Critique* 22 (1981): 3-14. *JSTOR*. Web. 7 July 2013. <http://links.jstor.org/sici?sici=0094033X%28198124%290%3A22%3C3%3AMVP%3E2.0.CO%3B2-J>

Kapur, Geeta. 'Landing Imaginaries'. Interview by Sabih Ahmed. N.d. *Sarai Reader 09: Projections*. Ed. Raqs Media Collective and Shveta Sarda. Delhi: CSDS, 2013. 248-56. Print. Sarai Reader Series.

Khurana, Neha. "Celebrity Sting Operations in India: An Analysis of Technologies of Surveillance in 'Public Interest'." Unpublished paper. January 2013. PDF file.

——— *Surveillance and the City: Delhi, Modernity, Visual Cultures*. Unpublished M.Phil Diss. 2013.

Lefebvre, Henri. *The Production of Space*. Trans. Donald Nicholson-Smith. Oxford and Cambridge: Blackwell, 1991. Print.

Mirzoeff, Nicholas. *An Introduction to Visual Culture*. Oxon, USA, Canada: Routledge, 1999. Print.

Mirzoeff, Nicholas, ed. *The Visual Culture Reader*. Second Edition. Oxon, USA, Canada: Routledge, 2002. Print.

Mirzoeff, Nicholas. "The Subject of Visual Culture". Mirzoeff 3-23.

Mitchell, W.J.T. "Showing Seeing: A Critique of Visual Culture". Mirzoeff 86-101.

ML, Johny. Musings in the Amusement Park. *Gigi Scaria: catalogue*. Mumbai: Chemould Prescott Road, 2011. 26-33. Print.

Nair, Janaki. *The Promise of the Metropolis: Bangalore's Twentieth Century*. New Delhi: O.U.P, 2005.

Nayar, Pramod K. *Digital Cool: Life in the Age of New Media*. New Delhi: Orient BlackSwan, 2012.

Ranciere, Jacques. "I No Longer Have Faith in Time." *Cybermohalla Hub*. Ed. Nikolaus Hirsch and Shveta Sarda. Delhi: Sarai-CSDS; Berlin: Sternberg Press, 2012. 76-78. Print.

Sadana, Rashmi. "The Metro and the Street". Web. 7 July 2013. http://www.india-seminar.com/2012/636/636_rashmi_sadana.htm

——— "Delhi's Changing Landscape". *Wall Street Journal (India)* 30 May 2012. Web. 7 July 2013. Pt. 1 of a series, Metrocity Journal. <http://blogs.wsj.com/indiarealtime/2012/05/30/metrocity-journal-delhis-changing-landscape/>

——— "Public vs. Private Space". *Wall Street Journal (India)* 31 May 2012. Web. 7 July 2013. Pt. 1 of a series, Metrocity Journal. <http://blogs.wsj.com/indiarealtime/2012/06/01/metrocity-journal-public-vs-private-space/?mod=WSJBlog&mod=irt>

——— "The New Trade Routes". *Wall Street Journal (India)* 31 May 2012. Web. 7 July 2013. Pt. 1 of a series, Metrocity Journal. <http://blogs.wsj.com/indiarealtime/2012/05/31/metrocity-journal-the-new-trade-routes/>

——— "Up, Up and Away". *Wall Street Journal (India)* 31 May 2012. Web. 7 July 2013. Pt. 1 of a series, Metrocity Journal. <http://blogs.wsj.com/indiarealtime/2012/06/02/metrocity-journal-up-up-and-away/>

Sambrani, Chaitanya. "Tracking Trash: Vivan Sundaram and the turbulent core of modernity". *Trash: Vivan Sundaram*. Bombay: Chemould; New Delhi: Photoink, New York: Sepia, 2008. Print.

Scaria, Gigi. Personal Interview. April 2013.

Siemiatycki, Matti. "Message in a Metro: Building Urban Rail Infrastructure and Image in Delhi, India." *International Journal of Urban and Regional Research* 30.2, June (2006): 277-92. PDF file.

Soja, Edward. "Six Discourses on the Postmetropolis". 1997. Bridge and Watson 188-96.

Sundaram, Ravi. *Pirate Modernity: Delhi's Media Urbanism*. USA and Canada: Routledge, 2010. Print.

Tara, Shelly. "Private Space in Public Transport: Locating Gender in the Delhi Metro." *Economic and Political Weekly* XLVI.51 (2011): n. pag. 7 July 2013. Web. <http://www.howtoexam.com/images/stories/attachment/2292/4638/Delhi%20Metro.pdf>

Topinka, Robert J. "Foucault, Borges, Heterotopia: Producing Knowledge in Other Spaces". *Foucault Studies*, No. 9, 54-70. September 2010. 7 July 2013. Web.

WORKS OF VISUAL ART

Joag, Tushar. *Suitcase of the Urban Planner*. 2009. Installation.

Scaria, Gigi. *Wheel*. 2009. Photograph of installation.

——— *Wind Chime*. 2012. Photograph of installation. Palette Art Gallery. New Delhi. Print.

Scaria, Gigi. dir. *Conscience Keeper*. 2010. Unpublished video. DVD.

Sundaram, Vivan. *The Great Indian Bazaar*. 1997. photograph of installation. Web. 7 July 2013. <http://www.gallerychemould.com/artists-works/vivan-home/vivan-sundaram-aw2368.html>

ENDNOTES

¹ This has changed slightly with the coming of dish television and DVD's which can be conveniently watched on laptops. This gives rise to what has been called an 'expanded present time' and will be discussed later in this paper.

²For details of this argument about the scarcity of time, please see - Groys, 2010: 90.

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Women's Exile' in the Victorian World of Thomas Hardy's 'The Mayor of Casterbridge'

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Feminism, which has rightly been called a “women’s movement,”¹ got an upsurge in 1960 and made a great impact on the 20th century literary imagination. It undertakes to unfold how women are unjustly given an inferior position in the Western civilization. The feminist criticism maintains that the human society with its layers of intrinsic norms and structures is inherently patriarchal. It has not only constrained women’s freedom but almost crushed their identity. In order to understand the gender bias implicitly present in the social structure of the world, Feminism drew insights from Lacan’s psychoanalytic theory. According to Lacanian views, the hierarchical structures of the Western society are constructed by the medium of language and form a “symbolic order.” It is by the symbolic system that the laws are set to define the truth of all things. Within this symbolic order “subjectivity, identity and sexuality are constructed by language – girl and boy enter the symbolic order differently.”² Male and female are so placed in ‘the symbolic order’ that it formed a patriarchal hierarchy in which language plays a major role. Language itself is a product of a patriarchal system. It is so produced and organized that it supports male power and marginalizes women. Luce Irigaray affirms that “[a] language that presents itself as universal and which is in fact produced by men only, is this not what maintains the alienation and exploitation of women in and by society.”³ Within the periphery of ‘the symbolic order,’ male-female dichotomy is strictly maintained on the basis of assumed truths. Man enjoys power because he is in possession of what Lacan calls “phallus” which a woman lacks. Phallus here is not just a body organ but “the cultural sign of masculinity”⁴ and “stands for the authority of the Law, the patriarchal social order.”⁵ The phallus is at the center of everything. It gives a pre-defined place to man and woman, determines their status and governs their relationship with each other.

The hierarchical status of a man as powerful and woman as subordinate is termed as “binary oppositions” by the French feminist

Hélène Cixous. In an essay entitled ‘Castration or Decapitation,’ she says:

It’s the classic opposition, dualist and hierarchical. Man woman automatically means great/small, superior/inferior...means high or low, means Nature/History, means transformation/inertia. In fact every theory of culture, every theory of society, the whole conglomeration of symbolic systems everything that is, that’s spoken, everything that acts on us — it is all ordered around hierarchical oppositions that come back to the man/woman opposition, an opposition that can only be sustained by means of a defiance posed by cultural discourse as ‘normal’.”⁶

Viewed in the light of the Lacanian concept of the symbolic order and postulation of other feminists, it can be argued that Hardy’s fictional world of *The Mayor of Casterbridge*⁷ is a restatement of the similar story of oppression and suppression of women at the hand of men. The novel reveals at various levels the inferior position of women in the socio-cultural domains of the Victorian society. The principal female characters in the novel Susan, Elizabeth-Jane and Lucetta Templeman are portrayed in terms of their pre-defined relationship with the patriarchal monopoly. They are forced to live according to the set parameters determined by the male-controlled society. Michael Henchard in *The Mayor of Casterbridge* is the father-figure enjoying the central place in the patriarchal hierarchy. Susan having been married to Henchard is given a subordinate position. Marriage in the symbolic order is symbolically conceived as a contract which determines the subjectivity of a wife along the set criteria of the patriarchal laws. According to Lacan, as quoted by Dorothy Leland, “Woman is introduced into the symbolic pact of marriage as an object of exchange along basically andocentric and patriarchal lines. Thus, the woman is engaged in an order of exchange in which she is an object...”⁸ Being a husband, a man confirms his dominant position in the domestic domain. The opening scene of the novel, that is, the auction scene is an apt representation of the patriarchal dominance of a husband over his wife. This opening scene, in which a husband makes a public sale of his wife, sets the aura of patriarchal domination at the very outset of the novel. Elaine Showalter in her essay entitled “Towards a Feminist Poetics” writes: “Henchard sells not only his wife but his child, a child who can only be a female. Patriarchal societies do not readily sell their

sons, but their daughters are all for sale sooner or later.”⁹ Women are treated as less than humans when they are set on auctions like animals. Such hostility is a common phenomenon in the Victorian society as affirmed by Henchard himself: “It has been done elsewhere—and why not here? (p.11)”

In this patriarchal world of Victorian society, Susan has been reduced to a non living thing which can be sold and purchased at will. Henchard sells her out in just five guineas. He offers her the same amount of money to win her back when she returns after a long gap of 18 years; hence treating her as no more than a commodity. Susan has not only accepted her sale but she burdens herself with religious obligations towards her purchaser: “Her simplicity – the original ground of Henchard’s contempt for her – had allowed her to live on in the conviction that Newson had acquired a morally real and justifiable right to her by her purchase though the exact bearings and legal limits of that right were vague” (p.22). Her mind is so constructed that she sees sanctity in her relationship with Newson. “But she was by no means the first or last peasant women who had religiously adhered to her purchaser as to many rural record shows” (pp.22-3). The minds of the women are so molded/shaped that they very easily submit to the patriarchal laws. Susan was ridiculed by one of her acquaintances for her serious adherence to her bonding with Newson and consequently lost “her peace of mind” (p.23). She is thus a puppet at the hand of tradition. Her own feeling is not important. What is important is her moral stature which is in question. It is a matter of her acceptability in the moral and legal system of the symbolic society which in turn is so organized that it denies autonomy to women. The norms of the patriarchal society construct the subjectivity of women in a given direction which confirm their subordinate position to men. Susan’s willing subordination to Henchard is evident when she asserts ‘meekly’: “I am quite in your hand” (p.70). Her complete personality is so altered that she is willing to be ruled by the patriarchy. This reunion is no more than a business transaction. It is with “strict mechanical rightness” that Henchard reconciles with his family. It is later confirmed that the “visit was repeated again and again with business like determination by the mayor” (p.78). Susan’s surrender to Henchard regardless of the ill-treatment that she had received from him in the past shows her passive acceptance of her inferior status as weak and subordinate to man. She is portrayed as submissive

because she lacks what Henchard as a man possesses – phallic power, authority and money. As pointed out earlier, language plays an important role in constructing a woman's identity in the symbolic society. It is not free from male hypocrisy. Henchard's use of words and expressions for Susan such as "meekness" and "idiotic simplicity" (p.15) are not used only for unburdening himself of his guilt but to give Susan a fixed identity of passivity and timidity in the symbolic order of the Victorian era.

Michael Henchard is a misogynist which he himself confides to Farfrae: "being by nature something of a woman-hater, I have found it no hardship to keep mostly at a distance from the sex" (p.74). In the auction scene itself, he blames his marriage for his unsuccessful life. His conviction is that one cannot attain a high position in life because of the presence of a family in the form of a wife and a daughter. He affirms: "The ruin of good men by bad wives, and, more particularly, the frustration of many a promising youth's high aims and hopes and the extinction of his energies by an early imprudent marriage, was the theme" (p.6). Under this impulse, he auctioned his family and proved in his later life that he could do better without a wife. He raised himself to a position where he could enjoy a power, authority and money through which he could construct his identity as 'masculine' as opposed to the 'feminine.' In order to retain this position in society, he maintains his image as a misogynist. "His well-known haughty indifference to the society of womankind, his silent avoidance of converse with the sex..." (p.78) helps him to secure his position in the symbolic system of the Victorian society.

It is not only Susan who is subject to Henchard's patriarchal domination, but Elizabeth-Jane, his step-daughter, too becomes a victim of it. Immediately after her arrival in Casterbridge, she has been trapped by the Symbolic norms and conventions. A woman's subjectivity is determined in terms of her relationship with a man. Earlier it was Susan who is seen in her relationship with her husband – Henchard. Now Elizabeth-Jane is defined in terms of her connection with the father-figure – Henchard who regulates her life along patriarchal lines. Controlling her life, he instructs her how to speak and how to write, hence constraining her freedom. Henchard forces Elizabeth-Jane to change her name owing to the legality of paternity to which she, though unwillingly, submits. After having gained the legal authority of fatherhood, he starts exercising his full

control over Elizabeth Jane. He scolds her for the use of inappropriate accent and vocabulary which he considers not fit for a mayor's daughter. She is forced to adopt a persona which is fit for the male-dominated symbolic system of the Victorian society. Henchard becomes extremely angry at the writing of Elizabeth-Jane when she "produced a line of chain-shot and sand-bags, he reddened in anger shame for her, and, peremptorily saying, 'Never mind – I'll finish it,' dismissed her there and then" (p.125). Henchard rejected her writing because his "creed was that proper young girls write ladies-hand..." (p.125) and thus confirms her state of being 'feminine' which is distinct from being a 'female.' Toril Moi, in his essay 'Feminist, Female, Feminine,' seeks to explain these terms: "Among many feminists it has long been established usage to make 'feminine' (and 'masculine') represent *social constructs* (patterns of sexuality and behavior imposed by cultural and social norms), and to reserve 'female' and 'male' for the purely biological aspects of sexual difference."¹⁰ Hence, Elizabeth-Jane's enforced feminine imposture is an example of the male politics to impose patriarchal superiority over the female community. In the symbolic Victorian society, women's complete demeanour is shaped by the patriarchal laws. Human relationships in the symbolic order are defined according to the set pattern of social norms such as paternity, marriage and other legal contracts which according to Lacan are purely symbolic and are created through the network of language. Elizabeth-Jane's identity is determined in terms of the legal status of her paternity. Earlier she was known by the name of Newson. After her arrival in Casterbridge, she is forced to identify with Henchard's name to attain social recognition. Elizabeth's identity crisis is not resolved until the last when her true paternity is revealed with Newson's return. How men govern a woman's life through such male-oriented social constructs is evident in the way Elizabeth-Jane's complete personality is conditioned. Towards the end of the novel, when Henchard's thought was contaminated by an ill-intention to inform Donald Farfrae about the fact that Elizabeth-Jane is not her daughter and thus to spoil her proposed marriage in the near future is a very sound evidence of woman's identity crisis and displacement in the socio-cultural constructs of the male-dominated Victorian society. A woman without a recognized legal paternity enjoys no place in the symbolic order. Elizabeth-Jane is forced to learn and to value the legality of her relationship with the father figure – Henchard. Elizabeth-Jane is trapped in the world of language, authority, law

and order. It has all been done in such a manner that no hypocrisy and malice can be doubted at the surface level. Becoming a legal daughter of Henchard, Elizabeth-Jane's subjectivity is under full control of patriarchal laws. Henchard's directing Elizabeth-Jane's life is the best example of what men have conceived of women to be in the symbolic system. In the symbolic processes, woman is marginalized while man is the only beneficiary. Earlier it was Susan who "enjoyed no society whatever from his presence" (p.2). Now Elizabeth-Jane suffers Henchard's proud coldness and indifference. Elizabeth-Jane's suffering at the hand of Henchard reaches to such a height that she, in a state of utter helplessness and despair exclaims: "Oh, I was dead with dear mother" (p.130). Hence, male arrogance and the subordinate position of women are aptly exemplified in Henchard and Elizabeth-Jane's relationship.

Lucetta, another female character in the novel, is a victim of identity-crisis and displacement in the rationally and morally-oriented society. She is forced to adopt a double personality. She is Lucetta Templeman from Jersey while she is outwardly known as "a Bath lady" (p.146). Apparently this identity crisis dawned upon her is self-imposed in order to run away from her immoral past in Jersey. Seen from a feminist perspective, this self-denial is on account of her conformity to the rational and moral system of the Victorian society. Woman as an embodiment of beauty serves to satisfy male desire. Earlier Lucetta got scandalized in Jersey for her illegitimate relationship with Henchard who used her to rectify his painful loneliness at the domestic sphere and to fulfill his sexual needs. He easily abandons her after Susan's return and offers her some amount of money to compensate her loss; hence treats her no more than a commodity. When Lucetta enters Casterbridge she is beautiful as well as wealthy and becomes a subject of prey for both Henchard and Farfrae simultaneously. Farfrae who was earlier inclined to marry Elizabeth-Jane changes his mind as quickly as he happens to meet Lucetta. Lucetta is caught between two men. She develops a relationship with Farfrae and is not free from Henchard's clutches at the same time. As a result, she is forced to live with her divided-self. This divided personality of Lucetta is brilliantly epitomized by the bread-butter episode: "More bread- and – butter? Said Lucetta to Henchard and Farfrae equally holding and between them a plateful of long slices. Henchard took a slice by one end and Donald by the other; each feeling certain - he was the man meant; neither

let go and the slice came in two" (p.175). This episode symbolically informs about the split in Lucetta's own personality which is apparently caused by her inconsistency of choice. But the underlying tension is that she is burdened with a secret past which if disclosed will declare her as morally unworthy to be a part of the symbolic society. She lives in a society which gives her no right to make a choice in life. She lives with a conflict in her mind whether she should marry a man of her choice (Donald Farfrae) or she ought to surrender to Henchard's marriage proposal which is not free from the patriarchal threat: "I come with an honest proposal for silencing your Jersey enemies, and you out to be thankful" (p.170). Lucetta's reaction against the dominant patriarchal system and her self-assertion is seen when she dares to break away from the bonds of her past in the form of Henchard and very boldly affirms: "I won't be a slave to the past – I'll love where I choose!" (p.171). Unlike Susan and Elizabeth-Jane who seemed to have accepted their lot, Lucetta dares to break that barrier and to come out of the clutches of the patriarchal law and order. She becomes a wife of Farfrae – a man of her choice. As a result, she faces harsh criticism and her life is completely ruined. Jopp, a male character in the novel, is instrumental in bringing the downfall of Lucetta. He publically reads out Lucetta's love letters having been written to Henchard when she was in Jersey. Hence, he instigates the public rage which comes out in the form of the 'Skimmity ride.' The rational and moral criticism that she faces in the form of the 'Skimmity ride,' whose laws are set according to the patriarchal criteria, leads to her miscarriage and her subsequent death. Hence, a woman is finally annihilated by the cruel norms of the male-dominant society.

Women's exile and displacement in the socio-cultural web of the Victorian society is exemplified by the inferior position in which all the principle women characters in the novel are placed. Patriarchal control of the social norms is represented by Henchard who is a father-figure enjoying the central position. In all of those roles as a husband, as a father and as a lover, Henchard epitomizes the assertion of patriarchy and authority governing the life of the female characters in a motivated manner. The man-woman relationships in this novel evidently confirm what Hélène Cixous calls 'the binary opposition.' Women as naturally weak, emotional and submissive and man as powerful and independent are the constructs which are established according to the laws of 'the symbolic order.' The

'symbolic order' itself is so structured that it vocalizes only what is rational, patriarchal and logocentric.

REFERENCES

- ¹ Barry, Peter. *Beginning Theory: An Introduction to Literary and Cultural Theory*. Second Edition. Manchester and New York: Manchester University Press, 2002, p.6.
- ² Cameron, Debora. *Feminism & Linguistic Theory*. Second Edition. New York: Palgrave, 1992, p.163.
- ³ Irigaray, Luce. "Woman's exile: an interview with Couze Venn." Quoted in Debora Cameron, *Feminism & Linguistic Theory*. Second Edition. New York: Palgrave, 1992, p.170.
- ⁴ Cameron, Debora. Op. cit., p.165.
- ⁵ Ibid., p.166.
- ⁶ Cixous, Hélène. Quoted in Sharad Rajimwale, *Contemporary Literary Criticism*. Second Edition. New Delhi: Rama Brothers India PVT. LTD., 2007, p.114.
- ⁷ Hardy, Thomas. *The Mayor of Casterbridge*. New Delhi: Peacock Books, 2012. (All the references to this book are given in parenthesis)
- ⁸ Leland, Dorothy. "Lacanian Psychoanalysis and French Feminism: Toward an Adequate Political Psychology." *Revaluing French Feminism: Critical Essays on Difference, Agency, and Culture*. ed. Fraser, Nancy and Sandra Lee Lartky. Bloomington and Indianapolis: Indiana University Press, 1992, p.123.
- ⁹ Showalter, Elaine. "Toward a Feminist Poetics." Accessed on December 4, 2013, from file:///C:/Users/jh/Desktop/paper%20on%20hardy/Toward%20a%20Feminist%20Poetics.htm
- ¹⁰ Moi, Toril. "Feminist, Female, Feminine." *The Feminist Reader: The Essays in Gender and the Politics of Literary Criticism*. ed. Catherine Belsey and Jane Moore. New York: Basil Blackwell, 1989, p.122.

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Impact of futures trading on spot market volatility: An empirical study of CNX it index

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INTRODUCTION

In the recent times, there has been a major debate concerning the impact of futures trading on spot market volatility. There have been various studies that have tried to analyze this relationship, but the results of all these researches have not been consistent. Some studies conclude that trading in futures increases the volatility in spot market, whereas some conclude that futures' trading has stabilized the spot markets, thereby reducing spot market volatility. However, there has been another set of researches that find no impact of futures trading on spot market volatility.

The main studies conducted in the Indian markets are:

Shenbagaraman (2003), concludes that after the introduction of futures there has been no affect on spot market volatility. Thnemozhi (2002), Raju and Karande (2003), and Nath (2003) have shown that volatility has reduced after the introduction of futures. Mallikarjunappa and Afsal (2007) have observed the CNX IT index and have concluded an increase in volatility with the launch of futures trading. Also, they have observed a change in the nature of volatility. Also, Mallikarjunappa and Afsal (2008) have done a study on CNX Bank Nifty and came to the conclusion that, spot market volatility is not impacted by the introduction of derivatives. They also observe that, sensitivity of index return changes in response to domestic and world returns after the introduction of derivatives, and they have observed a structural change in the coefficients in time periods before and after the introduction of derivatives. Thus there is no consensus on the impact of introduction of derivatives.

The reasons deduced from previous research and theory that explain the above stated relationship are mentioned below:

REASONS FOR FUTRES TRADING INCREASING THE SPOT MARKET VOLATILITY:

1. INDEX ARBITRAGE

In index arbitrage, traders search for differences between stock and future prices. It is often argued that such transactions may lead to higher variation in the spot prices. The following example explains this:

Suppose, a number of arbitragers are short on spot and long on futures, then all of them would want to close their positions in the similar manner in order to seek benefit. Thus, at the same time there would be a large number of stocks to be sold. This may lead to increased volatility.

2. PORTFOLIO INSURANCE

Whenever there is an increase in prices, to protect his situation the insurer will buy stock index futures and vice versa. As, portfolio insurance will generate trading activities in the same direction as the market is in, it will add to the existing market momentum.

REASONS FOR FUTURES TRADING REDUCING THE SPOT MARKET VOLATILITY:

On the other hand, some researchers have found out that, futures markets are responsible for increasing the depth and informativeness of the market, and are important for discovering price, thus they can contribute to reduction in the spot market volatility.

It is also possible that, the effects exist in the market; therefore they are cancelling the impact of each other, and thus the introduction of futures may or may not have any impact on the spot market volatility.

In our study, we intend to find out the impact of introduction of futures trading on the spot market volatility in the Indian context. Many of the earlier studies have been confined to S&P CNX NIFTY, but these days, sector specific indices have gained popularity, and we focus on a very significant sector of our economy that is responsible for making great contributions to India's GDP; the IT sector. So, we analyze the impact of introduction of futures on CNX IT index.

We attempt to analyze the sensitivity of index returns to domestic and global returns, and structural changes in the coefficients pre and post futures period.

DATA AND METHODOLOGY

We have used daily closing values of CNX IT index, NIFTY junior and S&P 500 from the period of January 2001 to December 2010. We start our research from 2001, as we want to see the impact on volatility in the IT sector only after the impact of DOT COM bubble on the markets. Data was collected from www.nseindia.com and <http://in.finance.yahoo.com/>.

To calculate returns, we have converted the daily closing prices data to daily compound return by taking the first log difference. Return at time t (R_t) is given by: $\ln(P_t/P_{t-1})$, where P_t is the closing price of day t .

While working on financial time series data, it is very important to check for stationarity. So, first Augmented Dickey Fuller test was employed on price and return series of all the 3 indices to check for stationarity, with the null hypothesis being that price/return series has a unit root (implying that the series is non stationary).

We compare the ADF t statistic with the critical values to comment on stationarity of the series (*IF THE ADF T- STATISTIC IS HIGHER THAN CRITICAL VALUES, WE REJECT THE NULL HYPOTHESIS AND VICE VERSA*).

All the data processing was done on E Views and, the following tables show the stationarity results:

Null Hypothesis: CNXIT PRICE has a unit root

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-2.999336	0.0351
Test critical values:		
1% level	-3.432841	
5% level	-2.862526	
10% level	-2.567340	

*MacKinnon (1996) one-sided p-values.

-This series is found to be stationary at 5% and 10% level of significance, non stationary at 1%.

Null Hypothesis: CNXIT RETURN has a unit root

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-49.15081	0.0001
Test critical values: 1% level	-3.432841	
5% level	-2.862526	
10% level	-2.567340	

*MacKinnon (1996) one-sided p-values.

-This series is found to be stationary at all levels of significance.

Null Hypothesis: NIFTY JUNIOR PRICE has a unit root

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-0.170107	0.9397
Test critical values: 1% level	-3.432842	
5% level	-2.862527	
10% level	-2.567341	

*MacKinnon (1996) one-sided p-values.

-This series is found to be non stationary at all levels of significance.

Null Hypothesis: NIFTY JUNIOR RETURN has a unit root

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-42.48929	0.0000
Test critical values: 1% level	-3.432841	
5% level	-2.862526	
10% level	-2.567340	

*MacKinnon (1996) one-sided p-values.

-This series is found to be stationary at all levels of significance.

Null Hypothesis: S&P 500 PRICE has a unit root

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-1.908387	0.3286
Test critical values:		
1% level	-3.432842	
5% level	-2.862527	
10% level	-2.567341	

*MacKinnon (1996) one-sided p-values.

-This series is found to be non stationary at all levels of significance.

Null Hypothesis: S&P 500 RETURN has a unit root

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-39.26125	0.0000
Test critical values:		
1% level	-3.432842	
5% level	-2.862527	
10% level	-2.567341	

*MacKinnon (1996) one-sided p-values.

-This series is found to be stationary at all levels of significance.

After checking for stationarity, in order to examine whether the introduction of futures has altered the spot market volatility, we estimate the following equation, using the returns of Nifty Junior (which is a proxy of market wide volatility) and lagged returns of S&P 500 to remove any predictability associated with the world returns:

$$R_t = c + \hat{a}_1 R_{t,NJ} + \hat{a}_2 R_{t-1,S\&P\ 500} + a_t$$

where R_t is the daily return on CNXIT index calculated as the first difference of the log of the index, $R_{t,NJ}$ is the return on Nifty junior index and $R_{t-1,S\&P\ 500}$ is the lagged S&P 500 index return. Here error term, a_t , is expected to follow normal distribution.

In order to observe if the introduction of index futures contract has altered the nature of volatility, we divide the sample into 2 sub periods using 23 August 2003 as the cutoff date, and employ GARCH model separately for each period. We use Chow test to observe any structural change. In this case, the comparison of regression coefficients is made pre and post introduction of futures on the CNX

IT index. So, the entire period is divided into two parts, i.e., pre-futures and post-futures using 29 August 2003 as the cutoff date. (Pre futures period = till 29 August 2003). The null hypothesis in this case is that the coefficients in both the periods are statistically the same, and thus there is no structural change. Chow test statistic follows F distribution and we accept or reject the null hypothesis on observing the P value of F statistic.

RESULTS AND ANALYSIS

The table below gives the descriptive statistics of CNX IT and NIFTY JUNIOR.

DESCRIPTIVE STATISTICS

PERIOD		MEAN	STANDARD
DEVIATION			
JAN 2001 to DEC 2010	CNXIT	-0.000503089	0.053826751
	NIFTY JUNIOR	0.000633695	0.018930134
JAN 2001 to AUG 2003 (pre-futures)	CNXIT	-0.000832398	0.034545216
	NIFTY JUNIOR	-4.05194E-05	0.015949874
SEP 2003 to DEC 2010 (post-futures)	CNXIT	-0.000383676	0.059297244
	NIFTY JUNIOR	0.000878178	0.019899336

CNXIT index has a mean return of -0.000503089 with a standard deviation of 0.053826751. If the entire period is divided into two parts, i.e., pre-futures and post-futures using 29 August 2003 as the cut off date, the average daily return has risen from -0.000832398 to -0.000383676 and standard deviation, a measure of volatility, has also increased from 0.034545216 to 0.059297244. This shows that introduction of futures has led to increase in the spread. But further analysis is required to infer that introduction of futures has led to change in volatility of IT stocks. If we look at Nifty Junior it is clear that average return has increased but volatility has also gone up (indicated by increase in standard deviation). This shows that volatility of the market has changed during the post-futures period.

GARCH ANALYSIS

The most important issue this paper deals with is whether the nature of volatility has changed after the introduction of derivatives. For this the entire sample period is divided into two parts:

- 1) Pre-futures
- 2) Post-futures

This division has been done using 29 august 2003 as the cut off date and we fit a GARCH model separately for each period. The mean equation estimated is as follows:

$$R_t = c + \hat{a}_1 R_{t,NJ} + \hat{a}_2 R_{t-1,S\&P\ 500} + a_t$$

Where R_t is the daily return on CNXIT index calculated as the first difference of the log of the index, $R_{t,NJ}$ is the return on Nifty junior index and $R_{t-1,S\&P\ 500}$ is the lagged S&P 500 index return. The error term, a_t , is expected to follow normal distribution. Returns of Nifty junior index capture market wide volatility and lagged returns of S&P 500 capture the predictability associated with world returns.

Pre-futures period

After the series have been tested for stationarity, the next step is to identify ARMA terms. For that ACF and PACF plots are observed. Significant spikes are observed at 28th lag. Since no theoretical reasoning can be attached with 28th lag, therefore, it has not been included in the mean equation. When the mean equation is tested for heteroscedasticity using ARCH LM test, following results are obtained:

Heteroskedasticity Test: ARCH

F-statistic	26.75022	Prob. F(1,645)	0.0000
Obs*R-squared	25.76463	Prob. Chi-Square(1)	0.0000

Therefore the null hypothesis of 'NO ARCH EFFECTS' is rejected. On the basis of Akaike Information criteria and Schwarz information criteria GARCH(3,2) is found to be the best model. The table below gives results of GARCH analysis for pre-futures period:

MEAN EQUATION

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.000902	0.001127	0.800302	0.4235
NJR	0.105257	0.073057	1.440753	0.1497
LAGGED_ RETURNS	0.379812	0.080631	4.710508	0.0000

VARIANCE EQUATION

C	0.000113	6.14E-05	1.834741	0.0665
RESID(-1)^2	0.290053	0.057998	5.001100	0.0000
RESID(-2)^2	0.100850	0.061630	1.636396	0.1018
RESID(-3)^2	-0.238293	0.036768	-6.481031	0.0000
GARCH(-1)	0.422673	0.206699	2.044878	0.0409
GARCH(-2)	0.340385	0.103462	3.289948	0.0010

When GARCH(3,2) is tested for heteroscedasticity, we get the following results:

Heteroskedasticity Test: ARCH

F-statistic	0.216682	Prob. F(1,645)	0.6417
Obs*R-squared	0.217280	Prob. Chi-Square(1)	0.6411

Looking at the p-value, we can conclude that there is no heteroscedasticity in the residuals of this equation.

Post-futures

After the series have been tested for stationarity, the next step is to identify ARMA terms.

For that ACF and PACF plots are observed. No significant spikes are observed in ACF and PACF plots. The mean equation estimated is as follows:

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.000375	0.001401	-0.267491	0.7891
NJR	-0.057142	0.072010	-0.793528	0.4276
LAGGED_ RETURNS	0.324334	0.107728	3.010668	0.0026

In order to check whether heteroscedasticity is present in the residuals of the mean equation, ARCH LM test is used. The results are as follows:

Heteroskedasticity Test: ARCH

F-statistic	0.000794	Prob. F(1,1784)	0.9775
Obs*R-squared	0.000795	Prob. Chi-Square(1)	0.9775

Here the null hypothesis of 'NO ARCH EFFECTS' is not rejected, thus the heteroskedasticity is not present in the residuals of the mean equation. Hence there is no need to make use of GARCH to estimate the time varying variance equation.

Thus, on the basis of above analysis we can say that volatility clustering was there in pre-futures period but there was no volatility clustering after the introduction of futures. So the nature of volatility has changed after the introduction of derivatives. Moreover, looking at the p-value of S&P 500 lagged returns and returns on nifty junior, it is quite clear that only S&P 500 lagged returns explain CNXIT returns in pre as well as post future introduction period. Domestic returns are not significant in explaining returns on CNXIT index. Therefore sensitivity of CNXIT index to domestic and global returns has not altered in the post futures introduction period.

CHOW TEST FOR PARAMETER STABILITY

Next, to observe any structural change, we run chow test. In this case, the comparison of regression coefficients is made pre and post introduction of futures on the CNX IT index. The null hypothesis in this case is that the coefficients are statistically the same in both the periods, and thus there is no structural change.

Chow test statistic follows F distribution and we accept or reject the null hypothesis on observing the P value of F statistic. The following table shows the results of Chow test:

Chow Breakpoint Test

F-statistic	0.439052	Prob. F(3,2429)	0.7251
Log likelihood ratio	1.320052	Prob. Chi-Square(3)	0.7244
Wald Statistic	1.317157	Prob. Chi-Square(3)	0.7251

-Since the P value of F statistic is very high (0.7251), we accept the null hypothesis. Thus, it is accepted that there is no structural change

CONCLUSION

From our results we conclude that,

-Volatility clustering was there in pre-futures period but there was no volatility clustering after the introduction of futures. So the nature of volatility has changed after the introduction of derivatives.

- Sensitivity of CNXIT index to domestic and global returns has not altered in the post futures introduction period.

-However, there has not been any structural change in the coefficients of pre and post futures period.

LIMITATIONS

The present study is carried out on sector based index, so extreme caution needs to be exercised to generalize these results. Thus, studies with general and other sector based indices must be conducted with longer time periods.

REFERENCES

Mallikarjunappa, T. and Afsal, E.M. 2007. Futures trading and Market Volatility: A Study of CNX IT Index. Paper presented at National Conference on Business

Mallikarjunappa, T. and Afsal, E.M. 2008. Effect of Futures Trading on Spot Market Volatility: A study of CNX Bank Nifty Index, Decision, Vol. 35, No. 1, January –June, 2008

Nath, C. 2003. Behavior of stock market volatility after derivatives, NSE Working Paper

Raju, M.T. and Karande, K. 2003. Price discovery and volatility of NSE futures market, Working Paper. SEBI Bulletin, 1(3) ,5-15

Shembagaraman, P. 2003. Do futures and options trading increase stock market volatility?. NSE Working Paper

Thenmozhi, M. 2002. Futures Trading, Information and Spot Price Volatility of NSE- 50 Index Futures Contract. NSE Working Paper

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Is Indian Stock Market Weak-Form Efficient? - An Empirical Analysis

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Introduction

The concept of efficiency is central to finance. It deals with one of the most fundamental and exciting issues in finance – why prices change in security markets and how those changes take place. Fama (1965) in his seminal work has said that if markets are informationally efficient then stock prices will reflect all the information and nobody will be able to beat the market consistently. However numerous studies have been done on various stock markets concerning the validity of EMH and it contradicts with it. There are three levels of market efficiency according to financial literature, i.e., weak form, semi-strong form and strong form. If market is weak-form efficient, then stock prices reflect all past information contained in market related data. It is also known as ‘random walk’. The Random Walk Hypothesis says that stock prices move in a random fashion like a drunkard’s walk and successive price changes are independent of each other over time. Thus, the technical analysis is of no use in earning abnormal profits as there would be no trend or pattern.

In semi-strong form, this information set includes all publicly available information as well. This information includes data reported in a company’s financial statements (annual reports, income statements, filings for the Security and Exchange Commission, etc.), earnings and dividend announcements, announced merger plans, the financial situation of company’s competitors, expectations regarding macroeconomic factors (such as inflation, unemployment), etc. So, in this form, investors can’t earn superior risk-adjusted profits using fundamental and technical analysis both.

In this paper, an analysis of three popular stock indices is carried out to test the efficiency level in the weak form in Indian Stock market and the random walk nature of the stock market by using the run test and the autocorrelation function ACF (k).

Review of Literature

Basu & Morey (1998) examines if and how the economic reforms

brought by the Rajiv Gandhi administration have affected the behaviour of Indian stock prices. To address this issue non-parametric variance ratio tests was employed spanning a sample period of July 1957 to October 1996. The monthly all-India share index price data available from the International Financial Statistics (IFS) was used. The variance ratio test on two sub-samples: pre-January 1985 and post- January 1985 was conducted. The rationale for using this date as a cut-off point was that the mid-1980s coincided with the time when major economic changes towards economic liberalisation were beginning to be made in India. The study showed that from the mid-1980s, aggregate equity prices in India behaved like a random walk suggesting that Indian stock prices obeyed Fama's efficient market hypothesis after the beginning of the economic reforms. It was also found that, to some extent, this progress towards efficiency was thwarted after the infamous scam of September 1991-May 1992. The empirical analysis of Indian stock prices suggested that, in the wake of economic liberalisation in the mid-1980s, Indian stock prices showed signs of greater efficiency. The variance ratio tests, which are robust to time varying volatilities, strongly suggest that stock prices behaved like a random walk beginning in the mid- 1980s though the brunt of liberalisation measures came much later the mid-1980s. This study also complements Thomas' (1995) finding of a mid-1980s regime shift because of which the financial market actually became more efficient.

Pandey (2003) carries out an analysis of three popular stock indices to test the efficiency level in Indian Stock market and the random walk nature of the stock market by using the run test and the autocorrelation function ACF (k) for the period from January 1996 to June 2002. The data consisted of daily and weekly closing values of three leading stock indices namely CNX defty, CNX Nifty, CNX Nifty Junior. From autocorrelation analysis and runs test the author concludes that the series of stock indices in the Indian Stock Market are biased random time series. The auto correlation analysis indicates that the behavior of share prices does not confirm the applicability of the random walk model in the Indian stock market. Thus, there are undervalued securities in the market and the investors can always earn excess returns by correctly picking them.

Sarma (2004) empirically tests the Indian stock market's efficiency in the weak form by examining the possible occurrences of abnormal

returns through pursuing an 'active strategy' based on the observed 'pattern of seasonality' of returns. Using the data of SENSEX, NATEX, and BSE 200 indices, it examines the regularity in the mean daily log returns and unveils the presence of 'seasonality.' For SENSEX portfolio, 'active strategy' and for BSE 200, 'passive strategy' appears to be generating abnormal returns.

Ahmad, Ashraf, Ahmed (2006) attempts to seek evidence for the weak form efficient market hypothesis using the daily data for stock indices of the National Stock Exchange, Nifty, and the Bombay Stock Exchange, Sensex, for the period of 1999-2004. The daily data consists of 1,425 observations for the total period which is a big sample size from the view of statistical inference. The series was further split into two equal periods 1999-2001 and 2002-04 to test whether or not the efficiency of the market improves over time. The first phase of the period incorporates the internet euphoria, rogue traders crisis and the stoppage of badla. The second period includes the introduction of rolling settlement, transactions in futures and options, the bull run and the highs in the indices, market capitalization and FII inflows during 2004. The parametric tests, namely, unit root tests, the sample Autocorrelation Function (ACF), Ljung-Box (Q) statistic and GARCH model were used. Further, nonparametric Runttest and Kolmogorov-Smirnov (K-S) test were used to check the randomness and normality in a stock-price time series. The random walk hypothesis for the Nifty and the Sensex stock indices is rejected. Both the stock markets have become relatively more inefficient in the recent periods, and have high and increasing volatility. Non-parametric tests also indicate that the distribution of the underlying variables is not normal and the deviation from normality has become higher in recent years. Both the indices show a negative autocorrelation at lag 2, indicating over-reaction one day after information arrival, followed by a correction on the next day. The study suggests immediate dissemination of information on foreign institutional investor trades and equity holding and the need to improve free float of equity to move towards efficiency.

Thus in the Indian context, except for some of the studies, the available evidence in general indicates that the successive price changes are independent and the random walk model is appropriate to describe the stock behavior.

Lo & McKinlay (1988) tested the random walk hypothesis for weekly stock market returns by comparing variance estimators derived from data sampled at different frequencies. The random walk model is strongly rejected for the entire sample period (1962- 1985) and for all sub-periods for a variety of aggregate returns indexes and size-sorted portfolios by using a simple volatility-based specification test for both homoscedastic and heteroscedastic random walks based on variance estimators. The empirical results indicated that the random walk model is generally not consistent with the stochastic behavior of weekly returns, especially for the smaller capitalization stocks. The variance-ratio test on all individual stocks that have complete return histories in the CRSP database for the entire 1216-week sample period, yielding a sample of 625 securities was conducted and found that the daily returns of individual securities are slightly negatively autocorrelated. Although the rejections are due largely to the behaviour of small stocks, they cannot be attributed completely to the effects of infrequent trading or time-varying volatilities. Moreover, the rejection of the random walk for weekly returns does not support a mean-reverting model of asset prices.

Most important contribution is made by the proponent of efficient market theory i.e. **Fama (1970)**. He did empirical testing of efficient market models with adjustment of security prices into three relevant information subsets. He conducted weak form tests, semi strong forms tests, and strong form tests and concluded that with few exceptions the efficient market model stands up well.

Objectives

This paper attempts to test the weak form of efficiency existing in Indian stock markets by using parametric and non-parametric tests. Testing is done to see whether or not successive price changes are independent of each other.

Methodology

The weak form of the EMH involves two separate hypotheses:

- (a) successive stock price changes are independent
- (b) The price changes are identically distributed random variables.

If successive stock price changes are independent of one another and are identically distributed random variables, then historical price changes cannot be used to predict future price movements in any meaningful way. In this paper, Autocorrelation and Runs Test are used for testing the efficiency of the stock market.

Autocorrelation Function (ACF)

Autocorrelation is one of the statistical tools used for measuring the dependence of successive terms in a given time series. Therefore it is used for measuring the dependence of successive share price changes. This measures the amount of linear dependence between observations in a time series Y_t that are separated by lag k . The autocorrelation function $ACF(k)$ for the time series Y_t and the k -lagged series Y_{t-k} is defined as :-

$$ACF(k) = \frac{\sum_{t=1+k}^n (y_t - \bar{y})(y_{t-k} - \bar{y})}{\sum_{t=1}^n (y_t - \bar{y})^2}$$

The approximate value of the standard error of $ACF(k)$ is given by:-

$$Se_{ACF(k)} = \frac{1}{\sqrt{n}}$$

To test whether $ACF(k)$ is significantly different from zero, the following distribution of 't' is used, i.e.

$$t = ACF(k) / Se_{ACF(k)}.$$

For both random variable series and series with trends, $ACF(k)$ are very high and decline slowly as the lag value (k) increases. At the same time the $ACF(k)$ of the first difference series (price changes or returns) are statistically insignificant when the series is a random walk series. A random walk series drifts up and down over time. In some situation it may be difficult to judge whether a trend or drift is occurring. Hence, to determine whether a series has significant trend or whether it is a random walk, the t-test is applied on the series of first differences. If the price changes of the stocks are independently distributed, $ACF(k)$ will be zero for all time lags.

In this study autocorrelation is conducted at lag 36 to see relation of market index with 36 consecutive days.

Run Test

Run test is a non-parametric test. It depends only on the sign of the price changes but not on the magnitude of the price. It does not require the specification of the probability distribution. They are essentially concerned with the direction of changes in the time series.

In a given time series of stock prices there are three possible types of price changes, namely positive, negative and no change. This gives three types of runs. A positive (negative) run is a sequence of positive (negative) price changes preceded and succeeded by either negative (positive) or zero price change. Similarly, a zero run is sequence of zero price changes preceded and succeeded by either negative or positive price change. When the expected number of runs is significantly different from the observed number of runs, the test rejects the null hypothesis. A lower than expected number of runs indicates the market's over-reaction to information, subsequently reversed, while higher number of runs reflects a lagged response to information. Either situation would suggest an opportunity to make excess returns.

Under the null hypothesis that successive outcomes are independent, and assuming that $N_1 > 10$ and $N_2 > 10$, the number of runs is asymptotically normally distributed with

$$\text{Mean: } E(R) = \frac{2N_1N_2}{N} + 1$$

$$\text{Variance: } \sigma_R^2 = \frac{2N_1N_2(2N_1N_2 - N)}{(N)^2(N-1)}$$

Where, N = total number of observations

N_1 = number of + symbols

N_2 = number of – symbols

R = number of runs

The null hypothesis of randomness is sustainable if R lies in the following confidence interval and rejects the null hypotheses otherwise [Gujarati 2003]:

$$\text{Prob}(E(R) - 1.96\sigma_R \leq R \leq E(R) + 1.96\sigma_R) = 0.95$$

The run test converts the total number of runs into a Z statistic. For large samples the Z statistic gives the probability of difference between the actual and expected number of runs. If the Z value is greater than or equal to ± 1.96 , the null hypothesis is rejected at 5 per cent level of significance.

Data

The sample period is 1st Jan 2004 to 1st Nov. 2013. The data consist of daily closing values of three leading stock indices of NATIONAL STOCK EXCHANGE namely S&P CNX Nifty, S&P CNX 500 and CNX 200. For CNX 200, data starts from Jan 2004 as it started from that particular date. The data has been collected from the website of National Stock Exchange (NSE) (www.nseindia.com)

Empirical Analysis The empirical results are presented as below. In the first step we compute autocorrelation function upto 36 lags for each series CNX Nifty and CNX 200. The series used for the purpose of computation is the return series i.e. first difference form.

Table 1: Autocorrelations of Daily Changes in stock Indices

lags	CNX NIFTY	CNX 200	CNX 500
1	0.063	0.102	0.111
2	0	0.017	0.022
3	-0.028	-0.014	-0.01
4	-0.018	-0.033	-0.03
5	-0.038	-0.04	-0.038
6	-0.037	-0.027	-0.025
7	0.041	0.054	0.053
8	0.041	0.049	0.047
9	0.024	0.033	0.033
10	0.01	0.008	0.01
11	-0.049	-0.062	-0.059
12	0.016	0.009	0.01
13	0.015	0.017	0.016
14	0.047	0.061	0.061

15	0.02	0.028	0.027
16	0.016	0.029	0.029
17	0.044	0.043	0.043
18	-0.019	-0.022	-0.018
19	-0.024	-0.029	-0.028
20	-0.057	-0.051	-0.05
21	-0.003	0.001	0.001
22	-0.005	-0.004	-0.002
23	-0.022	-0.006	-0.008
24	0.012	0.016	0.016
25	0.027	0.019	0.018
26	0.001	0	0.001
27	-0.031	-0.048	-0.052
28	0.008	0.005	0.002
29	-0.011	-0.009	-0.012
30	-0.018	-0.006	-0.007
31	-0.026	-0.02	-0.018
32	-0.004	-0.002	-0.001
33	0.008	0.009	0.013
34	0.022	0.019	0.02
35	-0.039	-0.04	-0.04
36	-0.001	0.011	0.011

Table 1 gives results for autocorrelation in price change for CNX Nifty, CNX 200 and CNX 500.

From the results it can be seen that the coefficient for autocorrelation is very high for the first lag i.e. more than twice the standard error at i.e 0.051796($=2*0.025898$). However with the increase in the no. of lags there is a fall in the coefficient of autocorrelation indicating that over a period of time the dependence of price change on its past values reduces. The negative coefficients across the study indicate price corrections which could have been due to over reaction from the time when information first came in the market domain. The empirical findings indicate price reversals for all the three indices from lag 3 to as far as lag 6.

Next we compute standard error for both the series. The autocorrelation coefficients at various lags are divided with the standard error to obtain t-statistic. The results show a peculiar trend whereby all the three indices have significant autocorrelations at the same lags i.e. lag 1, 7, 8, 11, 14, 17, 20 and 27 with exception of CNX Nifty which does not show significant coefficient at lag 27. The findings show that the information transmission across these indices takes place at the same speed and they adapt to the new information in the same manner. The number of securities that an index has does not seem to have an effect on the market efficiency. The results from autocorrelation function suggest that indices are not weak form efficient as the null hypothesis of autocorrelation coefficient equal to zero is rejected for eight lag periods.

Table 2 : 't' values for stock indices given by $t = \text{ACF}(k) / \text{SeACF}(k)$

lags	CNX NIFTY	CNX 200	CNX 500	Std. Error
1	3.12025	5.051833	5.497582	0.020191
2	0	0.841972	1.089611	0.020191
3	-1.38678	-0.69339	-0.49528	0.020191
4	-0.8915	-1.63442	-1.48583	0.020191
5	-1.88206	-1.98111	-1.88206	0.020191
6	-1.83253	-1.33725	-1.23819	0.020191
7	2.030639	2.6745	2.624972	0.020191
8	2.030639	2.426861	2.327805	0.020191
9	1.188666	1.634416	1.634416	0.020191
10	0.495278	0.396222	0.495278	0.020191
11	-2.42686	-3.07072	-2.92214	0.020191
12	0.792444	0.44575	0.495278	0.020191
13	0.742917	0.841972	0.792444	0.020191
14	2.327805	3.021194	3.021194	0.020191
15	0.990555	1.386778	1.33725	0.020191
16	0.792444	1.436305	1.436305	0.020191
17	2.179222	2.129694	2.129694	0.020191
18	-0.94103	-1.08961	-0.8915	0.020191
19	-1.18867	-1.43631	-1.38678	0.020191

20	-2.82308	-2.52592	-2.47639	0.020191
21	-0.14858	0.049528	0.049528	0.020191
22	-0.24764	-0.19811	-0.09906	0.020191
23	-1.08961	-0.29717	-0.39622	0.020191
24	0.594333	0.792444	0.792444	0.020191
25	1.33725	0.941028	0.8915	0.020191
26	0.049528	0	0.049528	0.020191
27	-1.53536	-2.37733	-2.57544	0.020191
28	0.396222	0.247639	0.099056	0.020191
29	-0.54481	-0.44575	-0.59433	0.020191
30	-0.8915	-0.29717	-0.34669	0.020191
31	-1.28772	-0.99056	-0.8915	0.020191
32	-0.19811	-0.09906	-0.04953	0.020191
33	0.396222	0.44575	0.643861	0.020191
34	1.089611	0.941028	0.990555	0.020191
35	-1.93158	-1.98111	-1.98111	0.020191
36	-0.04953	0.544805	0.544805	0.020191

Table 3: Run Analysis of Daily Changes in Stock Indices

Particulars	S&P CNX Nifty	CNX 200	S&P CNX 500
Total Cases	3143	2453	3140
Number of Runs	1479	1105	1373
Z	-0.00095	-0.00181	-0.00205

The Z-statistic for all three indices for the full period don't reject the null hypothesis of random walk at 5 per cent level as their Z values are insignificant at 5% level. So, the null hypothesis that prices are random is accepted for all the three indices.

Concluding Remarks

The assumption that the stock prices are random is basic to the Efficient Market Hypothesis. The random walk hypothesis for S&P CNX Nifty, CNX 200 and S&P CNX 500 stock indices is rejected during the period of analysis. The study carried out in this paper has presented the evidence of the inefficient weak form of the Indian Stock Market.

The Run tests indicate acceptance of null hypothesis that indices are weak form efficient. However ACF test is considered to be a more powerful and sophisticated tool for determining market efficiency. Autocorrelation tests show that out of thirty six lag periods for which tests were conducted eight show presence of significant autocorrelation coefficients in all the indices except for CNX Nifty which shows for seven lag periods. The empirical findings suggest that increase in the basket of securities does not affect the level of efficiency and information transmission takes place at the same pace across the market. All the three indices adapt to new information in the same manner. The results show negative auto-correlation from lag 3 to lag 6 indicating over-reaction one day after the information arrival followed by a correction after 2 days and the period of such correction continuing till the 6th lag. Thus, there are undervalued securities in the market and the investors can always make excess returns by correctly picking them.

The results seem to go against the recent efforts towards improving the functioning and transparency of the stock market. It seems certain anomalies still exist which may be making the stock market inefficient. These could be the dissemination of information regarding equity holdings and FII trades. The limitations of this study could be overcome by the use of high frequency data along with sophisticated econometric models may possibly help towards a better understanding of the underlying movement of stock prices.

BIBLIOGRAPHY

Ahmad, K. M., Ashraf, S. & Ahmed, S. (2006). Testing Weak Form Efficiency for Indian Stock Markets. *Economic and Political Weekly*, 41(1), pp. 49 - 56.

Lo, A & MacKinlay, C. (1988). "Stock Market Prices do not Follow Random Walks: Evidence from a Simple Specification Test," *Review of Financial Studies*, Society for Financial Studies, vol. 1(1), pages 41-66.

Basu, P. & Morey, M. (1998) "Stock Market Prices in India after Economic Liberalisation" *Economic and political weekly* : Vol. 33, 7, pp. 355-358

Fama, E. F (1965), "The Behavior of Stock-Market Prices", The Journal of Business, Vol. 38 (1), pp. 34-105.

Fama, E. F. (1970), "Efficient Capital Market: A Review of Theory and Empirical Work." Journal of Finance, pp. 383-417

Pandey, A (2003). Efficiency of Indian Stock Market. Retrieved October, 2003, from <http://ssrn.com/abstract=474921>

Sarma, S. N. (2004) "Stock Markets Seasonality in an Emerging Market", Vikalpa, Volume. 29 (3)

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MSME Sector in India: An Engine For Inclusive Growth and Development

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Modern industrialism is characterized by many large manufacturing units, but alongside small scale units continue to flourish. They do not disappear even in most highly industrialized economies. Instead, they continue to prosper in a wide array of products and market situations in most of the developing and developed nations. In developing countries, small industries can exercise a stabilizing influence on the vagaries and uncertainties of rural economy, besides helping to achieve industrial democracy. It facilitates effective mobilization of resources, capital and skill across the spectrum of economies. It is small wonder that holds inherent potential for creating large scale employment opportunities, reducing regional disparities and ensuring equitable distribution of income.

Introduction

The existence and growth of micro, small and medium enterprises (MSMEs) is a salient component of industrial structure in India. Small scale industries occupy an important place in the Indian economy particularly in terms of creating employment opportunities that provide for a source of income to millions of people. In order to continue to play this role, they have to be competitive and viable. The general observation, since the beginning, had been that majority of the small-scale industries were not competitive and hence there was a need of huge improvements in this respect. Consequently, several policies were initiated by the Government of India to enable small businesses to improve their competitive strength. Although, these policies emphasized technological upgradation, they created a paradoxical situation by protecting small units indiscriminately. As a result, even after the continuous policy support for more than four decades, they remained too small, uncompetitive and technologically backward. But the rapid technological advancements and changing business environments due to globalization and liberalization reforms increased the scale of their operations, thereby enhancing competitive strength.

With the promulgation of MSMED Act, 2006, the ambit of small scale industries has widened. The investment limits for defining “small” have been raised and the sector encompasses medium enterprise and service sector. Table 1.1 depicts the dynamic changes that took place in the investment limits for small-scale industrial undertakings and ancillary undertakings from time to time.

Table 1.1: Investment Ceilings in Plant and Machinery (Rs. Lakh)

Year	SSI		Ancillary	
	Nominal	Real*	Nominal	Real*
1966-67	7.5	117.55	10.0	156.74
1975-76	10.0	63.45	15.0	95.18
1980-81	20.0	91.49	25.0	114.36
1985-86	35.0	103.70	45.0	133.33
1991-92	60.0	104.80	75.0	131.00
1997-98	300.0	357.70	300.0	357.70
1999-2000	100.0	115.27	100.0	115.27
2006-07	500.0	500.0	-	-

Note: * The real asset values have been estimated by deflating the WPI formachinery and transport equipment at FY 2006-07 prices.

Source: *SIDBI Report on MSME Sector, 2010*

In October 2006, the Government of India enacted a new act known as Micro, Small and Medium Enterprise Development (MSMED) Act, 2006. For the first time, it provided a standardized definition for medium scale enterprise along with that of the small scale. A manufacturing enterprise with an investment in plant and machinery of up to Rs. 25 lakh is defined as a micro enterprise; an investment between Rs. 25 lakh and Rs. 5 crore is defined as small enterprise; and an investment of above Rs. 5 crore and up to Rs. 10 crore is defined as medium enterprise. A Service enterprise with an investment in equipment up to Rs. 10 lakh is defined as a micro enterprise; with an investment between Rs. 10 lakh and Rs. 2 crore is defined as small enterprise; and with an investment of above Rs. 2 crore and up to Rs. 5 crore is defined as medium enterprise.

MSME Definitions in Select Foreign Countries

Globally, there is no universally accepted definition of MSME's. The different countries use different criterion. The definitions, mostly, are based on investment limits and employment. The way they are defined also depends on the state of economic development and broad policy purposes for which the definition is used. According to a World Bank study, there are more than 60 definitions of small and medium scale industries used in 75 countries. In most of the countries, MSME's in a large majority, start as proprietorships, become small business units and then grow to become medium scale units. It is revealed that 99.7% of all enterprises in the world are MSME's and the rest 0.3% are large.

Table 1.2: MSME Definitions in Select Foreign Countries

Countries	Category	Criteria of Definitions	Basis
U.S.A	Very small enterprises	<20 employees	Employment
	Small enterprises	20-99 employees	
	Medium enterprises	100-499 employees	
Canada	Manufacturing	Independent firms having <200 employees	Employment
France	SME	10-499 employees	Employment
Germany	SME	<500 employees	Employment
Ireland	SME	<500 employees	Employment
Italy	Small Enterprises	<200 employees	Employment
Sweden	SME	Autonomous firms with <200 employees	Employment
Indonesia	SME	<100 employees	Employment
Philippines	SME	<200 employees <40 Million Revenue (Peso)	Employment & Revenues
Singapore	Manufacturing	<\$12 Million fixed assets	Fixed Assets
	Services	<100 employees	Employment

Source: SIDBI Report on MSME Sector, 2010

Growth, Structure and Performance of MSME Sector

The Micro, Small and Medium Enterprise (MSME) sector contributes significantly to GDP, manufacturing output, employment and exports of the country. It is estimated that in terms of the value, the sector accounts for about 8% of the GDP, 45 percent of the manufacturing output and 40 percent of the total exports of the country. The sector estimated to employ about 69 million persons in over 26 million units throughout the country.

Table 1.3: Number of Working MSME Units, Employment, Investments and Gross Output.

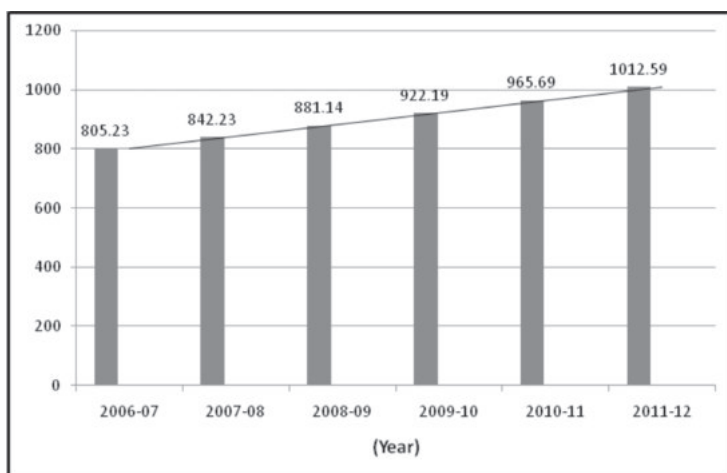
Year	Total Working Enterprises (In Lakh)	Employment (In Lakh)	Market Value of Fixed Assets (In Crore)	Gross Output (In Crore)
2006-07	361.76 †	805.23 †	868543.79*	1351383.45*
2007-08	377.37	842.23	917437.46	1435179.26
2008-09	393.70	881.14	971407.49	1524234.83
2009-10	410.82	922.19	1029331.46	1619355.53
2010-11	428.77	965.69	1094893.42	1721553.42
2011-12	447.73	1012.59	1176939.36	1834332.05

† Including activities of wholesale/retail trade, legal, education & social services, hotel & restaurants, transports and storage & warehousing (except cold storage) for which data were extracted from Economic Census 2005, Central Statistics Office, M/o SPI.* Estimated on the basis of per enterprises value obtained from sample survey of unregistered sector for activities wholesale/retail trade, legal, education & social services, hotel & restaurants, transports and storage & warehousing(except cold storage) which were excluded from Fourth All India Census of MSME.**Source:** Annual Report 2012-2013, Ministry of MSME

The Employment in the MSME sector expected to grow by 25.8% to reach 1012.59 lakh in 2011-12, up from 805.23 lakh in 2006-07. This was mainly because of the inclusion of enterprises falling under KVIC/KVIB, Handloom, Handicraft, Retail Trade sector etc. besides an overall enhancement in the investment limits of the constituents of the sector. Figure 1.1 demonstrates employment in the MSME sector in India over a period of time.

Figure 1.1: Employment in MSME Sector (in lakhs)

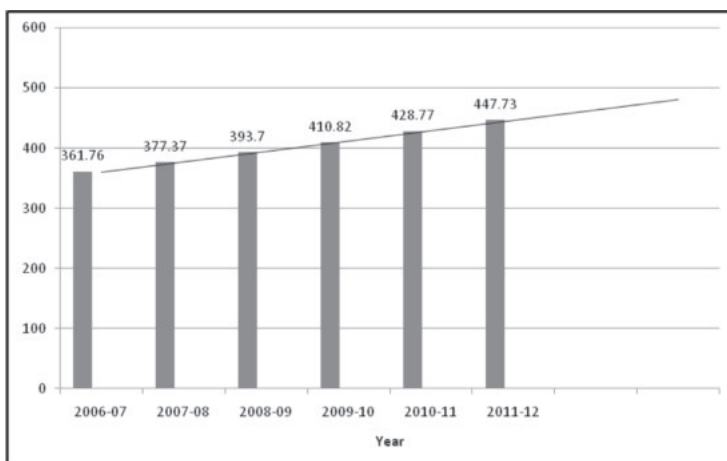
Source: Annual Report 2012-2013, Ministry of MSME



The total number of working MSME units expected to grow by 23.7% to reach 447.73 lakh in 2011-12, up from 361.76 lakh in 2006-07. Figure 1.2 demonstrates the number of working MSME units in India over a period of time.

Figure 1.2: Number of Working Enterprises in MSME Sector (in lakhs)

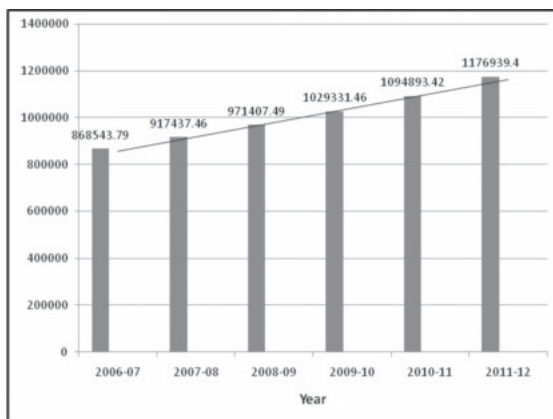
Source: Annual Report 2012-2013, Ministry of MSME



The market value of fixed assets expected to grow by 35.5% to reach 11,76,939.36 crore in 2011-12, up from 8,68,543.79 crore in 2006-07. Figure 1.3 demonstrates the upward movement in fixed investments into MSME units in India over a period of time.

Figure 1.3: Fixed Investment in MSME Sector (in Crores)

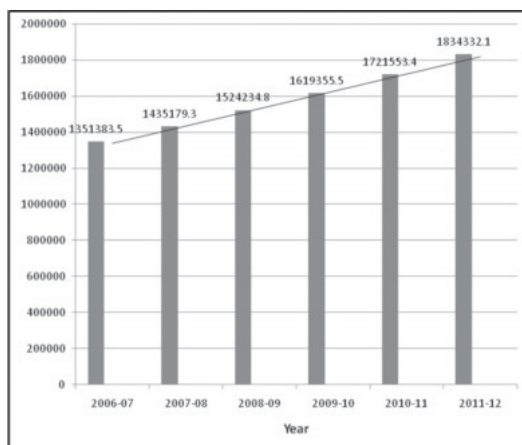
Source: Annual Report 2012-2013, Ministry of MSME



The value of gross output in MSME sector expected to grow by 35.7% to reach 18,34,332.05 crore in 2011-12, up from 13,51,383.45 crore in 2006-07. Figure 1.4 demonstrates the increase in production by MSME units in India over a period of time.

Figure 1.4: Gross Output in MSME Sector (in Crores)

Source: Annual Report 2012-2013, Ministry of MSME



Pre-1991 Government Policy of Protectionism

Since independence, the industrial policy in India has given a special place to small scale industries because of ideological reasons and social realities that created political compulsions. Small scale enterprises were considered to be legitimate instruments of creating employment opportunities and enabling the wide dispersal of industrial production. As regards the social realities, Indian industry consisted of craftsmen and rural artisans who suffered serious economic setbacks during the British colonial rule. Hence, in order to rehabilitate them, the government decided to revive village and cottage industries to improve their long term economic viability. The policy measures regarding small scale units can be categorized into two – promotional and protective.

Promotional measures are those that seek to impart competitive strength to small units by improving their access to different markets and by providing critical infrastructure. Some of the promotional measures are as follows:

- Infrastructural facilities such as developed plots or sheds in the industrial estates.
- Consultancy services relating to economic, technical and managerial aspects of the industry.
- Training services in the area of entrepreneurship, management and skill development.
- Industry facilities like tool rooms and quality testing stations.
- Arrangement for the supply of scarce raw materials, machinery on hire purchase and credit.

Protective measures seek to protect small units through a system of preferential treatment vis-à-vis large units. The important protective measures include reservation of certain products for exclusive production in the small scale sector, procurement quota set for products made by small firms by government agencies, input price concessions etc.

While protective measures led to the proliferation of small units, discretionary promotional measures due to lack of information and

cumbersome procedures made it difficult for the majority of small manufacturers and traders to access policy assistance.

Apart from policy protection, it was geographical and product market segmentation that helped small units survive and grow, despite being non competitive. For instance, the underdevelopment of infrastructure like transport created sheltered local markets for small scale units by raising transportation costs for large units to reach semi urban and rural markets.

Post-1991 Reforms and its Implications

A major reform process in the Indian policy regime has been underway post-1991 in response to a serious macro economic crisis. It was aimed at liberalizing the regulations on domestic business environment and sought to have a much greater integration with the world economy. Hence, the reforms included, on the external front, the devaluation of exchange rate, removal of quantitative restrictions on the imports of many items, reduction in tariff rates, permission to foreign direct investment for entry across the sectors of the economy. Domestic economic reforms included the abolition of licensing requirements for majority of industries, opening of reserved areas of the public sector to private participation, reduction in price controls, reforms in financial sector and capital markets etc. As a result, policy reforms injected a wave of market orientation and competitiveness in the Indian industry.

As part of the economic liberalization reforms, the policy regime had undergone massive transformation. For instance, licensing requirement for entry and expansion of firms was lifted, 100 per cent FDI under automatic approval system allowed, widespread reduction in import duties on life saving drugs, bulk drugs, medical equipments, IT products etc. The government encouraged private capital flows, established Software Technology Parks (STP's), provided favorable tax treatment to software exports etc.

Such policy initiatives reflected a shift from an earlier protective regime to more of a facilitating regime. As a consequence, firms have to improve their competitive strength on their own rather than perpetually seeking the cover of government protection.

All these changes have led to intense competition for the domestic firms. These firms will now have to focus more on improving quality of manufacturing practices, product and innovation strategies to grow and survive even in the domestic market. Moreover, they have to enlarge their market base from national to global markets due to increased foreign competition. Therefore, in the new globalized business environment, they can no longer rely on the national market for growth and survival. As a result, acquiring new technologies, building infrastructure overseas, etc., are necessary survival tools in a rapidly globalizing world market.

Challenges of Globalization faced by MSME's Post Dot-Com Revolution

Sweeping changes have taken place all over the world both politically and economically and India is not insulated from these forces of change. In addition to that, we have our own unique problems. On technological front, the electronics revolution manifested itself into emergence of internet applications. On economic front, the creation of World Trade Organization (WTO) initiated the process of free flow of international trade. The Indian industry did not get enough time to develop and grow to prepare itself to face the challenges of globalization. Moreover, the constraints of India's MSME's such as low capital base, low level of technology, limited skilled human resource, lack of credit and infrastructure etc compounded the problem and made compliance to WTO regime a threat for the industry. Some of the major exogenous forces affecting MSME's and creating uncertainties in their business environment are as under:

- i) Advancements in Information technology and telecommunications are taking place at a fast pace. Many enterprises in the MSME sector find it difficult to keep pace with them as it entails significant investment in equipment & software and also professional expertise and advice. Those who can afford it or share it are better placed with regard to their business.
- ii) In today's world, rise in electronic commerce is of immense significance. The big multinational firms would benefit immensely to cash in on the growing popularity of the electronic medium in the domestic as well as cross border trade. As far as

Indian MSME's are concerned, they are yet to use e-commerce to its full potential for trade purposes and at reasonable cost.

- iii) The rapid developments in product technology is also not easy to cope with. For instance progress in the field of biotechnology is opening new vistas for the pharmaceutical firms and at the same time posing a threat of technological obsolescence for MSME's who cannot acquire or develop the latest technology at a fast rate.
- iv) Multilateral trading rules under the agreements of WTO involve multilateral obligations upon member countries relating to tariffs, subsidies, technical standards etc which limit the degrees of freedom that MSME's have enjoyed so far.
- v) The issues related to labour and environmental standards are being pushed into bilateral/regional/multilateral forums as non-trade issues. Since many MSME's operate in informal sector and often employ cheap labour, the threat of stringent labour laws pose a problematic situation to them and adversely affect their competitive position. The environmental standards adds to the cost of production for MSME's.
- vi) Liberalization of services is being undertaken on a large scale in India, where service sector contributes around 60% of India's annual GDP. There have been structural changes in many sub-sectors in services such as finance, health, education, business and communication. Such changes create uncertainties for MSME's and affect their future growth prospects.
- vii) Marketing Innovations such as internet marketing particularly social media, mobile marketing, MR based advertising etc are catching on and spreading fast making them all the more vulnerable in today's globalized world.

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Challenges of Sustainable Consumption: Indian Context

Dr. Sheetal Kapoor

Rapid industrialization and globalization has a major environmental impact, unfortunately degrading in most cases. Although not born out of this situation (Indians have been familiar with this concept for ages), Ethical Consumption has gained prominence over the past few decades as a result. Environment Conservation never seemed to be a driver as corporations churned out innovative alternatives for consumers. However, Ethical Consumption is now being considered imperative and has implications for all in the Supply and Consumption Chains.

Every single purchase decision has an effect on the environment, business, consumers and the workers who manufacture the products. Therefore what is required is a responsible behaviour from all stakeholders in preserving the environment.

In the Indian society lifestyles have largely been regulated by long-standing practices. Since ancient times Indians have believed in *Aparigraha* (non possession), conservation of resources, and in need-based consumption, not want-based. Economic reforms carried on since 1991 have produced remarkable results, making India one of the most exciting prospects among the emerging markets. The Indian middle class has become wealthy and there is a major shift in consumer behaviour. An Indian consumer who at one point of time was saving for the rainy day is not hesitant in taking home loans, car loans and does not shy away from spending on the life's luxury. Whereas the West which is already facing a consumerist society and the governments and social organizations are educating business and the consumers about ethical consumption, will the Indian consumer with its new found wealth think about sustainable consumption?

The article attempts to study the challenges of sustainable consumption in the Indian context. The idea is not to thwart the juggernaut of Indian consumerism but to change the direction towards sustainable consumption. Perspectives of various stakeholders are analysed and recommendations made.

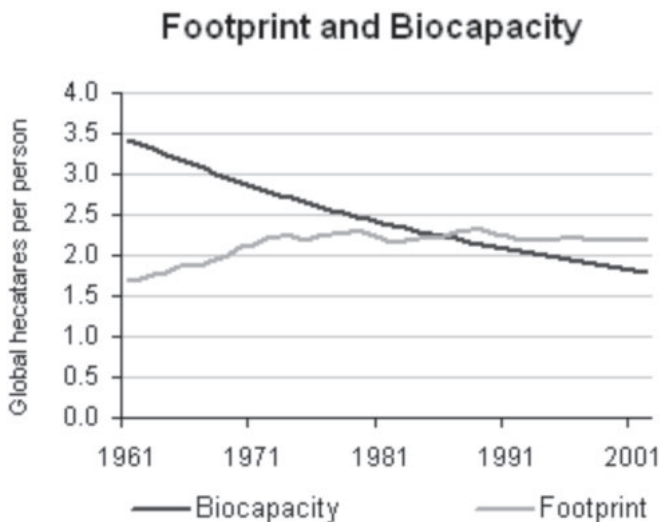
Challenges of Sustainable Consumption: Indian Context

Introduction

In 1987 the United Nations' World Commission on Environment and Development often referred as the Brundtland Report brought the concept of sustainable development to mainstream attention, and made it clear that our pre-existing approach to economic development, our systems of production, and our systems of consumption are unsustainable. Sustainable Development means meeting our needs without jeopardizing the ability of future generations to meet their needs¹. By 1992 around 70 different definitions of sustainable development had been noted and the proliferation of them continued².

Further the issue of sustainable consumption has been of growing interest after the conclusion of the Earth Summit at Rio de Janeiro in 1992³. This Earth Summit Treaty signed by 143 nations provided international recognition to sustainable consumption and production by adopting the Agenda 21 action plan. In that Summit sustainable consumption was fully supported and the major causes of continued deterioration of environment were discussed. Environmental disasters in Alaska, Bhopal and Chernobyl in the early 1990s led to the growth of a consumer segment concerned with the preservation of the environment. Green marketing, also known as ecological marketing and environmental marketing is not a recent phenomenon but it became a worldwide phenomenon during the nineties⁴. Eco- foot printing seeks to calculate the level of resources we consume as an individual, organizations, cities, regions and nations and compares this with the resources nature can provide and sustain in terms of land, water, energy and resources. The first global foot print on humanity was published by WWF in 1998. It clearly showed that human beings are exceeding the physical capacity of the planet to support its numbers, activities and lifestyles⁵.

Fig 1.1 Ecological Footprint vs Global Biocapacity



Source: WWF Our Living Planet, Geneva, 1998,
www.footprintnetwork.org

In 2002, humanity's demand on the biosphere, its global Ecological Footprint, was 13.7 billion global hectares, or 2.2 global hectares per person. Thus in 2002, humanity's Ecological Footprint exceeded global biocapacity by 0.4 global hectares per person, or 23 percent. This finding indicates that the human economy is in ecological overshoot: the planet's ecological stocks are being depleted faster than nature can regenerate them. Thus we are eroding the future supply of ecological resources and operating at the risk of environmental collapse.

In 1992 Rio Summit, 2001 Kyoto Summit, and now 2009 Copenhagen summit have continued the dialogue, leading to international agreements, and national laws.

In the past the focus was on Population Control, on Environmental Degradation and Pollution. Today and for the next few decades the sustainable development debate will center on "Climate Change and carbon accumulation" in the earth's atmosphere. Energy use is at the heart of this process. And global corporations are at the center of this debate. They are now a major influence on the global carbon cycle.

United Nations has also framed Global Compact (UNGC) Programme based on the world's largest corporate citizenship initiative aiming for a more sustainable and inclusive world economy. It is supported by over 4000 participants in over 100 countries. It includes many of the world's most influential companies, such as Coca Cola, Levi, Strauss, Nestlé, Microsoft and many more. Companies from all over the world report their progress on implementing the 10 Global Compact principles. United Nations Secretary-General Kofi Annan first proposed the Global Compact in an address to the World Economic Forum on 31 January 1999. The Global Compact's operational phase was launched at UN Headquarters in New York on 26 July 2000. The Secretary- General invited business leaders to join an international initiative — the Global Compact — that would bring companies together with UN agencies, labour and civil society to advance universal social and environmental principles.

Challenges of Implementing Sustainable Consumption in India

India is a country not only rich in spiritual values, it is now increasingly seen as a powerhouse of human talent and technology and an emerging political and economic force to be reckoned with. With the opening up of our markets in 1991 for foreign competition and with market-oriented economic reforms India continues to move forward with a stable GDP of 9% and a very young population (average age 25 years). Reforms such as, liberal foreign investment and exchange regimes, industrial decontrol, reductions in tariffs and other trade barriers, opening and modernization of the financial sector, significant adjustments in government monetary and fiscal policies, and more safeguards for intellectual property rights has made India second largest economy in Asia. A study by the McKinsey Global Institute (MGI) suggests that if India continues its recent growth, average household incomes will triple over the next two decades and it will become the world's 5th-largest consumer economy by 2025, up from 12th now⁶. Indians, frugal in their spending for many years, are buying commodities like never before with their newly found wealth.

Consumption can be considered as the reason why things are made in a market economy. There is a causal relationship between consumption, natural resource use and degradation of the

environment. Some other challenges for the implementation of sustainable consumption are rapid population growth, technological changes and growing affluence as seen in the rise of the middle class in India. This can be expressed through IPAT formula⁷:

Impact=Population*Affluence*Technology

1. Population: Population is the total number of people living on earth. The vast population of the World lives in Asia, especially in China and India. On 11th May, 2000 India had a population of 1 billion⁸ (100 crore) people, i.e. 16 percent of the world's population on 2.4 percent of the globe's land area. If current trends continue, India would overtake China in 2045, to become the most populous country in the world. While global population has increased threefold during this century, from 2 billion to 6 billion, the population of India has increased nearly five times from 238 million (23 crores) to 1 billion in the same period. India's current annual increase in population of 15.5 million is large enough to neutralize efforts to conserve the resource endowment and environment. Table 1.2 shows the India's population in 1991 and its projections to 2016.

Table 1.1: Population Projections for India (million)³

March 1991	March 2001	March 2011	March 2016
846.3	1012.4	1178.9	1263.5

Source: Technical Group on Population Projections, Planning Commission

2. Affluence: In India lifestyles were regulated by traditional practices. But with the increasing purchasing power, wasteful consumption-market-driven consumerism is stressing the resource base of India⁹. The break-up of the joint family system is also posing a challenge to India as our cultural practices were easily transferred from one generation to another. The rapidly growing software sector is boosting service exports and modernizing India's economy. Software exports crossed \$35 billion in FY 2009, while business process outsourcing (BPO) revenues hit \$14.8 billion in 2009. Personal computer penetration is 14 per 1,000 persons. The number of cell phone users is expected to rise to nearly 300 million by 2010.

Around 300 million consumers in India enjoy a level of affluence. NCAER study in 2005 titled 'The Great Indian Market' found a rapid

rise in incomes leading to an even faster increase in demand for consumer durables and expendables. As a result, the ownership of goods is going up significantly.

Table 1.2: Demand of Consumer Durables (figures in '000)

	1995-96	2001-02	2005-06	2009-10
Cars	276	788	1,560	3,466
Motorcycles	760	2,599	4,663	8,369
CTV Regular	1,785	4,580	6,295	9,957
Refrigerators	1,850	3,006	4,335	6,774
White Goods	3,437	6,024	8,727	13,149

Source: NCAER 2005 'The Great Indian Market'

India's middle class-as defined by Asian Development Bank as those who are able to spend between \$ 2 and \$ 20 a day- measured in international dollars, ie adjusted for purchasing power parity. The ADB does add further nuance by splitting the middle class into three sub-sections: lower middle class (\$2 - \$4), middle middle (\$4 - \$10) and upper middle (\$10 - \$20).

Indian middle class has expanded to about 420 million, according to an ADB report on Asia's middle class¹⁰. Further the report by the Asian Development Bank (ADB) mentions that India's middle class population, will exceed 600 million by 2030, will be a major driving force in global consumption next only to China, McKinsey, another research firm has predicted that Indian middle class will grow up from 5% to 40% in 2025. Table 1.3 shows the growth of middle class and projections in future.

Table 1.3 McKinsey's Study on the Growth of Indian Middle Class

Year	Middle Class	Lower Class	Poor
2005	5%	40%	55%
2015	20%	45%	35%
2025	40%	35%	20%

Mckinsey and Co, published The bird of gold: The rise of India's consumer market, forecasting that there would be more than 570 million middle class Indians by 2025 and over 290 million people would move from desperate poverty to a more sustainable life. What's more, India would become the world's fifth-biggest consumer market, seven places up since the mid-2000s. NCAER has predicted that more than half the population in top 20 cities would become truly middle class by 2016. These cities are home to less than 10% of India's population, but between them generate more than 30% of its income¹¹.

With sufficient incomes Indian consumers are spending huge money on refrigerators, air conditioners, television sets and DVD players. Further they are buying cars in large numbers as can be seen from the Table 1.4.

Table 1.4: Share and Usage Pattern of Top 67 Cities in 2001-02
(Ownership in per '000 households; share of stock in percent)

Durables	Usage Pattern		Stock (%Share)
	Top 67 Cities	All India	
Scooter	243.2	78.6	44
Motorcycle	138	70.8	27
CTV Regular	486.7	145.6	47
Cars/Jeeps	145.8	30	68
Refrigerators	492.5	134	52
Washing Machines	316.4	72.4	61

.Source: NCAER 2005'The Great Indian Market'

Changing lifestyle is also showing a change in the food consumption. Although 20% of the Indian population is strictly vegetarian but the younger generation is changing their food habits to non-vegetarian and other processed foods. With rising income levels, domestic meat consumption is on the rise in India. The data provided by Earth Trends Food and Agricultural Organisation of United Nations FAO reveals that in 2002 the per capita consumption of meat in India per person was 5.2 per kg¹². NSSO survey also indicates that Indian food consumption patterns are slowly shifting from

cereals pulses to high value fruits and vegetables processed foods and meat and meat products¹³.

Table 1.5: Meat Consumption per Country

Table 1. Meat Consumption per Country.

Top Ten Countries & Worldwide, 1998 - 2002.

Meat in this Table means livestock and poultry only.

Millions of metric tonnes.

	1998	1999	2000	2001	2002
China	59	60	64	65	68
United States	33	35	35	35	36
Brazil	12	13	14	14	15
Germany	7	7	7	7	7
Russian Federation	7	6	6	7	7
France	6	6	6	6	6
Japan	5	6	6	6	6
Mexico	5	5	6	6	6
India	5	5	5	5	6
Italy	5	5	5	5	5
World	224	228	234	238	247

Source: Based on statistics collected by the Food and Agriculture Organization of the United Nations (FAO), FAOSTAT on-line statistical service (FAO: Rome, 2005). Earth Trends, World Resources Institute, displays FAO statistics online as the *Agriculture and Food Searchable Database*.

These three consumption activities have sizeable environmental impacts. First, the household appliances are almost always run on electricity generated by fossil fuels—with all that implies for build-up of carbon dioxide and other green house gases in the global atmosphere, thus bringing on climate change. Secondly, by possessing cars more consumers are contributing to CO₂ emissions. At least one seventh of CO₂ emissions worldwide comes from passenger cars. In India there are an estimated five million premature deaths each year because of air pollution, up to 70% of which is due to motor vehicles. Some 40 million people suffer the effects of asthma.

Fortunately there have been major efforts to improve air quality in New Delhi, by the usage of CNG buses and making it mandatory for every vehicle to have a pollution check certificate.

Moreover, meat is increasingly raised in major measure on grain, thus putting pressure on limited irrigation water and international grain supplies. Several countries import large amounts of grain for the primary purpose of feeding livestock rather than people, even though most of those countries feature many millions of malnourished people.

3. Technology: In modern societies technology is present everywhere. Technology includes skills, processes, technical methods, tools and raw materials. On one hand technology has a positive effect, such as cars help us to move around and transport goods. On the other hand, the negative impact is its effect on the environment. Most technologies were designed first for economic effect without considering the ecological environment. In future the ecology and the post purchase use and disposal of products would become an important tool in the design of new technologies such as fuel efficient cars, low energy houses, energy efficient houses, etc¹⁴.

All these three factors mentioned above i.e., population, affluence and technology are having an impact on the environment.

Environmental Impact

The outcome of the three factors in the IPAT equation is the Environmental impact leading to Global Climate Change. Global Climate Change is not just a research question, or a topic, or an area, it is a whole “Science” with 80,000 scientists, journals and conferences, studying it for over 40 years.

The best scientific consensus is in the IPCC Reports, which offer a comprehensive view of scientific findings¹⁵. The natural Carbon Cycle of the earth is being changed by ANTHROPOGENIC or human activities.

Carbon is the most fundamental element on earth. And earth’s atmosphere and productivity rests on a balanced carbon cycle.

For 650,000 years Carbon has remained between 170 ppm and 280 ppm. Since the mid 1800s it has started rising, and expected to go

on rising a Carbon accum is growing at 2.3 ppm per year. Now it has reached 380-400 ppm. IPCC scenarios show them going to 970 ppm. Current wisdom is that we need to bring Carbon accumulation to 350 ppm – which means to 1990 level. We need not just slow the accumulations but actually REVERSE them.

Accumulated carbon traps heat in the earth's atmosphere and causes global temperatures to rise.

At 450 ppm all sorts of catastrophic things start happening – e.g. glaciers melt, permafrost melts, ice shelves melt, sea levels rise, viruses travel across temperature zones to create new diseases, agricultural productivity changes, more severe weather.

If Carbon accumulations reach those levels - Sea Level Rise alone would risk lives of 60 billion people, water shortages will affect 200 million people, disease vectors spread will affect over 500 million people

So it is in our collective interest to address Climate crisis now, because many of the changes are NOT EASILY REVERSIBLE.

For example, one of the implications of Global Climate Change for India is the Ganges. Ganges is a sacred river. Our cultural and religious identity is tied to this river. It is also a source of water and for 200 millions of people. The Himalayan river ecosystems supplies water to over 500 million people in India and China.

There are many causes of glacier melt, deforestation, warming, pollution particles etc, and the whole ecosystem is poorly understood.

Implications of the Study

Bottom line: Can we persuade the new Indian middle class consumers to enjoy their high-flying lifestyles in a sustainable fashion? Several traditional practices that are sustainable and environment friendly continue to be a regular part of the lives of people in India. These need to be encouraged rather than replaced by more 'modern' but unsustainable practices and technologies. We should recognize that sustainable consumption does not imply only consuming less but the concept of consuming differently.

In the modern context globalisation is a recent phenomenon, but as a concept and philosophy, it is as old as the globe. In non-technical words globalisation means sharing, caring, partnership, and togetherness. It rests on inter- dependence, mutuality and friendliness. Historically speaking globalisation is an

Indian concept. A hymn in Vedas defines it as ‘Vasudhaiv Kutumbkum’ meaning

the whole world is one family. Swami Vivekananda’s Vedanta is global in its content and core. The New World Order which he visualized was based on the concept of ‘Jiva is Shiva’, i.e. all human beings are equal and that a happy amalgam of the best of East and West would make the world a better place to live and contemplate¹⁶.

In 2008, the WBCSD’s¹⁷ Future Leaders Team spoke with young business professionals about sustainable consumption in India. These young business people also represented young Indian consumers, mainly from the middle and upper socio-economic groups. Following are some of the insights gathered with regard to sustainable consumption – and its prospects – in India:

1. **Consumption patterns:** Indian household incomes are set to almost triple over the next two decades.
2. **Consumer awareness:** Awareness and understanding of sustainable consumption among consumers was low; the majority of Indian consumers still buy small, unpackaged goods from low-cost, family-run shops. Even to wealthier Indian consumers, sustainable consumption was felt to imply only consuming less; the concept of consuming differently is “a significant but missing factor”.
3. **The role of brands:** Middle and high income Indian consumers are very brand conscious, so brand owners can play a major role, both in changing their practices and in educating their consumers.
4. **The role of business.** Participants felt that sustainability and CSR should be embedded into corporate strategies, including the responsible investment of company assets

A first step towards Sustainable Consumption is to recognize that consumption patterns will inevitably change in the future, if only by force for environmental protection. Secondly, we must try to modify consumption patterns and establish sustainable consumption as a norm. This will not only bring in far more efficient use of materials and energy it would also seek to improve the quality of life. Thus it involves attaining a better balance between work and leisure, as between income and consumption. Further, preventing yesterday's luxuries from becoming today's necessities and tomorrow's relicts. In future certain core areas for sustainable consumption as mentioned by European Environmental Impact of Products (EIPRO) Project are¹⁸:

1. **Sustainable food and drink choices:** consumers should reduce their consumption of meat products as their impact in climate change, further locally and seasonal products should be preferred, and greater composting of biodegradable food waste.
2. **Sustainable housing consumption choices:** Emphasis on purchasing homes using sustainable materials and choosing and creating homes with high level of insulation and energy efficiency.
3. **Sustainable Travel Behaviour:** this may involve reducing the amount of travel undertaken by doing work from home or teleconferencing services. Car pool or finding alternative transport means such as cycling wherever possible.

This would involve a movement by consumers towards ethical consumption, role of business in sustainable marketing and initiatives by the government and society in promoting sustainable consumption.

Role of Consumers in Ethical Consumption¹⁹

Consumers can play an important role towards sustainable consumption by making purchasing decisions, lifestyle choices and peer-to-peer influencing. Ethical consumption stresses the role of the consumer in preventing labour exploitation, environmental degradation and adherence to basic labour and human rights while buying products. When a consumer goes beyond the brand name and label information and tries to find out about the business which

produces and sells the product, s/he walks in to the realm of ethical issues in consumption. By consuming consciously and ethically consumers can realistically create change. Before buying anything s/he should ask: Who makes it? Who needs it? And who profits from it?

The effects of constantly buying things, while discarding older but often functioning things, increasing demands on the world's resources for this consumption, managing more waste, exploiting other people to labour over this, and so on. And all this while many still go hungry and poor because their lands are being used to export food and other resources for producing products to be consumed elsewhere. As a responsible consumer we should consume products consciously.

Ethical consumption is a way to help us feel that we have power as consumers that we can vote with our rupees. By using this consumer power we can have impact on the larger economy and help create a world where the economy benefits all people in more equal ways. Some suggestions regarding ethical consumption are:

1. Consumption should be need based and we should not be swayed by marketing-forces.
2. Using products which are energy efficient and also reducing consumption of fossil fuel.
3. Making a point to ask about the people who make the things we buy.
4. Considering the environment cost of producing the product. One should avoid buying a product whose manufacturer is polluting rivers, land or air.
5. Thinking about how we would dispose of the product once we finish with it.
6. Supporting fair trade by checking that the manufacturer pays a remunerative price to farmers.
7. Reusing things and fixing things that are broken.
8. Not getting swayed by advertisements and sales promotion devices.

9. Investing money ethically into socially responsible corporations.
10. Boycotting companies that exploit workers, deceive or cheat consumers, harm the environment or display any form of socially irresponsible behaviour.

Radically restructuring the usage of the environment can be achieved by discipline and selflessness. Instead of throwing something away, one should take time to fix it or take it to a tradesperson to fix it. The cost may be cheaper than buying a new one and we would be reducing waste.

Role of Business in Sustainable Marketing

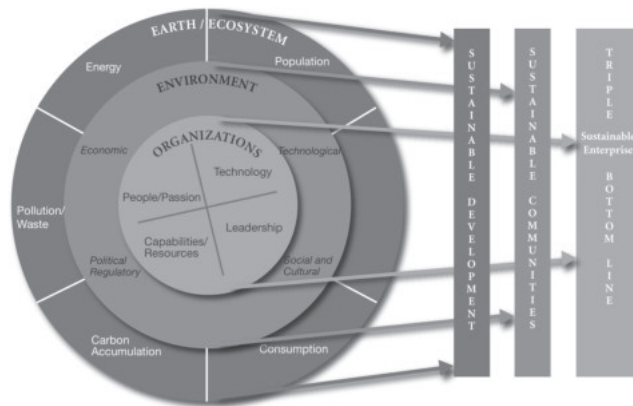
Sustainable marketing accepts the limitations of marketing concept and is a macro-marketing concept. It embraces the idea of sustainable development, which requires a change in the behaviour of virtually everyone, including both producers and consumers. Sustainable marketing emphasizes on triple bottom line of ecological, social and economic issues²⁰. Thus sustainable marketing is defined as building and maintaining sustainable relationships with customers,

the social environment and the natural environment. Moreover sustainability marketing is related to Corporate Social Responsibility (CSR). CSR is a concept where by companies integrate social and environmental concerns in their business operations and their interaction with stakeholders on a voluntary basis²¹. Systematic approaches to integrating environmental responsibilities include environmental systems such as, EMAS and ISO 14000 which are voluntary in nature. Many companies such as, Philips through its energy efficient lighting, Henkel's by introducing phosphate free detergents, Adidas's green footwear and apparel, Nokia's energy efficient products are some of the approaches adopted by companies towards sustainable marketing. A recent global consumer survey carried out by Nokia showed that 44% of unused phones by people are simply kept at home. Responding to the survey, Nokia established 5,000 collection points for unwanted mobile devices in 85 countries, the largest voluntary scheme in the mobile industry, and is developing a series of campaigns and activities to give people more information on why, how and where to recycle their old and unwanted devices, chargers and mobile accessories. Nokia estimated that if all Nokia users unplugged their chargers when their phones

were fully charged, enough energy would be saved to power 100,000 average-sized European homes. Marketing has a vital role to play in decoupling material consumption from consumer value. It has the ability

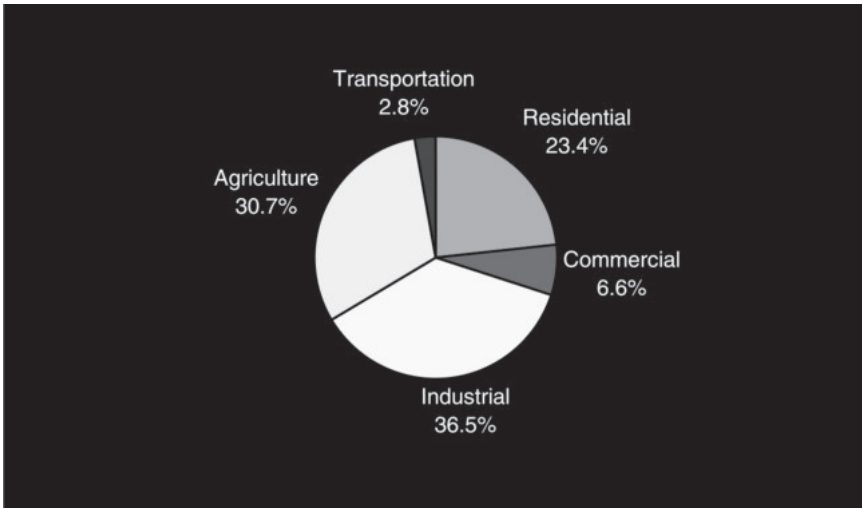
to facilitate both innovation and choice influencing for sustainable consumption, because it allows products and information to flow between producers and consumers. Fig 1.2 shows a Sustainable Enterprise Framework which includes organizations, environment and the eco-system in a sustainable manner.

Fig 1.2: Sustainable Enterprise Framework



Role of Government and NGO's in Sustainable consumption: It is important to promote sustainable consumption through environmental education and public awareness campaigns sponsored by the Centre and State governments and advocacy groups. In several areas, desirable limits and standards for consumption need to be established and applied through appropriate mechanisms including education, incentives and legislation. Development decisions regarding technology and infrastructure are a major determinant of consumption patterns. In India we have the Bureau of Energy Efficiency, which was set up in March 2002 under the provisions of Energy Conservation Act of 2001 to provide a legal framework for the government's energy efficiency initiatives in the country. Energy consumption in residential buildings is 116 billion units vis-à-vis in commercial buildings it is 33 billion units.

Fig 1.3 Sector Wise Energy Efficiency



Source: Bureau of Energy Efficiency

It is therefore important to evaluate and make development decisions which structurally lead to a more sustainable society.

Conclusion: Sustainable consumption is a systemic challenge. Businesses, governments, civil society and consumers all have the power to affect change, sometimes in ways that are not traditionally perceived to be their role. Consumers may feel a moral responsibility to live sustainably, however they cannot do so without effective support from governments, NGOs and the businesses with which they interact. Businesses, governments and civil society must be aligned with these values since they depend on the spending and votes of individuals. There should be certain value shifts within society to allow a more sustainable society and economy including:

From	To
Egocentric (me first)	Altruistic (Others First)
Conservative	Open to change
Indulgent	Frugal
Materialist	Post-materialist
Techno centric (Technology knows best)	Eco centric (nature knows best)

Anthropocentric
(human centred)

Bio centric (all species matter)

As the Nobel Laureate Mother Teresa said that “We ourselves feel that what we are doing is just a drop in the ocean, but the ocean would be less because of the missing drop.”

ENDNOTES

¹World Commission on Environment and Development (WCED), 1988, p.8.

² Kirkby J. O’ Keefe and Timberlake, L The Earthscan Reader in Sustainable Development, Earthscan , London 1995.

³ Clapp Jennifer and Peter Dauvergne Path to a Green World: The Political Economy of the Global Environment (Academic Foundation, New Delhi, 2008)

⁴ Jain, Sanjay K. and Gurmeet Kaur, *Review of Commerce Studies*, Delhi School of Economics, University of Delhi, Vol. 22 (Jan-June 2003).

⁵ WWF Our Living Planet, Geneva, 1998

⁶ The Bird of Gold: The Rise of India’s Consumer Market 2007 Report by McKinsey

⁷ Ehrlich P.R. and Ehrlich A, H. The Population Explosion, Simon and Schuster, New York, 1990, pp. 58-59.

⁸ Source: Technical Group on Population Projections, Planning Commission.

⁹ Subhashini Kaul and Abhishek, Consumerism and Mindless Consumption Sustaining the New Age Urban Indian’s Identity *International Marketing Conference on Marketing & Society, 8-10 April, 2007, IIMK*

¹⁰ Indian middle class to shine worldwide <http://indiatoday.intoday.in/site/Story/109758>

¹¹ Shukla Rajesh, Consumption and Consumerism, The Economic Times, 5th July 2010.

¹² <http://earthtrends.wri.org>

- ¹³ Protein-hungry India switches to beef: Study Published: 2008, 23:29
IST Agency: PTI <http://www.dnaindia.com>
- ¹⁴ Belz, Frank-Martin and Ken Peattie, Sustainability Marketing: A Global Perspective (Wiley, 2009)
- ¹⁵ IPCC 4th Assessment Report 2007, <http://www.ipcc.ch/ipccreports/ar4-wg1.htm>
- ¹⁶ K. K. Khullar, "Globalisation and India", *Employment News*, January 29 - 4 February, 2005.
- ¹⁷ WBCSD, Future Leaders Team Business Role Workstream – Dialogue on Sustainable Consumption in India, 2008.
- ¹⁸ Tukker A Hupples, G Guinee J, et al (2005) Environmental Impact of Products (EIPRO), European Commission joint Research Centre
- ¹⁹ Kapoor Sheetal, "Ethical Consumption", *Consumer Voice*, March-April, 2004.
- ²⁰ Van Dam, Y. K. and Apeldoorn, P. A. C. "Sustainable Marketing", *Journal of Macro Marketing*, No. 15 (3) , 1995 pp. 55-56.
- ²¹ Commission of the European Communities (2002) CSR; A Business Contribution to Sustainable Development, Brussels, Commission of the European Communities, p.5.

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Managing Attrition in Fast-Food Chains

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Employee turnover or attrition is an age-old phenomenon. The present study explores the factors which lead to employee turnover in select fast-food chains in Delhi and also finds out the measures undertaken by them to retain the employees. The stressful working conditions, late night work shifts, high tension jobs acts as a deterrent for people to stick to this industry for long time. Healthy HR practices are required to curtail attrition rate of an organization.

The attrition rate has always been a sensitive issue for all organisations. More so, in organisations and for jobs which calls for young, energetic, and smart people with good communication skills but less educational qualifications with a simple salary structure. Such jobs do not provide great career opportunity but some easy money. The prominent sectors where the attrition rate is found to be high are retail and service industry, especially in the BPO (Business Process Outsourcing) sector. Attrition rate is particularly high in fast-food multinational chains like, Barista, Domino's, Pizza Hut, KFC (Kentucky Fried Chicken), and McDonald's.

CONCEPT OF ATTRITION RATE

The number of individuals who leave or join an organization over a specific period of time is the attrition rate of that company. The dictionary meaning of the term 'attrition rate' is the 'rate of shrinkage in size or number'.

The term 'attrition rate' can be defined as "a reduction in the number of employees through retirement, resignation or death." It denotes the percentage change in the labour force of an organization (Rao, 2008; Sharma, 2008). There is no standard formula to calculate the attrition rate of a company. However, attrition rates can be calculated using a simple formula (www.expresscomputeronline.com, 2005):

Attrition = (No. of employees who left in the year / average employees in the year) x 100

CONCEPT OF EMPLOYEE RETENTION

Employee retention is a process in which the employees are encouraged to remain with the organization for the maximum period of time. A good employee retention programme helps in avoiding problems such as, high cost of turnover, loss of company knowledge, interruption of customer service, loss of goodwill of the company, time loss in regaining efficiency, etc. Retention involves certain strategies, like, attractive compensation, growth and career development, support to the employees by creating an environment of trust, investment in building relationship between management and employees, an amicable organization environment, transparent work culture, two-way communication between management and employees, and a grievance and feedback mechanism. (retention.naukrihub.com, 2007).

REVIEW OF LITERATURE

Labour turnover and employee turnover or attrition are age-old phenomenon in different organizations and are universal in nature. High rates of employee turnover can become an expensive drain on an organization's financial resources. The costs of filling employee vacancies have been spiraling upward for years. (Steel, et. al., 2002).

Nishant Waghle (2007) suggested various strategies to counter the growing attrition rate in the BPO sector in India. Waghle identified a number of costs which are incurred by a BPO when they hire any new employee, such as, hiring or recruitment cost, training cost, low productivity cost, new hiring cost, and low sales cost. The most obvious reason for attrition in BPOs is higher pay. The odd work timings in BPO, affects the family life of the employee. Measures like, providing something extra, honoring performers, building relationship through providing employee with ESOPs, can help in retaining employees. He explained the EEE-Model, i.e., Exposure, Experience and Education - three things which are vital to any employee in any sector or industry. Good HR Practices, like recruiting the right kind of people who would stick with the company, keeping an eye on good performing employees, taking feedback from them, giving their employees personal space to grow and adjust with social life, also helps in reducing attrition. Moreover, in case of employees leaving, a good exit-feedback system should be in place so as to cover the reason for which the employees leave.

Rao (2008) attributed the reason for high attrition as higher pay, work timings, career growth. Then goal of getting higher education, dislike for the job or place, unsatisfactory work conditions, lack of security of employment, and the increasing number of women worker are also responsible for higher attrition rate. Eighty percent of employee turnover can also be attributed to the mistakes during hiring process.

The competition to retain key employees is intense. Top-level executives and HR departments spend large amounts of time, effort, and money trying to figure out how to keep their people from leaving. There are many reasons why people voluntarily leave organizations. Some are personal: changes in family situation, a desire to learn a new skill or trade, or an unsolicited job offer. Other reasons are influenced by the employing organization: observing the unfair treatment of a coworker, being passed over for promotion, or being asked to do something against one's beliefs. (Mitchell, et. al., 2001).

Chandana Chalasani (2007) opined that some attrition is desirable and necessary for organizational growth and development. The term "healthy attrition" is used to signify the importance of less productive employees voluntarily leaving the organization. There are some people who have a negative and demoralizing influence on the work culture and team spirit. This, in the long-term, is detrimental to organizational health. It benefits the organization when these employees leave, whose continuation of service would have negatively impacted productivity and profitability of the company.

Mark L. Lengnick-Hall and Cynthia A. Lengnick-Hall (2003), explains how HR professionals can become the driving force for building the kinds of relationships that turn social capital into competitive advantage. It creates a richer pool of recruits when employees encourage friends and professional contacts to consider working for their organization. Research has shown that, in general, applicants hired from current-employee referrals tend to stay with an organization longer and perform better than applicants hired from more formal recruitment sources.

Shradha Prakash and Rahul Chowdhury (2007) attempted to understand the underlying reasons for attrition by analyzing the BPO industry through Maslow's Need Hierarchy Model. In terms

of 'physiological needs', though the boom in the BPO sector has lead to exorbitant rise in salaries, even after the high entry salary, the industry workforce look forward to opportunities for making easy money. As far as 'safety needs' are concerned, the companies presently provide the best of available security but with the industry growing rapidly there is a need to maintain the same standards. Lack of family and social interactions is one of the major concerns for the employees which need to be dealt by the BPO companies to fulfill the 'needs of love, affection and belongingness'. People working in this industry have an unsatisfied 'esteem need' because of the general perception about the industry. As the industry matures, the industry's positioning needs to change from being a mere money maker option to an industry which provides immense learning, high growth prospects and opportunities for foreign experience. Though recently companies have been trying to cater to the 'self actualization needs' of their employees, this has been one of the major reasons for attrition. Industry workers are not able to envision the BPO industry as a long term career option. A win-win model needs to be devised for this, satisfying the needs of both, the employer and the employee.

In an ideal situation an employee consider multiple comfort level while working in an office like, employer's goodwill in the market, remuneration, future growth, working condition, and the future stability with the organization. In a survey, approximate seventy percent of the working population in India is not happy at all due to one of these aspects that caused higher attrition rate. Those days are gone when salary was the sole motivator for an employee to leave an organization. According to the survey there are three main reasons of attrition, i.e., in-equity in compensation, limited career opportunities, and role-stagnation (Sapna Rana, 2008).

In an article titled, "Attrition Rates in the Indian IT Industry" (Vishysblue, Wht you see is wht I blog, 2007), the focus was on the rising attrition rates in the Indian IT industry. It is a well-known fact that that Indian IT companies would not be able to match the salary levels of their multinational counterparts because of their revenue limitation and their huge employee base. Hence, it makes even more sense for the Indian companies to make up in other areas like, work satisfaction and on-site opportunities.

Employee turnover in an organisation does not always show the whole truth. Disclosure of the figure not only has a direct impact on the business but also affects employee morale and productivity. It might trigger a chain reaction — a high attrition rate will lead to more people leaving the organisation, while a lower rate will act as a retention strategy. Companies may be projecting their attrition rate incorrectly because it tends to affect their brand image both internally and externally. Internally, it sends a wrong signal to their employees and the board of members; externally, it can affect the company in terms of, a bad image or dissuading fresh talent from joining. (Sudipta Dev, 2005)

Poaching is one of the reasons for high attrition. It will not be possible for the industry to arrive at a blanket agreement on poaching but bilateral agreements between companies are being signed. Basic norms are being put in place and code of ethics is being stressed upon by industry. To arrest attrition, companies can look into various options like, good rewards, bonding programme, flexible working hours, and stronger career path. (BPOIndia.org, Sept. 2004).

Stinebriker (2002) examined both the timing of exits from the teaching profession and the reasons for these exits in America. Approximately 67 percent of existing female teachers leave the workforce altogether. The presence of a newborn child is the single most important determinant of exits for females, and also reduces their rate of returning to the job.

Other measures to retain include creating a happy and satisfied workforce so that they perform well. Specifically, having high-performance work practices may improve company efficiency, eventually resulting in superior firm performance. As a consequence, the firm's reputation improves, as does its ability to offer superior benefits and higher pay to employees. Eventually, this leads to higher employee morale and greater satisfaction with pay, job security, and benefits. (Kiewitz, 2004). Recent research suggests that HR practices can have considerable impact on both individual and organizational performance. (Rynes, et. al., 2002). The use of teams in organizations, performance and reward issues, and a clear understanding of, both the internal and external dynamics of teams, can also be helpful in retention of employees. (Thompson, 2004; Dyer, 1987). Examining the causes of stress and stress management can also stop attrition

(Kline, 2000). According to Hall and Ritchter (1989), the organizations should help the workforce in balancing work life and family life. This will lead to a reduced attrition rate in the organization. Brandes, et. al., (2003) analysis the effectiveness of stock option plans in recruiting and retaining the employees.

Hence, high attrition rate is a common problem for many organisations. As it escalates the cost of doing business, companies are brainstorming in order to design strategies to manage it.

OBJECTIVES OF THE STUDY

The purpose of the present study is to explore the factors which lead to employee turnover in select fast-food chains in Delhi and also to find out the measures undertaken by them to retain the employees.

Specifically stated, the objectives are as follows:

- (i) To analyze the factors influencing attrition rate in select fast-food chains in Delhi.
- (ii) To evaluate the comparative strength of the select fast-food chains in managing their respective attrition rates.
- (iii) To comprehend the measures to be taken to retain the employees.

PROPOSITIONS AND HYPOTHESES

On the basis of the review of the existing literature, the following propositions were derived:

P₁: The fast-food companies are facing similar reasons of attrition.

P₂: Management of the company can take measures to reduce the attrition and increase retention.

In order to determine the truth of the two propositions the following hypothesis was formulated:

H₁: There is no significant difference in the employees' opinion, regarding the strength of the retention factors, working in these three companies.

RESEARCH DESIGN AND METHODOLOGY

For the purpose of the study, three leading fast-food chains in Delhi were selected. They are – KFC, McDonald's, and Domino's. The study was based on both primary and secondary data. Primary survey was based on direct observation and interview techniques carried by self administered questionnaire to gather data from operative level employees. To have an insight of the HR policies regarding attrition rate management, the technique used were informal interviews and general discussion with managerial and supervisory level employees. A fast-food outlet of any of the three companies is considered as a sampling unit. The relevant outlets were selected by non-probability convenience sampling method. The data was collected from 90 respondents (30 respondents each from the three fast food chains) through personal interviews conducted over a period of six months, starting from July, 2009 to December, 2009. All managerial and supervisory level employees of the selected outlet were interviewed. However, in case of operating level employees, selection was made by convenience sampling method. The strata at operating level in a typical fast-food outlet comprises order taker, preparer of the food, delivery man, cleaning staff, etc. The commonly used statistical tools like, frequency distribution, mean, and standard deviation were employed to analyse the data. In order to test the hypothesis, rank correlation and *t*-test were administered on the collected data

ANALYSIS OF DATA

Fast food chains in India and across the world faces high rate of employee attrition especially, at the lower level or crew levels. In the present study, the factors responsible for a higher rate of attrition are analysed. Also, a comparative study of three multinational fast-food chains is conducted in order to ascertain whether there is any difference in the patterns of influence of different factors on the attrition rates.

Respondents' Association with the Present Company

In order to ascertain the length of service of the employees with the present organization they are working in, the respondents' were asked to state their association with the company. In all, 60 percent of operative level employees in the three companies taken together

had less than six months association with their present employers, and 20 percent had six months to twelve months association. Hence, the situation is pretty grim, with shorter association of employees with the companies indicating a high attrition or employee turnover rate.

Factors Influencing Retention of Employees

The respondents were asked to express their level of agreement or disagreement with respect to presence or absence of certain factors in their job that influences their decision to stick to the present company. The important outcomes are as follows:

- Employees joining at the low-end jobs have low expectations and the job fairly meet their expectations.
- The employees believe that there is a little growth opportunity for them in such companies.
- The operative level employees are less educated and generally join such jobs at a very initial level of their career. The multinational company's environment, a source of earning at a young age, all leads to an enjoyable experience initially. But, soon the lack of opportunity to grow, monotonous work, and work pressure makes the job, less enjoyable.
- The results of the study shows that around 63.3 percent of respondents working in Domino's agreed that their good work is appreciated in the form of compensation, performance bonus and promotions. But it is 50 percent in case of KFC, and only 43.3 percent in McDonald's, who agreed to the statement.
- Respondents working in all the three companies agreed that they have to overwork under pressure which leads to stress.

However, it was found that for most of the factors, the position of Domino's is better than KFC and McDonald's in terms of their retention capacity of employees. Next in ranking is KFC, while respondents had a slightly negative attitude towards McDonald's.

Previous Experience of the Respondents

The respondents were asked to state whether they had any previous experience of working in any such fast food chain. It was found that

around 40 to 43 percent respondents of all the three companies had some previous experience of working in such type of food chains. While around 57 to 60 percent respondents are new incumbents, indicating that such type of jobs are taken up by individuals at an entry level.

Length of Service at the Previous Job

Those respondents who said yes to the previous question, i.e., those who had previous experience were asked to indicate their length of service with the previous employer. The results of the study indicated that around 54 percent to 67 percent respondents in the three companies worked for less than six months with the previous company. Very few respondents (16 to 23 percent) have worked for more than one year in the previous company. These results again indicate that employees at such levels frequently change their jobs.

Reasons for Leaving the Previous Job

The respondents who had previous experience of working in similar type of fast-food chains were asked to rank the different factors or reasons identified. The results are presented in Table 1.

Table 1 : Reasons for Leaving the Previous Job

Factor	Mean Ranks	Ranks
Job failed to meet your expectation	6.68	7
No growth opportunities were there	3.26	3
You did not enjoy the job	6.55	6
Your good work was not appreciated	7.47	8
Your compensation was not adequate	3.76	4
There was stress from overwork	1.79	2
There was no environment of support	4.89	5
Long working hours	1.58	1

The results show that the prominent reason of leaving the job was 'long working hours' which has got rank one with a mean rank of 1.58, closely followed by the factor, 'stress from overwork' with a total mean rank of 1.79 and ranked number two. Lack of opportunity to grow is the third reason to leave the job. The fourth rank was given to the factor 'inadequate compensation', followed by the factor,

‘lack of support’. The factors like, ‘lack of enjoyment’, ‘job failed to meet the expectation’, and ‘lack of appreciation for good work’ were not the reason behind the respondents’ decision to leave the job, and hence these factors got the sixth, seventh and the eighth ranks, respectively.

Employees’ Loyalty towards the Organisation

In order to judge the loyalty of employees towards the organization in which they are working, the respondents’ were asked what will be there reaction if a new job with better prospect is offered to them. A total of 52 respondents out of 90 (57.8 percent) agreed that they will leave the job immediately if they get a better job offer while, 22 respondents (24.4 percent) said that they will take time to decide. But the general picture is a low loyalty among the employees towards their organization in such category of jobs.

Retention Motivators

All the 90 respondents were asked to rank the factors that motivate the employees to stick to their present job. The results are summarized in Table 2.

Table 2 Retention Factors within the Company

Factors	Mean Rank	Rank
Better Compensation	1.5	1
Growth opportunity	2.1	2
Shorter work-hours	3.7	4
Free meal facility	4.5	5
Good work-environment	3.2	3

As shown in the Table, for the employees the strongest motivator to remain in a company is better compensation and hence, this factor was ranked number one. The second rank was given to the factor, ‘growth opportunity’. Good work-environment also motivates the employee to develop a sense of belonging towards the organization. The fourth rank goes to ‘shorter work-hours’, as long work-hours is one of the factor behind a higher retention rate in such type of organizations. The last rank went to the factor ‘free meal facility’. This factor motivates the employees at such level, as many of them are young people belonging to lower strata of society. But in comparison to other factors it has a lower retention power. The

results of the study points out that a combination of factor affects the decision of the employees to stay in a company for a long period of time.

All these results help us to conclude that the fast-food companies are facing similar pattern of attrition and a positive work-environment, working conditions, and growth potential have a negative impact on attrition. Hence, the proposition P_1 holds true.

A Comparative Analysis of the Three Companies

One of the objectives of the present study is to evaluate comparative strength of the select fast-food chains in managing their respective attrition rates. In order to determine whether the difference in the opinion of the employees working in these three companies regarding attrition and retention factors were statistically significant, the following hypothesis was drawn and put to test:

H_1 : There is no significant difference in the employees' opinion regarding the strength of the retention factors, working in these three companies.

R_1 , R_2 , and R_3 represent respondents belonging to the three companies, i.e., KFC, McDonald's, and Domino's, respectively. In order to understand whether the type of company had any influence on the respondent's opinion regarding the order of the ranks of the retention factor, a Rank correlation test was administered. The calculations for rank correlation coefficients are presented in Table 3. The Spearman's rank correlation coefficients between the three groups of respondents belonging to the three companies are very high and all are positive, showing an agreement in the order of the ranks.

Hence, the hypotheses H_1 may be accepted that there is no significant difference in the employees' opinion regarding the strength of the retention factors, working in these three companies.

**Table 3 : Calculations for Rank Correlation Coefficient
between Different Companies**

Factors	Ranks			Difference Between Ranks		
	R_1	R_2	R_3	d_{12}^2	d_{13}^2	d_{23}^2
Better Compensation	1	1	1	0	0	0
Growth opportunity	2	2	2	0	0	0
Shorter work-hours	5	4	4	1	1	0
Free meal facility	4	5	5	1	1	0
Good work-environment	3	3	3	0	0	0
Σd^2				2	2	0
R				+0.9	+0.9	+1.0

Further t -test is administered on the data derived from Table 3. The results are presented in table 4. In all the three pairs, the calculated value of t is less than the table value and hence they were found to be statistically insignificant.

Table 4 : Calculations for the t -test

Factors	Difference Between Ranks					
	d_{12}	d_{12}^2	d_{13}	d_{13}^2	d_{23}	d_{23}^2
Better Compensation	0	0	0	0	0	0
Growth opportunity	0	0	0	0	0	0
Shorter work-hours	1	1	1	1	0	0
Free meal facility	1	1	1	1	0	0
Good work-environment	0	0	0	0	0	0
\bar{d}	0.4	2	0.4	2	0.0	0
SD	0.55		0.55		0.0	
n	5		5		5	
$t_{cal.}$	1.63		1.63		0	
V (nu)	4		4		4	
$t_{table(at 0.05)}$	2.78		2.78		2.78	

It can be concluded that the employees working in the different companies has a little influence on their opinion regarding the strength of the retention factors and hence, the hypothesis H_1 is accepted.

From the results of hypothesis testing, it can be concluded that the reasons for attrition and the opinion of employees regarding the importance of retention factors are similar for the three companies. Also, they are facing similar kind of attrition problems at their operating levels or team or crew levels.

QUALITATIVE ANALYSIS OF MANAGERIAL OPINION

A qualitative analysis of the opinions of the crew or team level members was conducted and the results are presented in the following paragraphs.

The Hierarchy in these Three Fast Food Chains

In order to understand the promotional and growth avenues for the employees working in these fast food chains, it is imperative to study the hierarchy in such organizations. The hierarchy in the three multinational fast food chains, i.e., KFC, McDonald and Dominos, at the store level is shown in Table 5.

Table 5 : Hierarchy/ Levels in Multinational Fast Food Chains (At Store Level)

	Levels	
KFC	Mc Donald	Dominos
Team Member	Crew member	Team Member/ Crew Member
Shift Manager	Senior Crew Member	- Pizza delivery
Assistant Restaurant Manager	Floor Manager	- Order taking/ billing
Restaurant manager	Second Assistant Floor Manager	- Pizza making
	Manager	- <i>Silver</i>
	First Assistant Floor Manger	- <i>Gold</i>
	Restaurant Manager	- <i>Diamond</i>
		- <i>Platinum</i>
		Associate Manager
		Assistant Manager
		Senior Assistant Manager
		Store Manager

As shown in the table in all the three companies the hierarchy at store level is similar. The first level is the team/ crew level where the type of the job varies with the level of experience. In case of KFC, after team member's post, one may be promoted to shift manager, assistant restaurant manager, and then restaurant manager. While in McDonald's, the hierarchy after crew level is senior crew manager, floor manager, second assistant floor manager, first assistant floor manager, and finally, restaurant manager. Also, in case of Domino's, on the basis of performance of the employees they are promoted from the levels of silver to gold to diamond and then platinum. The promotions are given at around 2 to 6 months time at each level. Likewise, in McDonald's and KFC badges are given on the basis of performance. In case of Domino's, the crew level employee gets , the employees may be promoted to associate manager's post, then assistant manager, senior assistant manager and then store manager,.

Reasons of High Attrition

An unstructured interview of human resource managers of these fast food chains gave some interesting reasons for high attrition rate in such organizations. They agreed that every month attrition rate may be as high as 6 to 9 percent, which may sum up to 95 percent to 105 percent annual attrition rate in all the three companies. According to them, the prominent reasons for high attrition rate in such an industry are salary, higher studies, long working hours and work pressures, personal problems, and poaching.

Retention Strategies for Operative Level Employees

A discussion with the managers of these three companies regarding the retention strategies adopted to curtail attrition indicated that now-a-days lots of effort is being taken in that direction. The important measures are as follows:

Rewards and Recognition – On the basis of target achievements, incentives are given to motivate the employees and boost their morale. Besides that, recognition for good work or effort is also given to the deserving employees. It includes various techniques like, cash incentives, movie tickets, certificates, gift vouchers, awards like, employee of the month, etc.



Employee Engagement – This includes birthday celebration and cake cutting, picnics, celebration of festivals like, Christmas, Diwali, movie shows for the employees.

Academic Programmes – This includes Training BBA programme from different universities with 75percent scholarship borne by the company.

Professional Growth Programmes – In Domino's, within a period of 3 to 6 months, an employee can move from silver to gold, gold to diamond, and diamond to platinum respectively, on the basis of performance. This type of promotion is with increase in salary and status. In KFC and Mc Donald's, badges are given to good performers in appreciation of their performance.

Social Security Schemes – This includes leaves, medical facility, provident fund scheme, Employees State Insurance Scheme (ESIC), gratuity, bonus in the form of Diwali bonus, leave encashment, and insurance (against accidents)

Miscellaneous Strategies – This includes free lunch or dinner, team development programmes, and staff welfare

Retention Strategies for Managerial Employees

Beside the attrition rate problem at the store level, the companies also have to think about the growing attrition rates in general among the managerial staff at the office level. Though the attrition rates at this level are still low at 2 to 3 percent, the problems of poaching among the companies may lead to loss of talented manpower. These companies are taking different measures to retain their managerial workforce like, promotion and growth opportunities; international recognition and awards; foreign tours; and scholarships for further studies.

All these strategies taken up by the three companies suggest that management of the company can take measures to reduce the attrition and increase retention. Hence, the proposition, P_2 holds true.

MAJOR CONCLUSIONS

Attrition in the multiple chain fast-food industry is two-fold. One part of the attrition is where the employee leaves the industry

entirely. The other section of attrition is where the employee joins another firm in the industry. The following conclusions can be drawn on the basis of the present study:

High Attrition Rates All the three companies are facing the similar problem of high attrition rate especially, at their team level/ crew level. Two-third of employees working at operative level in such companies are new incumbent, indicating that such type of jobs are taken up by individuals at an entry level. Majority of them have less than six month's association with their present employers.

Reasons for Leaving the Job The primary reason for people leaving is that the industry is viewed as a gap filler occupation. The industry has been mainly dependent on youngsters who are taking out time to work while thinking of career alternatives. Hence for this group this type of job is never a long term career but only as a part time job. Also the stressful working conditions, late night work shifts, high tension jobs acts as a deterrent for people to stick to this industry for long time. In addition, such jobs are not being taken with a positive spirit by the society on a large. Regarding the attrition between firms, especially at the managerial level, the chief cause is wide scale poaching and head hunting amongst the competitors for the common pool.

Retention Motivators Though, the strongest motivator for the employees to remain in a company is better compensation, growth opportunities, good work-environment, shorter work-hours, free meal facility also helps in retaining the employees.

Comparison of the Three Companies Interestingly, a comparison of the three companies, i.e., Domino's, Mc Donald's and KFC, showed more or less a similar rate of attrition and the reasons for attrition. But Domino's is way ahead in terms of its effort to contain the attrition rate.

IMPLICATIONS FOR THE HUMAN RESOURCE MANAGER

On the basis of the conclusions of the study, the HR manager may derive the following implications:

Understand that Management of Attrition is Important Attrition figure has direct impact on stock markets, employee morale and customer confidence. There are huge costs associated with attrition

like, hiring or recruitment costs, training costs, low productivity costs, new hiring costs, loss of customers or lower sales. Hence, it is imperative for the HR manager of a company to design a strategy to monitor and to alter the attrition rate of the company.

Design a Retention Strategy Retention strategy should include an attractive compensation package maintaining internal and external equity; career development in his current organization, and training to improve and enhance employees' skills; providing feedback, by giving recognition, appreciation and rewards, by counseling them, by providing emotional support; a supportive work culture helps grow employee professionally and boosts employee satisfaction; managing the work environment to make better use of the available human assets; reducing work related stress and dissatisfactions; and transparent communication to win the employees trust in the organization.

Good HR Practices are Needed to Manage Attrition Healthy HR practices are required to curtail attrition rate of an organization. This includes hiring the best candidate, designing an orientation/ induction programme, provide employees with work schedules that are flexible enough to suit their needs, respect the employees, provide career counseling and development, let them know that the management is interested in retaining them and cares for them, take proper feedback from employees regarding their grievances, have faith in them, trust them and respect them; recognize and appreciate their achievements, keep their morale high and above all create an environment where the employees want to work and have fun.

New Retention Strategies Rather than the traditional strategies to contain attrition rate such as increasing salaries, new strategies should be devised such as insurance schemes for the employees and their family members, leased accommodation, transportation facilities to and from office, personal healthcare like medical attention for self and family, recognition of merits and rewards, participation in decision making, and memberships of prominent social clubs. At managerial level, monthly dinner with CEO and employee stock options would be a good idea. Also, some employees aspire for higher education to increase their knowledge base. Some partnership with management institutes for short courses needs to be provided.

The study has important implications for the HR practitioners and human resource policy makers in managing labour/ employee turnover and in bringing down the attrition rate. It will bring a considerable reduction in HR cost and ensure a loyal workforce.

BIBLIOGRAPHY

Brandes, Pamela, Ravi Dharwadkar, and G. Victor Lemesis (February, 2003), "Effective Employee Stock Option Design: Reconciling Stakeholder, Strategic, and Motivational Factors", *Academy of Management Executive*, Vol. 17, No. 1, pp. 77-95.

Chalasani, Chandana (2007), "Attrition - A Disguised Boon", *CoolAvenuesHumanresource@knowledgezone*.

Dev, Sudipta (2005), "Calculating Employee Attrition", *www.expresscomputeronline.com*

Dyer, William (1987) "Team Building: Issues and Alternatives" (Second Edition). MA: Addison- Wesley, Reviewed by Dale G. Lake, *Academy of Management Executive*, Vol. 1, No.2 , May 1987, pp. 152-153.

Hall, Douglas T., and Judith (August, 1989), "Richter Balancing Work Life and Home Life: What Can Organizations Do to Help?", *Academy Of Management Executive*, Vol. II, No. 3, pp. 213-223.

Kiewitz, Christian (2004), "Happy Employees and Firm Performance: Have We Been Putting the Cart Before the Horse?", *Academy of Management Executive*, Vol.18, No. 1, pp. 127-129.

Kline, Joseph Jr. and Lyle Sussman (August, 2004), "An Executive Guide to Workplace Depression", *Academy of Management Executive*, Vol.18, no.3, pp. 168-169.

Lengnick-Hall, Mark L. and Cynthia A. Lengnick-Hall (2003), "HR's role in building relationship networks", *Academy of Management Executive*, Vol. 17, No. 4, pp. 53-63.

Mitchell, Terence R., Brooks C. Holtom, and Thomas W. Lee, (2001), "How To Keep Your Best Employees: Developing An Effective Retention Policy ", *Academy of Management Executive*, Vol. 15, No. 4, pp. 96-109

Rana, Sapna (2008), "Higher Attrition Rate – Major Challenge in HR", *Indian MBA.com*

Rao, T. Srinivas (2008), "Attrition Rate - The Role of HR Department", Zebra Networks, CoolAvenuesHumanresource@knowledgezone.

Rynes, Sara L., Kenneth G. Brown, and Amy E. Colbert (2002), "Seven common misconceptions about human resource practices: Research findings versus practitioner beliefs", *Academy of Management Executive*, Vol. 16, No. 3, pp. 92-103.

Sharma, Sanjeev (2008), "High Attrition Rate: A Big Challenge", <http://www.BPOIndia.org>.

Shradha Prakash and Rahul Chowdhury (2007), "Managing Attrition in BPO" CoolAvenuesHumanresource@knowledgezone.

Steel, Robert P., Rodger W. Griffeth, and Peter W. Hom (May, 2002), "Practical Retention Policy for the Practical Manager", *Academy of Management Executive*, Vol. 16, No. 2, pp. 149-164.

Stinebrikner, Todd R. (2002), "An Analysis of Occupational Change and Departure from the Labor Force: Evidence of the Reasons that Teachers Leave", *The Journal of Human Resources*, Vol. 37, No. 1 (Winter), pp. 192-216.

Thompson, Leigh L., (2004), "Making the Team: A Guide for Managers" (2nd edition), , NJ: Pearson Prentice Hall., Reviewed by Joy V. Peluchette, *Academy of Management Executive*, Vol. 18, No. 3, pp. 168-169.

Waghela, Nishant, "Managing Attrition in BPO" (2007), *Coolavenues Humanresource@knowledgezone*.

Websites

(2004), "Attrition in Indian BPO Industry", *BPOIndia.org*, (September).

(2007), "Attrition Rates in the Indian IT Industry", *What You See is What I Blog*, (July 24).

(2007), *retention.naukrihub.com*

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How Corporate India Can Deal With Mandatory CSR

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India is the third largest country in terms of Purchasing Power Parity (PPP) or perhaps the only country in world having Corporate Social Responsibility (CSR) in its statute. Under the new Companies Act, 2013, all profitable companies with a sizable business will have to spend every year at least 2 per cent of three-year average profit on CSR works.

This would apply to companies with a turnover of Rs 1,000 crore and more, or net worth of Rs 500 crore and more, or a net profit of Rs 5 crore and more. The new rules would be applicable from fiscal 2014-15.

The new rule also requires the companies to set up a CSR committee, including at least one independent director. The companies have been asked to give preference to their local area of operations for such CSR activities, while those not being able to spend the required amount would need to specify the reasons for the same in their annual CSR report.

It has been proposed that the CSR activities should not be exclusively for the benefit of employees of the company or their family members, while only those CSR activities would be taken into consideration that are undertaken within India.

The companies would need to create a CSR corpus comprising of 2 per cent of net profit, while any income from this corpus and the surplus arising out of CSR activities would need to be credited back to the CSR corpus. As per industry estimates, the mandatory CSR rules would apply to close to 9,000-10,000 companies.

The CSR committees of the respective boards of the companies would need to prepare the CSR policy, specifying the projects and programs to be undertaken, their execution modals and their implementation schedules.

The companies can collaborate or pool resources with others to undertake their CSR activities jointly and any expenditure incurred

on such collaborative efforts would qualify for computing the CSR spending.

The government has also proposed to allow the companies to set up trusts or other separate non-profit entities to facilitate implementation of their CSR activities. Besides, CSR programs can also be undertaken by the company through non-related trusts, societies, or other non-profit companies with an established track record of at least three years.

While for most of judiciary, business houses and top philanthropist considers that making CSR mandatory is a bad idea and by doing this government is pressurizing corporates to invest in anyways for society with a mandatory ceiling which was at times use to be a voluntary contribution by some business houses (i.e. charity or donations) or some use to ignore it completely. Let's try to be little optimistic and in my idea line it's a positive effort toward pooling of funds which can be utilized efficiently in a proper manner as per requirement rather than spending it in one complete direction i.e. simply by doing charity and donations. This is one such step of removing that barrier of corporate philanthropy and now making a time to see actually CSR activity.

Now since the companies act 2013 has been incorporated is a time now for Indian bulls to look at their steps in integrating CSR and corporate sustainability and work with activists, shareholders, consumers and government to account for their social and environmental footprint.

Key Challenges in Creating and Implementing CSR Strategies:

Many companies think that corporate social responsibility is a peripheral issue for their business and customer satisfaction more important for them. They imagine that customer satisfaction is now only about price and service, but they fail to point out on important changes that are taking place worldwide that could blow the business out of the water. The change is named as social responsibility which is an opportunity for the business. The practical implementation of CSR is faced with a lot of issues and challenges, let's have a look at few listed below:

- 1. Priority:** CSR needs to move from being seen as a philanthropic

activity which is not core to the business of the company. Companies have to drive CSR as a key priority and needs to be made it integral to achievement of business and social objectives.

2. **Allocation of human resources:** Implementing any CSR strategy requires specialized knowledge and therefore, companies have to invest in building teams and organisation structures equipped to handle these challenges.
3. **Allocation of financial resources:** While the Companies Bill has addressed this aspect by mandating a 2% allocation, financial resources continue to be a challenge for the companies which do not meet the criteria specified in the Bill.
4. **Leadership:** The leadership of the company has to drive CSR strategy as a key element of the business strategy. Company need to take it as it's more serious effort and can appoint some expertise leaders to carry task efficiently.
5. **Analysing the business environment:** last of expertise people when comes to gathering of information about outer world as most of companies rely on NGO's for all sort of rural information. Hence to actually deal with matter now they have to have their own team of experts to analyses environment and make strategies.

What Corporates can do finally?

With many pros and cons, acceptance and rejection, now when we now it's mandatory for us to take a mandatory initiative let's see what big business houses can do together

1. **Creation of own NGO'S or social development organisation:** since now its mandatory for business houses to make an investment in CSR activity. Hence some companies have an option to collaborate where they were playing a role of philanthropists and for some it's a new aspect of entering CSR zone with upcoming of their own NGOs or social development organization which they can further collaborate with any organization having same CSR work on their manifesto. They might be able to create organization by the people and for the people inviting public and employees to interact and maintain societal sustainability.

2. **CSR and sustainable education:** since the fund so collected by big brand corporate houses is to be pooled together at government treasury so definitely a team of properly qualified and experienced staff is required to channelize those funds. In initial stage of investment , a contribution can be made for opening such kind of knowledge parks, a proper training need to be imparted and curriculum of top institutes and post grad level need to be revised. These executives are needed to be trained in every sphere for a smarter and much more professional India.
3. **Innovation or creating innovative ideas:** India is a land of rich culture and heritage. We have varied taste, culture and preferences of people here. Rather than having a focus on creating an expensive and class product our main idea line must be joining our efforts together for a product which can serve economy in a proper way and that too to each and every segment of the society rather than producing a wide range for making segregation in economy. While R&D budgets cannot be accounted under CSR, partnerships with NGOs and innovative models that reach the needy can be developed via establishment of social enterprises.
4. **Financial instruments such as SIBs:** SIBs are a form of outcomes-based contracts in which the public sector commits to pay for significant improvement in social outcomes (such as a reduction in pollution or in the number of people being admitted to hospital) for a defined population. The first Social Impact Bond was launched by Social Finance UK in September 2010. They are not bonds or debt instruments in the true sense of the term, but multi-stakeholder partnerships in which philanthropic funders or commercial investors not governments take on the financial risk of expanding social programs. The model has three principal actors: the government, donors or investors, and service providers (NGOs or social enterprises). Experimenting with such instruments will allow for formal relationships to be formed that are based on outcomes and follow stringent audit rules.
5. **Collective funds for greater and bigger benefit:** so far the corporate in India were relying only on charity, donations we

term it as corporate philanthropy. But now after upcoming of a mandate is a time for real change over. We in India have diversified products and diversified business houses when all collaborate their funds together definitely it need to do good to society. For e.g. : a company like Pepsi India which is having variety of range in field of consumer durable products can begin initiatives like green India concept they can collaborate with companies like coke and other such companies to reduce waste that their products cause in society . similarly automobile companies their main need is to provide comfort which can be possible if we have smooth roads in India , so collaborating with infrastructure companies they can provide a smooth and happy journey way .

6. **An opportunity to work together for better tomorrow:** the 2% mandate by government is just a step to have grip over funds so invested by corporates. On the other hand it is again a challenge for the corporates to exactly see and monitor their growth as long term aspect. It is an opportunity for business houses to build in their trust in community for their long term profits and having a sustainable CSR activity.

Although the mandatory CSR initiative has been criticized by industry bodies, judiciary and philanthropist. But a business grows when it faces challenges. A well said statement by Reliance Foundation Chairperson Nita Ambani she has said that the Act shall help in creating sustainable and self-reliant communities. 'CSR is a process that creates sustainable and self-reliant communities by lending a hand to realize their aspirational goals. 'I think it is an important step and should be taken in the positive spirit... unless the society moves along taking everybody together, you cannot have a sustainable society,'"

There is lot more business houses are keeping in their stock. It going to be a turning point for us to explore what and how the mandatory clause is keeping hold off in its hands for our as consumer our better tomorrow and for corporates a new shape to their society activities, getting more loyal , more transparent and getting more successfully established. The result could be lots of minds at work, many of which have an understanding of process, project management, and scale that complements the passion often seen as the highest virtue in the

social sector. The trick is to offer that chance without relaxing expectations. The governance of CSR needs to balance accountability (for the incentives) with freedom (for the creativity).

BIBLIOGRAPHY

CSR in India: Some Theory and Practice in Wall Street Journal dated Thursday, April 23, 2009

<http://www.csrwire.com/blog/posts/1014-how-corporate-india-can-leverage-a-mandatory-csr-bill-to-shift-gears-for-the-long-term>

<http://www.csrwire.com/blog/posts/1024-5-reasons-why-the-new-indian-companies-bill-negates-the-power-of-csr>

<http://www.livemint.com/Companies/tOGwGAPjhQs1QautjL4GEI/New-company-law-to-change-CSR-landscape.html>

Social issues in India by word press <http://socialissuesindia.files.wordpress.com/2012/12/mandatorycsrinindia.pdf>

Economic times dated 18/12/2013 : http://articles.economictimes.indiatimes.com/2013-12-18/news/45338382_1_mandatory-csr-corporate-social-responsibility-india-inc

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Well-being of India's Rural Labour in the era of Economic Reforms

Nupur Kataria

Since its independence, India witnessed immense progress towards economic growth (with a growth rate of 8.6% and 9.3% respectively in 2009-10 and 2010-11 as per Economic Survey of India 2012-13 estimates), emerged globally as the world's fourth largest economy with respect to purchasing power parity, and made progress towards achieving most of the Millennium Development Goals (World Bank: "India Country Overview 2011"). But even after so many years of economic development, progress and industrialization, India is still predominantly rural which is mainly based on agricultural sector and where almost 60% of the population derive its livelihood from agriculture.

Agriculture is the main stay and backbone of the Indian economy having a share in total employment as 58.2% according to the 2001 Census of India. But its contribution to the gross domestic product has been declining and there have been great fluctuations in its annual rate of growth (growing at 2-3% on average annually). According to Economic Survey of India 2012-13, its share in GDP stood at 14.5% and 14.1% at constant (2004-05) prices respectively for the period 2010-11 and 2011-12 while its annual rate of growth was 7.9% and 3.6% in the period 2010-11 and 2011-12 respectively. As per Himanshu (2011), the growth rates of GDP at constant prices (1999-00 prices) from agriculture during the period 1993-94 to 1999-00, 1999-00 to 2004-05 and 2004-05 to 2007-08 were 3.99%, 1.56% and 4.55% per annum respectively while the corresponding figures from non-agricultural sector were 9.36, 7.30 and 10.56% per annum respectively. This falling share of agriculture in total GDP, which stood at around 43% in 1970, has been due to the rapid economic growth in industrial output, services and non-agricultural sectors in India since the initiation of economic reforms in June 1991 which aimed at increasing the pace of economic growth and eradication of poverty in India.

The economic reforms introduced in June 1991 led to the process of increasing integration with the world economy, as guided by the

structural adjustment and stabilization policies initiated by International Monetary Fund (IMF) and World Bank, which are also known as Bretton Woods institutions (BWI). As per the government, economic reforms have been outstanding with regard to uplifting the Indian economy's progress in respect of various economic and social indicators since the early 1990s and that it will make agricultural sector more efficient, competitive and productive by de-regulating agricultural credit, raising land ceilings or putting an end to state-led land reform programme, by promoting private sector agricultural research and allowing non-government organization (NGOs) to participate in the agricultural extension system, however, the facts and figures from rural India presents rather a conflicting picture (Madare , 2012). Apart from this, it was argued that the Liberalization or opening up of agricultural sector would result into rising agricultural commodities' price or right price of agricultural output leading to increased incentives in agriculture and hence in the growth of agricultural activities and agricultural production in India. In this context, it was claimed that the process of Liberalization would make terms of trade favourable to agricultural growth by cutting down on subsidies and gradually removing the policies of output support prices and procurement of food which were unsustainable fiscally and suppressed prices of agricultural produce, proved inefficient and costly to farmers (Sahay, 2010). But the other side of the coin is that the opening up of the economy implies cheaper imports in a country where agricultural prices are constantly fluctuating thereby affecting agricultural production and hence further losses. Farmers, artisans, unskilled labour and workers in rural India would bear larger impact of these losses by facing increased competition from their counterparts who are more skilled in developed countries. This imply a negative impact on rural employment as is evident from the latest Census data which shows that the absolute number of cultivators has declined for the first time in 40 years, by nearly 9 million and also there has been a sharp fall in the number of self-reported farmers over the last decade (Shrinivasan, 2013).

It was observed that the reform measures did not lead to much increase in private investment, contrary to their expectations. In fact, it was found that there was deceleration of growth of private investment in agriculture due to which overall Gross Capital

Formation in agriculture as a proportion of total capital formation in the country declined by half during the period 1980 to 1999-00 and then to about 1.7% during 2004-05 (Smitha, 2005), however in 2010-11 and 2011-12, the figures for the same stood at 5.6% and 6.2% respectively. The investment in agriculture as a proportion of GDP fell from 1.92% in 1990 to 1.31% in 2003. Apart from this, the total expenditure (plan and non-plan) on rural development also went down from 22.2% of the total budget to about 13.8% during 2002-03 (Jha, 2007). There has been a gradual decline in fertilizer subsidy since the economic reforms. In 2012-13, fertilizer subsidy amounted to 2.4% of GDP but in order to reduce fiscal deficit, the government has reduced this subsidy further by 15% due to falling global prices for 2013-14. This reduction in fertilizer subsidy is seen to have adverse impact on agricultural production and hence on the incomes of farmers' especially small and marginal ones since these farmers do not benefit from higher output prices but do benefit from lower input prices (Sharma, 2012).

According to Jha (2007), the data from agriculture in the previous two decades point out that the market-oriented development programme based economic reforms led to large-scale agrarian distress in rural India by creating some new problems and exacerbating the existing ones. The deep crisis in rural and in particular agricultural sector have taken different forms in contemporary India such as increasing rural violence in the name of Naxalite or Maoist and other similar social movements, ongoing massive distress-led migration from villages, and massive cases of farmer or peasant's suicides. This has happened since the deep crisis in agricultural sector during the post-reform period augmented the vulnerable and insecure conditions of farmers and agricultural labourers in rural India (Sahay, 2010). A study done by Nagraj (2008), based on National Crime Records Bureau (NRCB), found that 166,304 farmers committed suicides between 1997 and 2006 and every seventh suicide in the country happened to be a farm suicide. As per the Report Center for Human Rights and Global Justice, *Every Thirty Minutes: Farmer Suicides, Human Rights, and the Agrarian Crisis in India* (2011) estimated farmer's suicide every 30 minutes. However, the report points out that the figures obtained underestimated the actual number of farmer suicides which took place due to the farmer's definition used by the official systems.

Apart from this, it was seen that the Liberalization of trade which took place with economic reforms opened up vistas for Globalization of production resulting into vast changes in the labour market, such as widening wage disparity, increasing contractualization of work, skill based segregation of work etc. Thus, in this context, it becomes essential to understand the impact of policies which came with the phase of economic reforms such as opening up of the economy to trade, globalization of production, etc. on the working rural poor in India since it is only by uplifting the rural poor that the true development of the country is possible.

So, the **objective of this study** is to look at the impact of the neo-liberal economic reforms on some aspects of well-being of the rural labour in India by analyzing their economic conditions during the post-reform phase at all-India level using unit level National Sample Survey Organization (NSSO) Data for the time period 1993-94 to 2009-10. This time period include four thick rounds of NSS surveys: 50th, 55th, 61st and 66th round. The study uses the following variables as the indicators of well- being of rural labour¹ and to find estimates for these indicators, up to the lowest fourth decile of the rural population is taken as a proxy for these labourers² and the decile classes are formed on the basis of the monthly per capita consumption expenditure (MPCE) of the households:

- a) Real wage earnings per day of rural labour,
- b) Employment of rural labour,
- c) Per-capita calorie intake and protein intake of rural labour,
- d) Indebtedness of rural labour and
- e) Rural labour's access to formal credit.

Trends in wages of rural labour

Wages and earnings are the most important indicator of well-being of rural labour in India as they provide not only greater purchasing power but also decent standard of living. In order to study how the purchasing power of rural labour's have changed since the initiation of economic reforms in India, real average wage earnings per day are reported in **table 1** by deflating average wage earnings per day using Consumer Price Index For Agricultural labour (CPIAL) with

base 1986-87³. The table shows that the average real wage earnings per day have been rising since the period 1993-94 both in cash and in total. However, the average real wage earnings per day in kind have been declining since 1999-2000 after increasing during the period 1993-94 to 1999-2000.

In terms of the growth rate of real average wages received per day, these labourers witnessed the lowest rate of growth during 1999-00 to 2004-05 as compared to other time periods, the average growth rate of the average real wages declined from 3.20% per annum during the period 1993-94 to 1999-2000 to 1.45% per annum during the period 1999-2000 to 2004-05, but it then increased to a high value of 6.17% per annum over the period 2004-05 to 2009-10. During 1999-00 to 2004-05, even though the prices of agricultural commodities grew slowly as compared to prices of non-agricultural commodities, the nominal wages also increased at a lower rate resulting into lower growth rate of real wages. However, average CPIAL grew at a much

Table 1: Average real wages/salary earnings per day (Rs.) at 1986-87 prices for up to the lowest 4th decile of rural population w.r.t MPCE:

NSS Round	Avg. real wage earnings per day in cash	Avg. real wage earnings per day in kind	Avg. real total wage earnings per day
66th	25.48	2.22	25.94
61st	19.63	3.32	19.82
55th	18.21	3.85	18.50
50th	14.63	3.15	15.95

*Note: Average real wages/salary earnings per day for a particular round= (Average wages/salary earnings per day in that round) / corresponding Average CPIAL.

higher rate during 2004-05 to 2009-10 but at the same time nominal wages also grew at a much higher rate leading to high growth rate of real wages of the rural labour. Thus the period after economic reforms, 1993-94 to 2004-05, witnessed slow rate of growth of real wages of rural labour implying worsening of their well-being and this probably happened due to opening the economy and exposing these poor labourers to world-wide competition which resulted into

large fluctuations in output prices affecting their wages. Apart from this, the gradual decline in the input subsidies, such as fertilizer subsidy, by the government after the reforms, which happened due to fall in the public spending in the rural areas as a part of reforms, might affected these labourers by increasing the input costs and hence reducing the agricultural profitability. Mechanization of agriculture also seems to be a factor by displacing labourers by capital intensive inputs in most of the states and hence reducing their demand and bargaining power to push up their real wages. However, the recent high growth rate of real wages seems to indicate some improvement in their well-being and one reason for this improvement might be the initiation of MGNREGA scheme in 2005, which have set minimum wage floor in rural areas.

Trends in employment of rural labour

The second important indicator of well-being of the rural labour in India is employment since it is through employment that these labourers earn income. The following **table 2** shows employment of rural labour measured as the usually employed persons⁴. This table shows that the usually employed persons increased from 50th to 61st NSS round which then declined in 66th NSS round. As regard to the growth of employment, it was found that during 1993-94 to 1999-00 growth rate was 2.05% per annum on average which increased to 2.41% per annum during 1999-00 to 2004-05 but it declined to -0.3% per annum during 2004-05 to 2009-10.

Table 2: Usually employed persons (ps+ss) for up to the lowest 4th decile of rural population (in millions):

NSS Round	Persons employed according to principal activity status (ps)	Persons not working but having subsidiary activity status (ss)	Usually employed persons (ps+ss)
66th	111.59	8.09	119.68
61st	110.51	11.11	121.62
55th	99.95	8.61	108.56
50th	88.17	10.26	98.43

*Note: The figures reported for up to the lowest 4th decile of rural population is obtained by taking the sum of the first four rural population decile group's employment.

The following **tables 3 and 4** show employment according to its status and gender. As per **table 3**, those who were self-employed increased during 1993-94 to 2004-05, where their number drastically increased during 1999-00 to 2004-05, and declined during 2004-05 to 2009-10. The number of casual wage labour increased during 1993-94 to 1999-00 but then declined sharply during 1999-00 to 2004-05. However, their numbers have increased during 2004-05 to 2009-10. The **table 4** shows that while rural male employment increased consistently during 1993-94 to 2009-10, the rural female employment drastically increased during 1999-00 to 2004-05 after increasing during 1993-94 to 1999-00, but then it has declined during 2004-05 to 2009-10.

Thus it seems that the increase in the employment of rural labour during 1993-94 to 2004-05 happened partly due to increased female employment which probably reflects the presence of crisis in the rural areas since females enters labour market in order to enhance low levels of their household incomes (Unni 1989; Srivastava and Srivastava 2010). Another reason might be increased self-employment opportunities in non-agricultural sectors which is again the last resort for the rural labour and hence indicate distress driven phenomena (Jha, 2013). The period 1999-00 to 2004-05 witnessed highest growth of employment for these labourers and

Table 3: Employed persons by usual principal activity for up to the lowest 4th decile of rural population (in millions) w.r.t MPCE according to employment status:

NSS Round	Number (in millions)			Percentage		
	Self-employed	Regular-wage	Casual wage labour	Self-employed	Regular-salaried	Casual wage labour
66th	65.46	5.55	40.57	58.66	4.97	36.37
61st	68.17	4.89	37.44	61.69	4.42	33.89
55th	43.58	3.64	52.72	43.60	3.65	52.75
50th	39.87	3.17	45.11	45.23	3.59	51.18

*Note: The figures reported for up to the lowest 4th decile of rural population is obtained by taking the sum of the first four rural population decile group's employment.

Table 4: Usually employed persons (ps+ss) for up to the lowest 4th decile of rural population (in millions) for male and female:

NSS Round	Usually employed persons (ps+ss) Male	Usually employed persons (ps+ss) Female	Usually employed persons (ps+ss) Total
66th	76.71	42.97	119.68
61st	71.58	50.04	121.62
55th	66.80	41.76	108.56
50th	60.23	38.20	98.43

*Note: The figures reported for up to the lowest 4th decile of rural population is obtained by taking the sum of the first four rural population decile group's employment.

this might have happened due to increased self-employment and female employment. This phase has been mainly characterized as the phase of feminization of agriculture (Ramakumar, 2012). The share of casual labourers in the workforce declined during 1999-00 to 2004-05 after increasing sharply during 1993-94 to 1999-2000 which might have happened due to fall in the capability of the farm sector to absorb these labourers and also probably due to non-availability of adequate wage employment in non-farm sector in this period. One reason for this might be the fall in the public investment in rural areas which came as a part of reforms to reduce the fiscal deficit and so resulted into slow employment generation in rural farm and non-farm sectors. Apart from this, the shift of emphasis towards production of export oriented crops in agriculture and away from food crops, which came with trade liberalization in 1991, probably affected employment of rural labour since the food crops are more employment intensive as compared to the export crop production. Thus, a shift of land use from food grain production to export crop production might have restricted the employment growth (Chandrasekhar and Ghosh, 1999). Apart from this, increased mechanization of agriculture might be another reason which is displacing labourers in most of the states. Thus, the period after economic reforms seemed to have a negative impact on the employment of rural labour. However, the decline in the employment generation during 2004-05 to 2009-10 occurred mainly due to sharp fall in the female employment and partly due to fall in self-employment which can be seen as a sign of revival of the

situation in the rural economy and hence for the rural labour (Himanshu, 2008, 2011; Jha, 2013). The MGNREGA scheme might have contributed to this revival of the rural economy in the recent years; however greater attention should be paid to increase its implementation and coverage so that maximum benefit can be provided to the rural labour in India.

Trends in nutritional level of rural labour

This section present the estimates and trends of per-capita calorie intake and protein intake per day of rural labour, used as a measure of nutritional status, during the time period 1993-94 to 2009-10. The Planning Commission has set calorie intake norms both for rural and urban sectors which are 2400 Kcal per person per day and 2100 Kcal per person per day respectively (the difference being attributed to the lower rates of physical activity in the urban areas). A person below this calorie norm suffers from the problem of calorie deficiency. As regard to proteins, the threshold level of protein intake is recommended by the Expert Group of the Indian Council of Medical Research. According to their report 2009, the expert group recommended minimum protein intake for different age groups per kg body weight as well as total requirement for a normal individual. These figures were 60 gm per day for adult male and 55 gm per day for adult female. The following **table 5** reports all India average per capita intakes of calorie and protein per day for the bottom four rural decile classes w.r.t MPCE_{URP}⁵. From the table it evident that the average per capita calorie intake per day of the lowest fourth decile of the rural population increased from 1690 kcal in 1993-94 to 1710 kcal in 1999-2000. It then declined to 1663 kcal in 2004-05 and again rose to 1739 kcal, a value which is higher than that in 1993-94, in 2009-10. However, in case of the average per capita protein intake per day, the intake declined during the period 1993-94 to 2004-05, but the latest NSS 66th round report a marginal rise in this level to 46.4 gm in 2009-10. This indicates that in the recent years, the nutritional status of the rural labour have improved at all India level. One reason for this might be that the rural labour have opted for some diversification in consumption basket providing a more nutritious diet though not necessarily adequate energy (Suryanarayana, 2009). Another reason may be that since they are generally poor and therefore cannot afford to consume much of the

non-cereal food, they might have increased consumption of cereals which are rich in calories and protein. Apart from this, MGNREGA scheme seems to be contributing to rising nutritional intake of these labourers in recent years by setting minimum floor of wages in rural areas in various states. However, even if their nutritional status improved during 2004-05 to 2009-10, they are still below the recommended levels implying poor living standards. One possible explanation can be related to shift of India's cropping pattern towards exports oriented crops which came with the trade liberalization. According to Patnaik (2008), as primary exports grow overtime in developing countries, there is always a fall in domestic food grain output and availability and hence falling nutritional standards for the population as a whole because agricultural land is in fixed supply and so increased share of export crop production would result into reduced output for the domestic market. This process increases at a higher pace in a situation where yield does not rise due to investment reducing and public expenditure reducing policies. Thus, the rural labour in India is still suffering from nutritional deficiency which can adversely affect their productivity and hence can distort their well-being.

Table 5: All-India average Per capita intake of calorie and protein per day for up to the lowest 4th decile class of MPCE_{URP} (Rural):

66th NSS Round		61st NSS Round		55th NSS Round		50th NSS Round	
per capita per day intake of		per capita per day intake of		per capita per day intake of		per capita per day intake of	
calorie (Kcal)	protein (gm)	calorie (Kcal)	protein (gm)	calorie (Kcal)	protein (gm)	calorie (Kcal)	protein (gm)
1739	46.4	1663	46	1710	46.2	1690	47

Source: NSS Reports No. 405, 471, 513 and 540 on nutritional intake in India.

Trends in indebtedness of rural labour

A lot of discussions have taken place in the past literature with regard to the indebtedness in rural areas, especially about the rural and agricultural labourers in India. Indebtedness of rural labour is taken as another indicator of their well-being as this is a measure of their

financial status and an analysis of its trend will be useful to know how these labourers are doing in other spheres of development. The following table 6 shows the trends in the average loan amount outstanding for up to the lowest fourth decile of the rural population w.r.t MPCE at all India level during the period 1993-94 to 2009-10. It is evident from the table that since the economic reforms came into being; the indebtedness of the rural labour has been rising with sharpest increase during 1993-94 to 1999-00 followed by 2004-05 to 2009-10. This shows that after the economic reforms in 1991, the well-being of rural labour have worsened in terms of increasing indebtedness. This increasing indebtedness has forced these labourers into the vicious cycle of debt and hence some to commit suicides leading to the rural distress. One reason for this might be the declining share of the formal credit to these labour households which happened due to financial liberalization as a part of reforms in 1991 and hence rising share of informal sources of credit which have prevented these labourers to move out of the debt cycle since these informal sources of credit charge exorbitant rate of interest.

Table 6: Average loan amount outstanding including interest (Rs.) for up to the lowest 4th decile of rural population w.r.t MPCE-

NSS Round	Loan amount outstanding including interest (Rs.)
66th	14,167.30
61st	7,893.26
55th	6,340.34
50th	2,254.47

*Note: Average loan amount outstanding including interest (Rs.) for lowest 4th decile of rural population is calculated by taking average of the first four rural population decile group's loan amount outstanding including interest.

Other reasons for this may be the declining input subsidies due to decline in public expenditure in the rural areas as a part of reforms and opening agriculture to the global market which might have reduced profitability in agriculture and hence income of rural labour forcing them to take more and more loans to sustain their subsistence consumption level. The Center for Human Rights and Global Justice

report (2011) identified health care costs as one of the major contributors to indebtedness in rural areas. These costs might have gone up due to withdrawal of the State from providing health care services which probably happened due to the expenditure reducing policies of economic reforms. Other reasons probably include stagnation in agricultural sector, modernization and commercialization of agriculture (which has expanded the credit demand), rising risks of production and marketing and the lack of alternative employment opportunities in rural areas (The Report of the Expert Group on Agricultural Indebtedness, 2007).

Trends in access to formal credit

The last indicator used is the rural labour's accessibility to the formal institutional credit. This will show whether the rural labour, who are constantly in need of money due to their fluctuating incomes, are able to obtain enough and timely credit from the formal institutional sources in times of need. The share of banks and moneylenders in total average debt of rural labour are shown in **table 7** which indicate that since initiation of reforms in 1991, the share of banks have fallen gradually while that of moneylenders have increased. However, the 66th NSS round reports the reversal of this trend with a significant rise in the share of banks and fall in share of moneylenders which might have happened due to the contribution of the Left in identifying the ongoing rural distress and hence leading into expansion in formal credit to rural areas in recent years. However, it seems that moneylenders are still dominant sources of credit to rural labour households claiming a large share in the total average debt of these households.

Table 7: Percentage of average loan amount outstanding by source of credit for up to the lowest 4th decile of rural population w.r.t MPCE-

Percentage of average debt by source	NSS 50th Round	NSS 55th Round	NSS 61st Round	NSS 66th Round
Banks	19.80	18.80	17.35	22.04
Money lenders	29.25	30.11	43.03	36.04

This indicates that these labourers were probably forced to take loan from the informal sources of credit after economic reforms which charged a very high rate of interest, thereby affecting their level of

well-being. This partly happened because share of formal sources of credit declined, even though they should have increased, in line with the policies of economic reforms. Patnaik (2004) points out that the bank credit became more expensive and reliance on private high-cost credit sources increased with the implementation of the Narasimhan Committee Report after 1994. Also, since these labourers are poor, mostly with no agricultural land, they are unable to put anything as collateral with the banks in return for the loan and also since they take loan mostly for consumption purposes, they probably get excluded from the formal credit market. Apart from this, it seems that the cumbersome procedure to apply for loan in a bank discourages these labourers to take loan from them and so instead prefer taking credit from the informal sources as they are easy to approach. Also moneylenders provide credit so that they can utilize labour services or in case land is put up as collateral with the moneylender then they can acquire the collateral of these labourers in return for the loan. This is partly affecting the well-being of the rural labour in rural India which may be related to the policies introduced in the financial system to sustain reforms in 1991.

Conclusion

Thus, overall it seems that the set of contractionary fiscal and monetary policies adopted in the early 1990s and consequent fall in role of the State in various fields of the rural economy adversely affected various indicators of well-being of the rural labour such as real wages, employment generation, nutritional status, indebtedness and access to formal credit. Even though some measures undertaken by the government in recent years such as MGNREGA scheme have had positive impacts on their well-being but their poor coverage and implementation seems to be restricting the flow of benefits to the rural poor. Hence, a lot of work still needs to be done as far as the rural labour's well-being is concerned.

BIBLIOGRAPHY

Acharya, Sarthi (1991), "Agricultural Incomes and Rural Poverty: An Analysis at Crop-State level in India", working paper series no. 102, *Institute of Social Studies*, The Hague.

Basu, Deepankar and Amit Basole (2013), "The Calorie Consumption Puzzle in India: An Empirical Investigation", *Political Economy Research Institute (PERI) Working Paper* 285.

Center for Human Rights and Global Justice, *Every Thirty Minutes: Farmer Suicides, Human Rights, and the Agrarian Crisis in India*, (New York: NYU School of Law, 2011).

Chand, Ramesh (2004), "Impact of Trade Liberalization and related Reforms on India's Agricultural Sector, Rural Food Security, Income and Poverty", Policy Paper No. 19, *National Center for Agricultural Economics and Policy*, New Delhi.

Chandrasekhar, C.P. and Jayati Ghosh (1999), "The Indian economic reform process and the implications of the Southeast Asian crisis", *Action Programme on Structural Adjustment, Employment and the Role of the Social Partners*, Employment and Training Department International Labour Office Geneva.

Deaton, Angus and Jean Drèze (2009), "Food and Nutrition in India: Facts and Interpretations", *Economic & Political Weekly*, VOL XLIV NO. 7, February 14, 2009.

Government of India (2012), *Consumer Price Index Numbers for Agricultural and Rural Labourers on base 1986-87=100, Annual Report 2010-11*, Ministry of Labour and Employment, Labour Bureau, Shimla.

Government of India (2013), *Economic Survey 2012-2013*, Ministry of Finance, New Delhi.

Himanshu (2011), "Employment Trends in India: A Re-examination", *Economic and Political Weekly*, Vol - XLVI, No. 37, September 10, 2011.

Jha, Praveen & M. Negre (2007), "Indian Economy in the Era of Contemporary Globalisation: Some Core Elements of the Balance Sheet", May 17, 2007, URL: http://www.macrosan.org/anl/may07/pdf/Indian_Economy.pdf.

Jha, Praveen (2007), "Some Aspects of the Well-Being of India's Agricultural Labour in the Context of Contemporary Agrarian Crisis", *Indian Journal of Labour Economics*, Vol. 49, No. 4, New Delhi.

Jha, Praveen (2013), "Labour Conditions in Rural India: Reflections on continuity and change", in Carlos Oya and Nicola Pontara (eds.), *Rural Wage Employment in Developing Countries: Theory, Evidence and Policy*, (Forthcoming) Routledge, 2013.

National Sample Survey Organisation, *Nutritional intake in India*, Report No. 405, 471, 513 and 540, Department of Statistics and Programme Implementation, Government of India, New Delhi.

Patnaik, Utsa (2004), "The Republic of Hunger", Public Lecture on the occasion of the 50th Birthday of Safdar Hashmi, Organized by SAHMAT (Safdar Hashmi Memorial Trust), April 10, 2004, New Delhi.

Patnaik, Utsa (2008), "Rusticus Loquitur: Peasant Travails and Survival in the era of Globalization", D D KOSAMBI Memorial Lecture, July 17, 2008, Pune.

Reserve Bank of India (2012), *Handbook of statistics on Indian economy 2011-12*, Government of India, New Delhi.

Sahay, Gaurang R. (2010), "Globalization, Liberalization and Agrarian Distress: A Study of Suicides among Farmers in India", Paper for VI. Global Labour University Conference, Berlin 2010.

Shah, Mihir. et al. (2007), "Rural Credit in 20th Century India: Overview of History and Perspectives", *Economic and Political Weekly*, Vol. 42, No. 15, April 14–20, 2007. URL: <http://epw.in/epw/uploads/articles/10500.pdf>.

Suryanarayana, M.H (2009), "Nutritional Norms for Poverty: Issues and Implications", Concept paper prepared for the Expert Group to Review the Methodology for Estimation of Poverty, *Indira Gandhi Institute of Development Research, Mumbai*.

The World Bank (2011), *India Country Overview 2011*, Report of the World Bank, 2011.

Usami (2012), "Recent Trends in Wage Rates in Rural India: An Update", *Review of Agrarian Studies*, Vol. 2, No. 1, January-June 2012.

ENDNOTES

¹A Rural Labour, as per NSSO, is defined as a person living in rural areas and doing manual work in agricultural and /or non-agricultural sector in return for wages paid either in cash or in kind or both. The Rural Labour includes both Agricultural Labour and Non-farm Labour in the rural areas where the share of Agricultural

Labour in Rural Labour is almost 80%.

²The rationale behind the use of the bottom four deciles of the rural population as a proxy for rural labour is that since 1993-94, as per Jha (2013), the Agricultural Labour and Non-farm Labour together constitute almost 40% of the total rural workforce in India. Because rural labourers are mostly poor and form the backward/weakest section of the society, they may fairly fall into 'up to the lowest fourth decile of the rural population' category.

³The Labour Bureau started CPIAL series with base 1986-87 from 1995 onwards. Before that the base year used was 1960-61. In order to have a smooth series with base 1986-87 from 1993 onwards, the linking factors between the 1986-87 and the old series reported by Labour Bureau were used.

⁴According to NSSO definition, a person is said to be usually employed if that person is engaged in some work activity whether in principal activity status or in subsidiary activity status (ps+ss) during the reference period of 365 days preceding the date of the survey. The principal activity status of a person refers to the status where that person is engaged in an activity for majority of the time during last 365 days while subsidiary activity status means that the person is engaged in an activity for minority of the time but not less than 30 days during last 365 days.

⁵As per the NSS concepts, the Uniform Reference Period Monthly Per Capita Expenditure ($MPCE_{URP}$) is the measure of a household's consumer expenditure on each item which is reported for a reference period of last 30 days preceding the date of the survey.

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360 Degree Performance Review: A technique of performance appraisal and evaluation.

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Organizational leaders clearly have many choices when(while) selecting performance evaluation and development tools. One tool that has gained popularity and has become a growing trend globally in recent years, is the 360 degree performance review. This popularity is based on the perceptions of organizational leaders that 360 degree reviews establish a culture for continuous learning and provide more global feedback for employees, which leads to improved performance.

In 2002, 90% of Fortune's 500 companies were using a 360 degree performance review process. Today, studies suggest that over 1/3 of the U.S. companies use this technique. In India, companies like Wipro, Infosys, Reliance, Compton Greaves, Godrej are using this tool to appraise and evaluate the performance of their employees.

Origin of 360 degree feedback

This technique finds its origin in the German military where it was used to gather feedback from multiple sources in order to evaluate performance during World War II. In companies it was first developed by General Electric (GE), USA in 1992. From there the idea of 360 degree feedback gained momentum, and by 1990s most organizations and HR professionals started using this concept.

What is a 360 degree review?

A 360 Degree performance review is a formal process whereby the performance of an individual is appraised by his superior, his subordinates, his peers, his clients or outsiders such as customers, suppliers or other interested stakeholders with whom he interacts in the course of his job performance. These people are known as "the raters". The person whose performance is being evaluated is known as "the learner". Learner's own self assessment completes the circle.

A mixture of about 12 -15 people fill out an anonymous online feedback form. Structured questionnaires are used to collect

responses from the raters. Several parameters covering a broad range of workplace competencies like behavior and job performance are used in the questionnaires. The raters may also be asked to support their evaluations about the learner. The responses are then presented collectively to the assessee in the form of charts and graphs. Often, the assessee is a Human Resource (HR) professional. Counseling sessions are also arranged with the learner to remove the weaknesses identified in the 360 degree assessment and to develop a plan for improvement. In order for a 360 degree process to be successful, participants must feel the survey instrument (can be omitted) is reliable and valid.

Elements of 360 degree reviews

1. Review by superiors – They provide feedback on employees performance and development in the business and also in areas that are vital to the organization.
2. Review by the Peer group – They can provide deep insight into the personality, attitude and style of working of the employee. For better results it is essential to select the right peers for the appraisal. Peers should be selected both from within the department and from other departments which are connected with the working of the learners department.
3. Review by the Subordinates – They give their perception about their superiors in terms of delegation of authority, guiding and training of subordinates, team building, motivation, leadership etc.
4. Self Appraisal – It facilitates the employees in identifying their strengths and weaknesses and provides an opportunity to assess their performance.

360 degree feedback can be used as a developmental tool to help employees recognize their strengths and weaknesses. Feedback recipients gain insight into how others perceive them and have an opportunity to adjust behaviors and develop skills that will enable them to excel at their jobs.

It can also be used as a performance appraisal tool to measure the performance of an employee. It can be beneficial to incorporate 360 feedback into a larger performance management process, but only with clear communication on how the 360 feedback will be used.



Superiority of 360 degree review over traditional forms of evaluation

The 360 degree review process is purported to be superior to traditional forms of evaluation and feedback because it provides more complete and accurate assessment of the employees' competencies, behaviors and performance outcomes. A traditional performance review, where one supervisor assesses a subordinate, is no longer seen as an effective means of obtaining accurate feedback for employees. With traditional reviews, employees are rated by a single person, who may be biased or have an incomplete view of their work.

Standard performance evaluations have been criticized for being ineffective for a variety of reasons such as the potential biases of the rater and the potential subjectivity of ratings. 360 degree feedback is viewed as more accurate because, by nature of the process, it offers feedback on observed behaviors and performance from a circle of raters, as opposed to subjective viewpoints from a single individual. Multiple raters offering similar feedback will send a reinforced message to the learner about what is working well and what needs to be improved. Feedback is more difficult to ignore when it is repeatedly offered by multiple sources.

Rater carelessness; use of appraisals for political or personal reasons; the halo effect, where an employees strengths in one area are spread to other areas, are all additional problems with traditional reviews. A multi-rater process like the 360 review can help avoid this problem as any skewed data is likely to appear as an anomaly when the feedback trends for that individual are examined.

Three-sixty degree reviews provide feedback on a learner's cooperation with people outside their department, helpfulness towards customers and vendors etc., which may not be reviewed by other types of appraisals. This alternative method can provide a more balanced view. The 360 degree performance review process intends to provide a more global and accurate view of the employees performance.

The underlying assumption of the 360 degree technique is that the accuracy and scope of the assessment of the individual increases when consulting a full circle of daily business contacts, as opposed

to one supervisor. The view of most practitioners is that the use of more raters leads to more accurate results for the individual.

While traditional performance reviews offer a single or limited view point, the 360 degree review offers feedback from many sources that often times send repeating and consistent messages. When a learner sees a consistent pattern of feedback, that feedback is more likely to become reinforced and is more difficult to write off as invalid.

The multi-rater feedback from a 360 degree review has been accepted by the employees. Once an individual accepts feedback there is an increasing likelihood of behavioral change and performance improvement. Employees may find the methodology of a 360 degree review to be more thorough and unbiased than traditional evaluations.

Conclusion

The general consensus from research and practice has been that there are both benefits and potential problems associated with 360 degree reviews. The 360 degree feedback process is popular. The perceived benefits of implementing such a program will only be realized if it is utilized in the right organizational climate with the appropriate expectations for success. In the wrong environment, without the presence or proper training of employees and raters, the results can be detrimental. Organizations should carefully weigh all the costs, including process related as well as the cost of behavioral outcomes.

BIBLIOGRAPHY

- Alexander, M, Diane,(2006)- *360 degree feedback, how do 360 degree performance reviews affect employees.*
- Brett, J.F, Atwater, L.E.(2012). *360-feedback: Accuracy reactions, and perceptions of usefulness.*
- Linman, Terri. *360-feedback: Weighing the Pros and Cons*
- Maylett, Tracy M, Riboldi, Juan M.2006. *The 360 degree dilemma.*

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Tracing The History of Allocation Problems in relation to Ethnomathematics

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It is said that The History of Mathematics is a large window through which our philosophic eye looks into the past ages and traces the line of intellectual development and human progress as the latter is related with scientific thought. After the Greeks, the first people whose researches had a wide influence in the development of Mathematics, were the Indians. Even the technique of calculation called algorithm which today is widely used in designing software programs was derived from Indian Mathematics. The Science of OR provides mathematical algorithms for solving decision problems. Sometimes these problems include intangible factors like the presence of human element in any decision environment and at times the effect of human behavior has influenced the decision problem to such an extent that the solution obtained from a mathematical model is deemed impractical.

The basic premise in Ethnomathematics (viz the mathematics implicit in each practice) is that a relation exists between Mathematics and culture.

Moreover other influences surrounding a specific culture are the true locations where Mathematics exists.

I would not disagree to the broad belief that Social values in a particular social ambience, influence the development of Mathematics. An overlapping philosophical implication of Ethnomathematics is that one must acknowledge that Inventionism is a reality underlying Mathematics i.e. Mathematics was created and not discovered. Also the edifice of this discipline will continue to get bigger as the subject gets enriched through new research. The same pertains to Allocation problems in Mathematical Programming which is the subject matter of this paper. Transportation Problems, Assignment Problems and Network Problems comprise this category. In all such problems the decision maker is part of a social structure and his decisions are not absolutely independent of his social co-ordinates.

It is known that Operations Research as a problem-solving technique is viewed both as a science and as an art. Science because of the

mathematical techniques and algorithms that it provides for problem-solving and an Art because its success at all stages depends upon the creativity and personal ability of the decision maker.

The present paper traces the development of Allocation Problems along with their variants in two and higher dimensions right upto problems with more than one objective function in compliance to the demand of real life situations.

It is known that in two of the oldest domains of Physical Sciences and Geometry, the search for optimal solutions to certain problems led to the development of The Calculus of variations. Similarly when optimization problems surfaced in the field of Economics with applications to practical problems in military and industrial operations and demanded optimal allocations of limited resources to meet given objectives, the methodology of Linear Programming saw itself in the forefront. Ethnomathematicians contend that culture is the factor which leads to the diversity among Mathematical thought throughout history and in the modern world as well and a reason for this is perhaps the differing areas of inquiry.

Methods of optimization rely less on mathematical sophistication than they do on an unusual adaptability to the mode of solution inherent in the modern digital computer

In 1928 John Von NEUMAN published **THE CENTRAL THEOREM** of Game Theory with the intent of explaining certain specific problems in Physics but later it led to the realization that properties of Linear Programming like duality could be explained through Game Theory Incidentally Neuman is associated with suggesting high altitude detonation as an efficient tactic of bombing. Could this not be a conscious intent and a result of the social utility of Mathematics?

In 1949 George B. Dantzig published the Simplex Method for solving Linear Programming Problems (LPP). This method enjoys wide acceptance due to:

1. its ability to model important and complex management-decision problems and
2. its capability to produce solutions in a reasonable amount of time or give an indication that the problem has no solution.

The steps in this method are such that each new iteration yields a value of the objective function closer to the optimal value.

The first category of **ALLOCATION PROBLEMS** is nothing but a special-structure LPP namely the Transportation Problem. However this terminology is more or less a result of tradition and / or convenience since the problem itself has many other applications. Since the constraints of a transportation problem (TP) are simpler than that of a general LPP, a solution method was developed to exploit this simplified structure.

The special form of a balanced TP was studied by Frank Hitchcock and later during the 2nd world war, T.C. Koopmans, a member of the combined shipping board brought out his work on transportation in his work “Optimal utilisation of the transportation system”. That is why the classical Transportation problem is referred to as the Hitchcock-Koopmans Transportation Problem. It would not be wrong to say that his thought process did get influenced by the social structure and environment that he was brought up in. Mathematics, especially. Applied Mathematics after all is a human activity deeply rooted in physical reality and often engages in the development of models to cater to specific real –life problems.

Generalisations followed through the history of Allocation Problems and solution procedures were developed for the Generalised TP, the Capacitated TP, The Bulk TP and The TRANSSHIPMENT PROBLEM.

Another specific type of Allocation Problem which also happens to be a special case of the LPP and in fact of the TP, is the Assignment Problem (AP) which occurs in a situation where n jobs are assigned to an equal no. of machines or say n persons are assigned to n jobs and a cost is incurred for each such assignment. The objective is to assign jobs to the machines (one job per machine)/ persons to jobs so as to minimize the total cost. Such a problem is referred to as the Cost Minimizing Assignment Problem (CMAP) The formulation can be regarded as the case of a TP where jobs represent sources and machines represent destinations. The supply available at each source is 1 and so is the demand at each destination. Theoretically therefore the TP techniques are applicable to the AP but its simple special structure motivates one to exploit its constraint-characteristics.

In fact the Hungarian Method was developed (1955) to solve the cost minimizing assignment problems.

In 1969 Saxena developed a dynamic programming approach to solve the Assignment Problem with the no. of persons m not equal to the no. of jobs n but where n/m is an integer.

Subramanyam studied the same problem and proposed an algorithm to show how the cost matrix can be extended to make it amenable to solution by existing methods even when n/m is not an integer. We proposed and studied a variant of The Cost Minimizing Assignment Problem and developed a solution procedure.

For some time the two dimensional problems were concentrated upon. As mentioned, the TP is a particular case of the LPP but soon the Time Minimizing Transportation Problem (TMTP) was introduced and this in fact was a type of Non-linear Programming Problem. So the study got extended.

Hammer in 1969 developed a solution procedure for the TMTP and introduced the concept of a locally optimal solution.

In 1971 his procedure was modified. Others associated with this problem were Szwarc, Bhatia and Garfinkel and Rao. The latter, besides the primal algorithm, gave the Threshold Algorithm similar to the labeling technique of Ford and Fulkerson. The Time Minimizing Assignment problem (TMAP) soon followed.

Gross developed a procedure for the solution of a TMAP based on the observation that for every row and column there is exactly one cell (i,j) with allocation $x(i,j) = 1$. His procedure attacks the cell with the largest value $t(i,j)$ say T and attempts to reduce the allocation in that cell to zero. But the procedure can take care of only one cell at a time.

Garfinkel and Rao again used the labeling technique of Ford and Fulkerson to obtain the the minimum time of completion in a TMAP. We formulated two of its variants where the objective was to minimize the time taken to complete all the jobs is the minimum, it being assumed that all jobs are commenced simultaneously. The solution procedures were very effective.

In most cases of problems in Mathematical programming the identification of uncontrollable variables whose values are changed by elements outside the control of the decision maker remains a problem

At this juncture as a mathematician I would confirm to the fact that Mathematics is independent of culture and so should be understood by any one from any culture and from any time in history. But it is also true that the human behaviour element has been encountered of and on and is related sometimes to the geographical location of an individual which is inherently connected to culture. So the contention of Ethno-mathematicians cannot be completely dismissed.

Until now we were dealing with the 2-dimensional cases only. But Real life situations triggered the study of the 3-dimensional transportation problems which arise from situations where say p types of goods are sent from m sources to n destinations. This was extensively studied by K.B. Haley in 1965 who established the necessary conditions for the existence of a solution for this problem.

In 1976 the formulation of the solid tmtsp was followed by its solution procedure and in 1978 Bammi discussed a generalized indices transportation problem.

With assignment-type of constraints the 3-dimensional Assignment Problem results. We researched on the 3-dimensional bottleneck Assignment Problem and its variants. We dealt with an equal number of facilities, jobs and media and determined the corresponding triads so as to minimize the time of completion of all the jobs when they are commenced simultaneously.

The third category of Allocation Problems taken up in this paper are The Network Flow Problems. There is no end to their occurrence in real life situations From the study of vehicular traffic to transportation planning systems, the telephone network system and now the Internet, this class of problems have widespread applications and certainly cannot be ignored.

A **Network** is a pair of sets (N, A) where

N is a set of points (nodes, vertices).

A is a set of lines, each line joining a pair of distinct points.

Single Commodity Minimum Cost Flow Problem (SCMCFP)

Let $G = (N, A)$ be a directed network with a source and sink, lower bound vector l , capacity vector k .

The cost of transporting the commodity along $(i,j) \in A$ from i to j is C_{ij} rupees per unit and C is the vector of these cost – coefficients.

The problem is to find a minimum cost feasible flow vector of specified value V .

Single- commodity minimum cost flow problem is stated as

V if i is source

0 if i is an intermediate point

$-V$ if i is sink

$$\text{Minimize} \quad \sum_{(i,j) \in A} C_{ij} f_{ij}$$

$$\text{Subject to} \quad \sum_{j/(i,j) \in A} f_{ij} - \sum_{j/(j,i) \in A} f_{ji} = b_i$$

(flow out of i) (flow into i)

$$l_{ij} \leq f_{ij} \leq k_{ij} \quad (i,j) \in A$$

In the dual problem there is a dual variable associated with the flow-conservation equations corresponding to each point (node) in G .

Let p_i = dual variable associated with node $i \in N$.

(node variables, node prices). Vector of these node prices is the node price vector.

The minimum cost flow problem provides a unified approach to many other applications because of its far more general structure. It includes as special cases both the shortest path problem and the maximum flow problem, transportation problem and the assignment problem. The minimum cost flow problem is a special type of LPP & so it can be solved efficiently by a streamlined version of the simplex method called the NETWORK SIMPLEX METHOD.

A lot of literature is available on the optimization of a flow-function. The single commodity max. flow problem was one of the first problems studied in details wherein the objective was to determine a max flow solution in a network under flow-conservation constraints.

In 1973 Grinold gave a procedure to find the max flow in a network with gains.

In 1976 Cunningham gave a modified simplex method for the min cost flow problem, introduced the concept of a strong feasible solution and ensured finiteness of the method.

The following year Jensen and Bhoumic discussed a dual method for a min cost flow network problem with gains i.e. where, for the branches the ratio b/w the flow leaving the branch and flow entering is a positive constant called gain.

Solution procedures for the shortest route problem, the min spanning tree problem and multi-commodity problems are also available.

As in the case of TP'S and AP's there are many extensions of the Max-Flow Network Problem as well, in the history of Mathematical Programming. Very often the techniques to solve them consist of constructing a new network such that the problem of determining the maximum flow on this network provides a solution to the original problem. In fact the Generalised Flow Problem (GFP) has been studied as a special case of LPP for several decades. Dantzig in 1963 studied The GFP with costs for the Generalised AP and developed a simplex-based algorithm. Jewel in 1962 devised one of the earliest algorithms for a GFP with costs. He uses the concept of max-flow sub-problems and proves the convergence of the method. Others who have worked on this class of problems are Onaga, Eismann, Balas, Ivanecu, Lourie, Jarvis, Jezior etc.

Glover and Klingman in 1973 stated conditions under which the GFP can be converted into a standard Network Flow Problem.

Multi-objective problems became the need of real life situations. We began this series of problems by giving a solution method of the bi-criteria transportation problem as a modification of the procedure given by Aneja/Nair to overcome a drawback in their algorithm.

Bhatia's method of ranking the extreme point solutions and Murthy's technique of ranking all extreme points together with his later work on ranking assignments in order of increasing costs, are known in literature besides ranking procedures of Kirby and Love in collaboration with Swarup.

Other ranking procedures and their applications were developed by Pollatschek, Aviltzhak, Glover, Karney and Klingman. Geoffrion

used the interactive Mathematical Programming approach, which, however was dependent on the specification of a preference function. He used the modified definition of efficient solution viz a proper efficient solution.

In 1973 Evans and Steven introduced a revised simplex method for linear multiobjective programming and developed a test for the efficiency of an extreme point.

Ecker and Kouada gave an algorithm superior in speed and implementation.

Aneja and Nair in 1979 and H. Iserman studied bi-criteria and multi-criteria transportation problems, the former with the help of a utility function (by attaching weights to the linear objectives) and finally extending it to include the bottleneck objective as the third objective. And the latter introduced a method that identified the efficient solutions by a method that was dual to multi parametric programming (pg 30 thesis).

In 1975 Yu and Zeleny discussed a method for locating the set of all non-dominated solutions of multicriteria prob defined over a polyhedron.

Our research method moved along the path for such multi-objective problems to determination -procedures of efficient tuples in the Criteria Space rather than in the decision space giving clear advantages of the same.

The determination of possible courses of action represents a crucial aspect of decision. In a typical decision problem, identification of the relevant variables and selection of say a particular efficient solution would depend on the bias and training of the decision maker who has assimilated influences of his culture. Interdisciplinary team effort helps here. Sociologists and Psychologists are part of the team and are definitely helpful in giving alternate courses of action that otherwise may not be identifiable simply by e Mathematical Sciences procedures.

BIBLIOGRAPHY

Aneja, Y.P and K.P.K Nair: Bi-criteria transportation problem. *Management Science* **25** (1), 1979, 73-78

Bhatia,H.L.: Time Minimizing Assignment Problem. SCIMA, 6 (1977) 3, 75-83

Frieze, A.M.: A Bilinear programming formulation of the 3-dimensional Assignment Problem. Mathematical Programming, 7 (1974) 376-379.

Garfinkel,R.S.: An improved algorithm for bottleneck assignment problem. Opns.Res.,19 (1971) 7,1747-1751

Gross,O.: The Bottleneck Assignment Problem, The Rand Corporation. Santa Monica, California, 1959, p.1630

Isermann, H.: The enumeration of all efficient solutions for a linear multiple objective transportation problem. Naval Research Logistics Quarterly 26 (1), 1979, 123-129

Malhotra.R.: A Note on Bi-Criteria Transportation Problems, Zeitschrift fur Operations Research, Volume 26, page 259-261

Malhotra, R and M.C.Puri: Pricing of Bottlenecks at optimal time in a transportation problem. Scientific Management of Transportation Systems. Ed. by N.K. Jaiswal, Amsterdam 1981, 254-261

Malhotra.R; Bhatia.H.L.; Puri.M.C.: The Three Dimensional Bottleneck Assignment Problem and its Variants. Optimization 16 (1985) 2,245-256

Malhotra.R; Bhatia.H.L.:Variants of the time minimization assignment problem. Trabajos De Estadistica Y De Investigacion Operativa Vo. 35. Num. 3, 1984, pp 331 a 338.

Ravindran,A.; Ramasamy, V.: On the bottleneck assignment problem. JOTA, 21 (1977) 451-458

Subrahmanyam, Y.V., Some special cases of assignment problems, Opsearch, 16, No. 1,45-47, 1979

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Understanding Nature Mathematically: History, Educational Implications And Philosophical questions

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One of the standard definitions of mathematics can be that it is the study of patterns or it is the set of connected ideas. In Harry Henderson's words, "The essence of mathematics is the search for patterns in observing the world and for tools that let one find or create new patterns."¹ Similarly, Ian Stewart defines mathematics as 'a formal system of thought for recognizing, classifying, and exploiting patterns, developed by human mind and culture'.²

The universe, we inhabit is full of patterns. The patterns in nature, are not just numerical or geometric but there are patterns of movements. Even the irregularities of nature exhibit some patterns too.³ Since antiquity, mathematicians have been discovering the patterns, connections and order in nature and the quest for solving the mysteries of nature has not settled yet.

Initially, this paper attempts to outline the history of the discovery of mathematical secrets hidden in the beauty of nature. I have focussed only on some important concepts like Fibonacci sequence, fractals and chaos theory. I have not only described these concepts by giving relevant examples from the living world but have also talked about how these patterns and concepts have influenced various arts and sciences. The paper further talks of the educational implications of relating maths to nature. Finally, the relationship between these two compels us to go beyond the examples, theories and classroom implications. It takes us to ponder upon the origin, nature and philosophy of the discipline of mathematics; and a modest attempt has also been made to highlight some of the key questions about these.

One can assume that by closely observing nature, human kind developed the concepts of forms, shapes, figures and distances. The Mesopotamians were perhaps the first to develop a system of laws for describing the natural phenomena. The cuneiform tablets containing the observations on celestial bodies⁴ prove that they seem

to have watched the heavenly objects almost continuously for thousands of years, carefully documenting their observations in the form of astronomical diaries, forming theories, and making predictions. Through their meticulous observation, record keeping, and data analysis, they could not only identify certain patterns of the motions of stars and other visible objects like Mercury, Venus, Mars, Jupiter, Saturn, Moon and the Sun; but could also make reasonably good predictions about their behaviour. Later, they evolved multiple methods of computation of the positions of the Sun, the Moon and five other known planets instead of direct observation, since these could not be watched in cloudy nights. Thus the Mesopotamians developed perhaps the first, mathematical models in the history of science; and with this model, they were able to predict both lunar and solar eclipses, with reasonable accuracy, and they learned to predict the motions of the Moon, Sun, and planets. The Mesopotamian astronomers were interested in predicting the future of the behaviour of the stars and planets because they believed that it was possible to predict the earthly events on the basis of the motions of these heavenly objects.⁵

The Mesopotamians used arithmetic and some kind of proto-algebra to explore nature whereas the Greeks made use of geometry. The other thing is that the Mesopotamian approach was concerned with prediction while the Greek approach was often more oriented to explanation than prediction.

Thales of Miletus (ca. 640–ca. 546 B.C.E.) is believed to be the first of the long line of Greek philosopher-mathematicians. According to a story, while he was in Egypt, he found an intelligent and very simple way of measuring the height of the Great Pyramid of Giza by measuring the length of its shadow. His successors also intelligently used the ratios for making extraordinary discoveries about the universe. Aristarchus of Samos (ca. 310–ca. 230 B.C.E.) made use of ratios and angles to examine the relative distances of the Earth to the Moon and the Earth to the Sun. He also used similar geometric methods to estimate the ratios of the sizes of the three bodies. It was he who first postulated that the Earth rotates around the Sun two millennia earlier than Copernicus. Eratosthenes of Cyrene (276–194 B.C.E.), who was a mathematician and librarian at the great library at Alexandria, Egypt, discovered a way to measure the circumference

of Earth by using ratios and angles. It has been found that the geometrical methods used by Eratosthenes and Aristarchus to investigate the universe give very good results provided the assumptions are correct and the measurements are accurate. While talking about ancient Greek astronomy, how can one forget to mention Ptolemy's almagest and his geometric order of the universe in which all the celestial spheres orbit the Earth in a circular path? It is Ptolemy's astronomy which remained uncritically accepted throughout Europe for next fourteen centuries until it was challenged by Copernicus, Kepler and Galileo.⁶

Pythagoras believed as early as sixth century BC that every aspect of nature was based on mathematics. He was convinced that the whole universe was based on numbers, and that the planets and stars moved according to mathematical equations, which corresponded to musical notes, and thus produced a kind of symphony, the "Musical Universals" or "Music of the Spheres".⁷

To the Pythagoreans, mathematics was the true reality and nature was supposed as simply a reflection and approximation of mathematical truth. Pythagoreans also combined mathematics with mysticism and believed that all is number or the God is number.

To Plato⁸, mathematics was a way of understanding more about reality and geometry in particular, the key to unlock the secrets of the universe. To him, five regular symmetrical shapes were the bases for the whole universe: tetrahedron represented fire; octahedron, the air; icosahedrons, the water; cube, the earth; and dodecahedron obscurely represented the god's arrangement of constellations in the sky. Although tetrahedron, cube and dodecahedron were familiar to Pythagoras and octahedron and icosahedrons were discovered by Plato's contemporary Theaetetus and it was later proved by Euclid that these were the only possible convex regular polyhedra yet they are popularly known as Platonic solids which inspired mathematicians and geometers for many centuries to come.

We all know that classical Greece had the greatest influence on the development of European aesthetics. Ancient Greek philosophers, especially Plato and Aristotle gave prime importance to symmetry while talking about the principles of aesthetics. To Plato, these were proportion; harmony and unity; whilst to Aristotle, order, symmetry

and definiteness were the underlying factors of beauty. As Tabak remarks, "These mystical speculations about the properties of geometric forms and their relationship to the physical world have persisted in one form or another for most of the last few thousand years."⁹

Leonardo Pisano, popularly known by his nickname 'Fibonacci', discovered and popularized a significant series of numbers in early 13th century which have many correspondences in nature. He discovered this sequence while studying the problem how the population of rabbits expands when a pair of rabbits is kept confined in four walls. How many pairs of rabbits will we have in a year from that pair, if supposedly every pair gives birth to a new pair, and each one becomes productive from the second month onwards? The result is that the sequence proceeds in terms like 1, 1, 2, 3, 5, 8, 13, 21, 34, and so on. Accept the first two, the next term of the sequence is the sum of the two preceding terms, (1+2, 2+3, 3+5, and so on). According to Henderson, although this number series was apparently known in India since around the ninth century, Fibonacci placed it in a larger context and publicized it in the wider mathematical world.¹⁰

The ratio between the two terms of the Fibonacci sequence, (which approximates 1.618034), is called the golden ratio; that is also known as divine proportion. This is denoted by Greek letter Phi.

During the Renaissance era, artists and scientists began to observe closely the natural world, including the structures of plants and the bodies of animals and humans. As they started examining these structures thoroughly, they found that astonishingly the Fibonacci numbers were visible in measurements of the nature also. This numbering system of nature appeared everywhere: in the leaf arrangement in plants, the pattern of the florets of a flower, the bracts of a pinecone, the scales of a pineapple etc.

In plants, the phyllotactic ratio exists in order to give enough space to each leaf and to supply sufficient moisture and maximum sunlight. This golden ratio or proportion can be observed in many plants and animals like the pattern of the florets of a flower, the bracts of a pinecone, or the scales of a pineapple shell, star fish and even in human body. It is there even in the proportions in the sections

of a finger and between the ratio in our fore-arm and hand too. More than that, there are 8 fingers in total, 5 digits on each hand, 3 bones in each finger, 2 bones in 1 thumb, and 1 thumb on each hand. Stewart tells us how this particular pattern was noticed many centuries ago and has been widely studied ever since, but a really satisfactory explanation was not given until 1993.¹¹

The golden ratio is aesthetically and psychologically pleasing too. Therefore, on the basis of Phi or golden ratio, one can identify the 'golden section' in man-made shapes like golden triangle, golden rectangle or golden spiral. That's why the ancient Greek and Egyptian architects used the golden rectangles and spirals to build the structures like Parthenon and Pyramid's. Even pentatonic scale of folk music, diatonic scale consisting of eight notes and western classical chromatic scale consisting of thirteen notes-all follow the Fibonacci numbers: 5, 8 and 13 respectively. Why do people have a preference for the golden ratio, golden section and golden rectangle? Perhaps it is because they observe so much of it in nature that it feels comfortable and natural. It may be that the nervous system and the brain are somehow tuned to respond favorably to such ratios. Although certain scholars¹² do not ascribe golden ratio the special value in numbers to describe nature accurately and they even disagree with its pleasing property yet even these critiques believe that Phi is the "world's most astonishing number".¹³

The next major breakthrough in unravelling the mystery of nature's complexity and beauty came with Benoit Mandelbrot's concept of 'fractal geometry' or the theory of roughness. The discovery of this new geometry, with its endless layers of similar but unique patterns, was an attempt of finding the hidden order inside the seeming chaos of nature. In 1967, his famous paper 'How long is the coast line of England?' he postulated that coastlines are fractal structures that are actually considerably long and scattered throughout.¹⁴ "Clouds are not spheres, mountains are not cones, coastlines are not circles, and bark is not smooth, nor does lightning travel in a straight line."¹⁵ This statement was a path-breaking deviation from classic Euclidian geometry and a new milestone in the direction of non-Euclidian geometry.

To understand fractals, one can paraphrase Mandelbrot's description that these are the structures that replicate themselves over and over

again on smaller and smaller scales, such as a tree with a trunk, branches, and twigs. Or to put it more simply, fractals are rough or fragmented geometric shapes which can be subdivided in parts, each or which being a reduced size copy of the whole.

We can see fractal patterns all around us and we all have grown up in the world full of fractals.¹⁶ Fractals can be of two types: natural branching fractals and spiral fractals. Although the term 'fractals' came to be used since 1970s yet the great artists and scientists like Leonardo da Vinci observed and described the fractal patterns of the trees as early as 15th century. He talked about a logical relationship between tree branches at different heights, based on their volumes. There are a few points to discern about the fractal structure of a tree. The first thing is that a tree is more or less self-similar which means that a small piece of a tree looks almost like the whole tree. Secondly, although the tree being a large and complex object is constituted by the repetition of a simple process time and again. Natural fractals like trees don't replicate their patterns throughout and this fractal repetition discontinues at some point. Hence they are no more fractals.

Fractals cannot only be observed in the outside world of plants but there are many examples of these in our body itself. Fractal properties can be seen in many of our internal organs. Lungs have the similar branching pattern as trees and both of them have evolved to perform the same function of respiration too. Although lungs of the animals inhale oxygen and exhale CO₂ and the leaves of the plants do the inverse yet both breathe. Therefore, one can clearly see the structure-function relationship since both trees and lungs perform the same function and share the identical structure also.

The human brain consists of approximately 100 billion neurons and all these are also fractals. In fact, it is the fractal geometry of these neurons that allows them to establish about 100 trillion synapses, or connections, among these brain cells. The axons and dendrites of the neurons make hundreds of thousands of connections and communicate with other cells only due to fractal branching patterns. Had the neurons been shaped like cubes and kept in a very organized way in the brain, one neuron would not have more than six connections.

Another impressive example of fractal branching pattern is that of the blood vessels. In order to supply the Oxygen and other nutrients to each cell, the blood vessels branch and branch smaller and smaller down to the width of capillaries. Astonishingly, the length of this network of blood vessels in human body is about 150,000 kilometres - adequate to go around the world a number of times.

One of the most beautiful forms in nature is the logarithmic or equiangular spiral; occurrence of which can be found in a wide multiplicity of systems and a massive range of scales. The largest known examples of the spirals are galaxies. Even typhoons or hurricanes (the embodiments of havoc and destruction) are also spirals. The botanical kingdom has plenty of spirals evidenced in many cacti, flowers, fruit, pinecones, etc.

Due to their deep but constantly varying structure, fractals have often been used to produce terrain for science fiction movies and video games as well as in digital art. His fractal geometry along with chaos theory has influenced seismology, biology and astronomy.

What Mandelbrot was calling 'erratic behaviour'¹⁷ earlier, developed into a totally new theory which is now called the 'chaos theory'. In common language, chaos means a state of disorder or something random and unscientific; but since 1970s, however, a group of mathematicians and scientists began to speak of 'chaos' in a different way. According to Henderson, "Struggling to develop computerized weather predictions, a meteorologist named Edward Lorenz had discovered that supposedly orderly calculations were breaking down and spewing out wildly varying numbers. At the same time chaos was bursting out of order, a new kind of order was being found in chaos."¹⁸

In 1961, he discovered something peculiar in his early computer weather model that very small changes in input could generate very different results. To most of the meteorologists, weather was a linear system and a small insignificant change of a 10-thousandth or less in the input variable should have made only a little change in the output from the weather model. On the other hand, Lorenz, through very close examination found that new and old output started out the same, but then one curve gradually began to lag behind the

other— then suddenly they diverged entirely no longer resembling each other at all. In 1963, he published his paper, ‘Deterministic nonperiodic flow’ in the *Journal of Atmospheric Sciences* which remained almost unseen by most physicists and mathematicians.

In 1972, speaking before the American Association for the Advancement of Science, Lorenz gave the world one of today’s most popular metaphors for explaining this phenomenon. He titled his lecture “Does the Flap of a Butterfly’s Wings in Brazil Set off a Tornado in Texas?” That’s why, the phenomenon of ‘sensitive dependence on initial conditions’ is called ‘the butterfly effect’ which means that small changes in the initial conditions lead to drastic changes in the results. Lorenz was not only pointing out the limit of the accuracy of any computer model but he was also indicating that this limit was something inherent in a wide variety of processes involving measuring and modeling. Since we can never know all the initial conditions of a complex system precisely and perfectly, we cannot hope to make an accurate forecast. Therefore, accurate long term weather predictions are impossible to be made because it is always impossible to measure all the variables correctly. Thus nonlinearity, sensitive dependence on initial conditions and unpredictability of nature’s complexity were brought on the table by Lorenz.

Lorenz looked beyond weather models to try to unearth other phenomena that might exhibit this lack of regularity or ‘periodicity’. He demonstrated ‘chaos’ through the examples of a water-wheel and a double pendulum which showed erratic, unpredictable motions. There is a common misconception that chaos is the same thing as randomness but chaos actually explores the transitions between order and disorder, which often occur in surprising ways. Mandelbrot, Lorenz and Feigenbaum talk about ‘deterministic chaos’ as we can calculate the result at any given point like the position of an object, the value of an output variable since it is determined by specific forces. We cannot, however, make predictions about the next position or value on the basis of the previous occurrence because the process is nonlinear.

Newton’s intellectual legacy was a vision of the clockwork universe, set in motion at the instant of creation but thereafter running in prescribed grooves, like a well-oiled machine. It was an image of an

absolutely deterministic world where there was no room for the operation of chance, and whose future was completely determined by its present. The chaos theory or non-linear dynamics has brought us to a point where we are asking if our world is deterministic or it is governed by chance, as it so often seems to be. As Stewart remarks, "Whether or not it does, it is certainly creating a revolution in the way we think about order and disorder, law and chance, predictability and randomness."¹⁹ Mathematicians and physicists have now come to understand that determinism and predictability are not synonymous. Chaos theory has now become a new paradigm, as it seemed to address a full variety of phenomena that could not be somewhat captured by the conventional methods of probability, statistics, and linear calculation. In James Gleick's view, "Of the three [revolutions in physics], the revolution in chaos applies to the universe we see and touch, to objects at a human scale. Everyday experience and real pictures of the world have become legitimate targets for inquiry."²⁰ It is now being applied to analyse stock market, brain-states etc. NASA could successfully steer an artificial satellite to new destinations with far less hydrazine than anybody had thought possible. Chaotic control has also been used to improve the effectiveness of heart pacemakers. A Japanese company has made a chaotic dish-washer that uses two rotating arms, spinning chaotically to get dishes cleaner with less energy.²¹ But academically 'chaos' has rather become a fad or a metaphor.

We have seen how since the beginnings of human civilization, various attempts have been made by mathematicians to understand and describe the patterns of nature. For different reasons, human kind has studied nature mathematically and as the societies became more-and-more complex, the field of this enquiry kept expanding. In last four thousand years, from Mesopotamian astronomy and Greek geometry, we have reached Mandelbrot's fractals and Lorenz's chaos theory but we are not yet sure where the surprises, nonlinearity and unpredictability of nature will take us. The mathematical analysis of nature's beauty has also translated itself into human creations of art and architecture: Greek symmetry, Fibonacci sequence, golden section or the fractal geometry. Further, it has also enriched our understanding of the living world and has influenced various branches of science.

We can now move on to some discussion about bringing nature into maths classroom. Reuben Hersch, a philosopher and mathematician, in his classic book, 'What is Mathematics, Really?' makes a very important point that people don't like mathematics because of the way it is *mis-represented* in school.²² What millions of school and even college students are taught in the name of 'mathematics' is an impoverished version of the subject that bears little resemblance to the mathematics of life or work, or even the mathematics in which mathematicians engage. They are generally not taught how maths exists in nature and how one can see the things like symmetry, honeycomb conjectures, Fibonacci sequence, golden ratio, fractals etc in the living world. As Boaler rightly points out, "Mathematics is all about illuminating relationships such as those found in shapes and in nature."²³ It is also a potent means of expressing relationships and ideas in numerical, graphical, symbolic, verbal and pictorial forms. Unfortunately, most school-children are denied the exposure to this wonder of mathematics.

Especially in Indian conditions, one can observe that hardly any attempt is made on the part of curriculum planners, textbook writers or teachers to make the subject live. Instead, it becomes just a list of rules and procedures that need to be remembered or doing tough and tedious calculations. Even one of the premier universities of India does not teach concepts like these to its graduate students. The theme was introduced only in an interdisciplinary course which non-mathematics students were supposed to opt for. In universities too, we teach mathematics but hardly bother to make it live and interesting.

As Keith Devlin remarks, "Mathematics is not about numbers, but about life. It is about the world in which we live. It is about ideas. And far from being dull and sterile, as it is so often portrayed, it is full of creativity."²⁴ By bringing the examples from natural surroundings, a mathematics teacher can really stimulate creativity, original thinking, and ingenuity in the students. At the same time, the students will also learn the qualities like observing, exploring, asking questions, posing problems, working in collaboration and discussing ideas with others. This kind of an exercise would really help students to enjoy the discipline. This would also give them a taste of real and living mathematics at the school level which only those very few get who reach graduate or postgraduate levels.

Universe, to Galileo, is written in the language of mathematics. If this is so, then there are some fundamental questions to be asked about mathematics: Who created this maths– God or mathematician? Is maths discovered or is it invented? Are mathematical objects really universal, objective, indubitable, certain and transcendental? Or is mathematics also fallible, corrigible, tentative, and evolving like every other kind of human knowledge?

From the times of Pythagoras and Plato to this day, philosophers, psychologists, anthropologists, physicists and mathematicians– all have been trying to find definite answers to these questions but these questions have been unsolved riddles throughout the human civilization. I, here too, intend to re-complicate the matter by presenting various conflicting view-points.

The recent discovery of the Higgs Boson Particle, the helical structure of DNA, the spirals of galaxies etc– all show the power of mathematics to describe and predict the world around us and force us to believe that everything in our world is inherently mathematical and follows precise rules. At the same time, neuroscientists are uncovering innate mathematical abilities by pinpointing regions in the brain responsible for mathematical thinking whereas anthropologists along with cognitive psychologists find that certain mathematical capabilities vary by culture and depend on how we interact with the world. The books like ‘Our Mathematical Universe’ are being produced by physicists in the second decade of the 21st century. But, Roger Penrose, one of the ten famous mathematicians of the 20th century had noted in 1989 that, “Consciousness is the phenomenon whereby the universe’s very existence is made known.”²⁵ Hence, existing physics cannot explain human consciousness.

Platonism²⁶, (which is also called realism), is the most pervasive philosophy of mathematics. Although it has many variations, yet its standard version says mathematical entities exist outside space and time, outside thought and matter, in an abstract realm independent of any consciousness, individual or social. It says that mathematical objects are real and independent of our knowledge. These are definite objects, with definite properties, known or unknown. These objects were never created, and they never change; as they exist outside physical space and time. That’s why, a

mathematician cannot invent, s/he can only discover; as mathematical structures exist independently of humans.

These Platonist assumptions about mathematics were attacked by a famous anthropologist Leslie White, almost seven decades ago.²⁷ Walking on the footsteps of Emile Durkheim, he argues that a person behaves as s/he does, because one is taught to behave like that in a certain type of culture. Mathematics is, of course, a part of culture; and we inherit from our predecessors, or contemporary neighbors, along with ways of cooking, marrying, worshipping, etc, ways of counting, calculating, and whatever else mathematics does. "Had Newton been reared in Hottentot culture he would have calculated like a Hottentot."²⁸

Mathematics is the cumulative product of ages of endeavor of the human species, as are language, music, arts and institutions. The concepts of maths, like other culture traits evolve by interacting with each other, forming new syntheses and combinations. All these processes, in a particular cultural setting, take place in one human mind or more, which is just a catalytic agent. "One person, one set of brains, may be a better medium for the growth of mathematical culture than another." There were brains as good as Newton's in England since olden times, and those were also there in every other parts of the world but "the calculus was not discovered or invented in these other times and places because the requisite cultural elements were lacking".²⁹ Following White, Hersh also argues that, "*from the viewpoint of philosophy*, mathematics must be understood as a human activity, a social phenomenon, part of human culture, historically evolved, and intelligible only in a social context".³⁰

In 2013 itself, a very interesting debate took place amongst four scientists³¹ about the idea whether mathematics *is an inherent part of our reality, or merely something our brains use to cope with and explain our environment. This debate is being paraphrased and summarised here for the readers:*

Max Tegmark gives a hypothesis that the universe is inherently mathematical in the way it is constructed and behaves only according to mathematical rules. In his forthcoming book, 'Our Mathematical Universe', he takes this idea to the extreme and

proposes that our entire physical reality is not just described by math, but that it is a mathematical structure, having no properties besides mathematical properties. He elaborates this and points out that as any living organism is a very elaborate arrangement of particles as electrons, which have no properties other than mathematical properties. The physicists call them spin, electric charge and lepton number. Similarly, the space itself is also purely mathematical, with no properties other than mathematical properties as dimensionality, curvature and topology. Simeon Hellerman, (who applies string theory in his explorations of gravity dynamics during the infancy of the universe), is of the view that there should be some complete description of the universe and the laws of nature. The discovery of the Higgs boson is a great example of this idea that there should exist some complete and mathematically consistent description of nature.

Brian Butterworth hypothesises that mathematics is a construct that stems from our brain. Neuroscientists have pinpointed an area of the human brain where there is a specialist neural network that responds to counting the number of objects in a set and this area of the brain can recognize numbers across modalities. A similar area in the brain of many other animals does the same job. The human beings evolved a brain-based system for detecting and comparing the number of items in groups and have also developed symbolism for these numbers and elaborated on them to create the kinds of mathematics that mathematicians and physicists need to describe the universe. We should also not forget that numbers are not necessarily a property of the universe, but rather a very powerful way of describing some aspects of the universe.

Raphael Núñez believes that there are cultural differences in mathematical abilities and moreover, many mathematical principles are learnt from our interactions with the world. “Mathematics is a form of human imagination that is not only brain-based but also culturally shaped; and this is crucial. Brain areas support the invention of mathematical principles, but these principles don’t come straight out of a particular area of the brain.” For example, some cultures operate with precise numbers concepts and others don’t have the concepts for the numbers like 8 or 11. Their languages lack such precision and don’t have words that discriminate those

numbers from something like 9 or 10. Although there may be a possibility that, in a culture, there might not exist a word for a particular number, but, a concept for it; yet the origin of maths is not ultimately about numbers. In fact, it is much more about logical constraints, postulates and axioms, inferential mechanisms, and many other things. Moreover, there is no inherent single form of logic in the universe. Humans operate with different types of logics in different contexts and for different purposes.

He further adds: the history tells us that, beginning with Galileo's time, the maths that was created and developed became intimately intertwined with physics so it fit the phenomena humans observed in nature. Since then, we have been selectively choosing the maths that has been useful and discarded the maths that hasn't. We have reached a point where contemporary physics can no longer exist without the mathematics that goes with it. We attribute the number properties as if they are in the universe, but in fact, maths has been very carefully made as it is today. Actually, in math, the truths are invented/made as per the needs. This kind of selective usage has happened all over the history of maths, essentially after the 19th century with the invention of non-Euclidian geometry, which altered certain postulates and axioms set previously, and with the creation of modern new logical systems.

Tegmark replies that non-Euclidian geometry was invented almost 200 years ago when physicists found that the traditional geometry was incapable to describe our own physical space. It was thought that the space was flat, not curved. Then Einstein, after studying non-Euclidean geometry supposed that space was curved. This led him to suggest that the light would bend around the Sun and there could be black holes. So, black holes could be found later only because such kind of maths could predict the things in nature beforehand. Therefore, maths helps us digging out that actual full reality, which is bigger than the reality that we can see.

Núñez responds that Physicists give only those selective examples for cases in which mathematics does work apparently in nature. But, they remain silent about those for which it doesn't, including for making precise weather predictions. The heroic story of mathematics in science has been to invent new mathematical tools that help make testable predictions and to keep those that work,

while discarding those that aren't useful. But there are tons of other things in pure mathematics that aren't testable or useful in empirical science proper.

At last, let us stop for a while and think how the concepts of pure mathematics become useful in sciences, especially physics. Physics is the study of the lawful, predictable parts of the physical world; and, maths is the study of the lawful, predictable parts of the social-conceptual world. Mathematical concepts are abstract, generally having no physical interpretations or utility. And yet, physicists find these mathematical abstractions very useful. How does it happen? Why do mathematics and physics jell so surprisingly well?

Reubin Hersh has tried to suggest some humanist answers to these questions by looking into the history and philosophy of maths.³²

The study of numbers and that of shapes —arithmetic and geometry were the two sources from which maths evolved. These two sources originated by abstraction or observation from the material world. "Since its origin is physical reality, mathematics can never escape from its inner identity with physical reality."³³ By giving the examples of counting and circles, Hersh argues that the applicability of mathematical models in science may be because of two reasons: First, the very ability of a mathematical structure to capture a fundamental feature of a nature; and second, the choice of a mathematical model may depend more on tradition, taste, habit, or convenience, than on any necessity imposed by the physical world.³⁴

In conclusion, let us again reiterate that the nature is full of patterns and these patterns possess utility as well as beauty. By using mathematics to organize and systematize our ideas about patterns, we have discovered a great secret: nature's patterns are not just there to be looked up to; they are fundamental clues to the rules that govern natural processes. Without a doubt, mathematics has developed alongside our understanding of nature, each reinforcing the other.

It is a never-ending debate whether nature behaves mathematically or maths is a mental/cultural construct. Whatever the things, mathematics certainly is a useful way to think about nature. What do we want maths to tell us about the patterns we observe? There are many answers. "We want to understand how they happen; to

understand why they happen, which is different; to organize the underlying patterns and regularities in the most satisfying way; to predict how nature will behave; to control nature for our own ends; and to make practical use of what we have learned about our world. Mathematics helps us to do all these things, and often it is indispensable.”³⁵

BIBLIOGRAPHY

Boaler, J. *The Elephant in the Classroom: Helping Children Learn & Love Maths*. London: Souvenir Press, 2008.

Devlin, K. *The Math Gene: How Mathematical Thinking Evolved and Why Numbers are Like Gossip*. New York: Basic Books, 2000.

Falbo, C. “The Golden Ratio: a Contrary View-point”. The college mathematics journal, (March 2005): pp. 123-134.

Henderson, H. *Mathematics: Powerful patterns into nature and society*. New York: Chelsea House Publishers, 2007.

Hersh, R. “*Fresh Breezes in the Philosophy of Mathematics*”. *American Mathematical Monthly*, Vol. 102, No. 7 (Aug. - Sep., 1995): 589-94.

Hersh, R. *What is Mathematics, Really?* New York: Oxford University Press, 1997.

Hersh, R. Ed. *18 Unconventional Essays on the Nature of Mathematics*. New York: Springer, 2006.

Livio, M. *The golden ratio, the story of Phi: The world’s most astonishing number*. Broadway Books, 2002.

Mandelbrot, B. *The Fractal geometry of nature*. San Francisco: W.H. Freeman and Co., 1982.

Stewart, I. *Nature’s Numbers: The Unreal Reality*. New York: Basic Books, 1995.

Tabak, John. *Mathematics and the laws of Nature: Developing the language of science*. New York: Facts on File, Inc., 2004.

White, L. “The Locus of Mathematical Reality: An Anthropological Footnote”. in R. Hersh Ed. *18 Unconventional Essays on the Nature of Mathematics*. New York: Springer, 2006, pp. 304-19.

ENDNOTES

¹ Henderson, H. *Mathematics: Powerful patterns into nature and society*. New York: Chelsea House Publishers, 2007, p. XV.

² Stewart, Ian. *Nature's Numbers: The Unreal Reality*. New York: Basic Books, 1995, p.1.

³ Although bit dated, Stewart's book is an excellent reading on maths in nature which even a lay person would enjoy. For a brief discussion on the patterns of nature, see chapter I, pp. 1-12.

⁴ In British Museum, there is a tablet of 7th century B.C.E. containing observations about Venus which is a copy of the tablet dating 17th century B.C.E. See Tabak, John. *Mathematics and the laws of Nature: Developing the language of science*. New York: Facts on File, Inc., 2004, p. 2.

⁵ Ibid. pp. 1-14.

⁶ For early Greek mathematicians and astronomers, see Tabak, 2004, pp. 15-28.

⁷ The information on Pythagoras has been obtained from the website: http://www.storyofmathematics.com/greek_pythagoras.html, last visited, 24-11-13.

⁸ http://www.storyofmathematics.com/greek_plato.html, last visited, 24-11-13.

⁹ Tabak, 2004, p. 58.

¹⁰ Henderson, 2006, p. 8.

¹¹ In chapter IX of his book, Stewart gives a detailed account of the experiments done by two French mathematical physicists Stephane Douady and Yves Couder. They devised a theory of the dynamics of plant growth and used computer models and laboratory experiments to show that it accounts for the Fibonacci pattern. Stewart, 1995, pp. 127-44.

¹² Falbo in his paper has shown that if thoroughly measured, Phi ratio does not occur in seashells, especially the nautilus. . Falbo, C. "The Golden Ratio: a Contrary View-point". The college mathematics journal, (March 2005): pp. 123-134.

¹³ Livio also believes that there have been very misleading claims about the occurrence of Phi ratio in classical art and architecture and he calls the supporters for these claims ‘the golden numberists’; but he suggests that it still has many unique and significant qualities. See Livio, M. *The golden ratio, the story of Phi. The world’s most astonishing number.* Broadway Books, 2002.

¹⁴ Henderson, 2007, pp. 63-64.

¹⁵ Mandelbrot, B. *The Fractal geometry of nature.* San Francisco: W.H. Freeman and Co., 1982, introduction.

¹⁶ There is a very interesting website which even runs an online course on fractals. I have got most of the information on fractals in nature and body from there only. URL: www.fractalfoundation.org, last visited 24-11-13.

¹⁷ Henderson, 2007, p. 70.

¹⁸ On Lorenz and chaos theory, see *Ibid.* pp. 74-89.

¹⁹ Stewart, 1995, pp. 107-8.

²⁰ Quoted in Henderson, 2007, p.86.

²¹ Stewart, 1995, p. 126.

²² Hersh, R. *What is Mathematics, Really?* New York: Oxford University Press, 1997, p. XII.

²³ Boaler, Jo. “What is maths? And why do we *all* need it?”. *The Elephant in the Classroom: Helping Children Learn & Love Maths.* London: Souvenir Press, 2008, pp. 1-16.

²⁴ Devlin, K. *The Math Gene: How Mathematical Thinking Evolved and Why Numbers are Like Gossip.* New York: Basic Books, 2000, p. 76.

²⁵ Henderson, 2007, p. 111.

²⁶ Hersh, 1997, pp.9-11.

²⁷ White, L. “The Locus of Mathematical Reality: An Anthropological Footnote”. *Philosophy of Science.* (October, 1947). Reprinted in R. Hersh Ed. *18 Unconventional Essays on the Nature of Mathematics.* New York: Springer, 2006, pp. 304-19.

²⁸ White, 2006, p. 308-9.

²⁹ Ibid. pp. 314-5.

³⁰ Hersh, 1997, p. XI. See also his article, "*Fresh Breezes in the Philosophy of Mathematics*". *American Mathematical Monthly*. Vol. 102, No. 7 (Aug. - Sep., 1995): pp. 589-594.

³¹ This debate was organized by The Kavli Foundation. The participants in the debate were: Brien Butterworth, a neuropsychologist; Raphael Núñez, a cognitive scientist; and Simeon Hellerman and Max Tegmark, both physicists. **The transcript of the debate is available at <http://www.kavlifoundation.org/science-spotlights/kavli-origins-of-math>, last visited, 01-12-13.**

³² Hersh is the champion of humanist philosophy of maths. All the works, I have cited establish that maths is a human activity– a social and historical construct.

³³ Hersh, R. "Inner Vision, outer Truth". In R. Hersh Ed. 18 unconventional essays, 2006, p. 321.

³⁴ Hersh, 2006, pp. 320-6.

³⁵ Stewart, 1995, p.20

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Cityscape of Medieval Patna: Continuity and Change

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Urbanisation and urban growth is an important aspect of socio-economic development in context of medieval India. The changes during medieval period especially between 12th to 18th centuries gave a new look to the Indian cities. In recent times the urban history of Medieval India has attracted a good deal of attention of historians as well as scholars of other disciplines. The Turkish conquest of India and the establishment of Delhi Sultanate in the early 13th century did not merely imply the substitution of Indian ruling class but was responsible for initiating vigorous urban culture, leading to the hypothesis of Prof. Muhammad Habib of 'rural revolution' and 'urban revolution'¹ and the critical examination of it later by Prof. Irfan Habib² in the light of more empirical evidence and better understanding of socio-economic history of the period. The historians generally agree that the pace of urbanisation did increase with the arrival of Turks and establishment of Turkish rule in northern India. In the view of Prof. S Nurul Hasan at least from the 14th century onwards there was a rapid process of urbanisation which was accelerated in the 16th and 17th centuries. In its relative political stability and the prosperity of the Mughal Empire had an important role. However proliferation of new towns or cities does not mean that old towns or cities lost its charm. Traditional India, under both the Hindu and Muslim rulers was a land of great cities.³ To quote Hamida Khatoon Naqvi: "... towns were living entities which moving along the times rose, fell or rose again, all depending upon a given set of factors at any time: a trifle here or a trifle there could make or mar a city."

Patna, the capital of modern Bihar⁴ is a place of great antiquity and has a special significance in the regional history of medieval period. Patna...is among the few cities of world whose history dates back to as early as sixth century B.C.⁵ In this respect it stands with such cities as those of Babylon, Persepolis, Thebes, Sparta, Alexandria and Rome.⁶ Padmavati, Pataligrama, Kusumapura, Pushpapura, Shrinagar and Pataliputra were some of its earlier names.⁷ The Greek and Chinese writers referred it as Palibothra and Pa-Lien-Fu. The

rise of Patna was from a tiny village (grama) at the confluence of river Son and Ganga named Patala, where the ruler of Magadha Ajatashatru had built a fort to check the attack of Lichhavis. Buddha is said to have predicted the future greatness of the tiny village but added that it was destined to face three dangers of fire, flood and internal discords.⁸ Under the Mauryas (namely Chandragupta and Asoka) Pataliputra emerged from this site and became the capital of the Mauryan empire in the 4th century B.C. The first authentic references to Pataliputra are in Asoka's Girnar Edict No.V and in his Sarnath Pillar Edict.⁹ It continued to be capital till 4th century A.D. but when the imperial capital was transferred to Ujjain by the Guptas, its importance diminished.

From the very outset the rise of Patna as a central place was tied to a political act...¹⁰ Administrative aspect was one of the main cause of its eminence and this facilitated other aspects like commercial activities, etc. After its halcyon days as the imperial capital of Mauryas (B.C. 321-185) and Guptas (A.D. 319-550) Pataliputra later known as Patna...got relegated to position of a small town or even less.¹¹ Sources are mute about the events associated with the fate of Pataliputra from the time of Guptas to the initial presence of Muslims in the region. The first Muslim invasion of Bihar in or near the year 1197 A.D. under Bakhtiyar Khalji resulted in extension of Turkish rule in the area. The northern portion of Bihar was under the rule of Karnata dynasty while the southern portion was under the Turkish rule and here the actual control changed frequently between the Delhi Sultans, the Turkish amirs and the Sultan of Lakhnauti. For over 300 years after this event, the overlordship of Bihar shifted with changes of fortune in continual wars between rival Muslim powers from Delhi to Jaunpur and Gaur and other cities.¹² It was during the rule of Lodhis, Darya Khan Nuhani carved out an independent Nuhani state of Bihar with boundaries extending from Kannauj in the west to Patna in the east. Throughout much of this period (1206-1526) Patna was a secondary settlement, subordinated to the town of Bihar, whose primacy was acknowledged by the fact that the entire province was named after it.¹³

Patna's fortune revived under the Afghan ruler Sher Shah(1540-45) in 1541, when he constructed a strong fort on the banks of Ganga at cost of Rs. Five Lakhs and made it the capital in preference to Bihar or Vihar Sharif (a seat of Islamic studies and culture during Sultanate

period), thirty miles to the east of modern Patna. Sher Shah was so much struck by the strategic location of Patna (then a small qasba) at the confluence of Ganga and Gandak that he is said to have remarked "If a fort were built in this place, the water of Ganga could never flow far from it and Patna would become one of the great towns of the country." One therefore could assume that Sher Shah's vigilant eye had spotted the river Ganges as the principal carrier of future city's commerce, particularly when the northern Bengal had been troubled both from within and outside.¹⁴ A valuable account of the founding of the city of Patna and its fortification by Sher Shah has been given in a near contemporary historical account '*Tarikh-i-Daudi*' of Abdullah.¹⁵ Thus Pataliputra emerged as 'Pattana' - a mart and soon became one of the largest cities of the province, enjoying the protection of fort and advantage of the rivers. Patna was also given the name of Hazrat Rasulpur¹⁶ during the rule of Sher Shah. With the establishment of direct Mughal rule in Bihar by the 1570s, a new phase began in the history of the city. The Mughal emperors were...zealous...in promoting the progress of existing towns and cities and in founding new ones.¹⁷ Akbar (1556-1605) realised the strategic importance of Bihar and in 1580 made it a distinct subah of his empire.¹⁸ Patna, which had two forts, one of brick and the other of mud,¹⁹ continued to be the capital of the newly created subah of Bihar²⁰ and also became a mint town in 1580. By 1650s it not only became a large town but acquired a particular appearance according to the need of residents and new settlers.

The layout of the city Patna was conditioned by geography. Flanked by river the Ganga on north, the Son on west and the Punpun on south, its location was of a great natural advantage especially in medieval times when the river transport was cheap and popular. Edward Terry (1616-19) also gives valuable geographical account of Patna - "Patna the chief city fo called; the river Ganga bounds it on weft, Serfily on the left, it is a very fertile province"²¹ It was also well connected by roads with up country towns like Benares, Lahore, etc. and to overland routes to central, western area. As the city was situated in the narrow tract of land between the Ganga and the Son, it expanded length-wise during the period under review. Ralph Fitch (1583-91), an English traveller, while exploring eastern parts of India remarked: "Patenaw is a very long and a great town."²² William Finch (1608-11) described Patna as the great city of the east.

Patna to a great extent was a 'Medieval City' in its physical appearance, layout and features like strongly protected forts with clear demarcation of space for administrative elites and commoners, mosques, madarsas, hammam, bazaars, open areas for army, sarais, etc. Like many other medieval towns, it was walled, and there were several main gates in it and also smaller side-gates (some of the present mohalla-named Ranipur ki khirki mark their sites).²³ The main eastern and western gates are still identified by mohalla names, Purab and Paschim darwaza with traces of trenches. The gates were made of carved blocks of black stone and within it was the inner or Qiladari area, having numerous administrative buildings, large palace-complex of the subahdar and the mansions of high officials. There are references of main fortification being repaired in 17th and 18th century by the subahdars like Abdullah Firoz Jung (1632-1643) and Zainuddin Haibat Jung (1740-1748). Even Francis Buchanan²⁴ in his 19th century account refers to the fortification and palace (Chehel Sutun) within the walls. In fact the subahdars repaired and added new buildings to the town from time to time. "Mirza Yusuf Khan (1585) got a Hammam (Bath)' consisting several rooms always full of water' built, and Jahangir Quli Khan (1617-19) got the roads widened. Most notable builders were Saif Khan (1628-32) whose famous madarsa (college)...idgah...have partly survived, and Shaista Khan (1639-43) some of whose mosques are extant and the site of whose katra (shopping arcade) can still be identified at the eastern end of the town."²⁵ Saif Khan had also built a fawwarah (water fountain) and a hammam, where the water was pumped up from the river Ganga. The city was adorned with mosques and the most important were Mirza Masum's mosque, Begu Hajjam's mosque, Haji Tatar's mosque, mosque of Khawja Amber, Babuganj mosque, etc.²⁶ Besides mosques, highly acclaimed khanaqas and madarsas came up between Jethuli to the east of Patna to Maner to the west; the most renowned was khanqah of Hazrat Sharafuddin Maneri. Vincent Davies writes: "Under Aurangzeb the area around Patna supplied tutors to Delhi Prince." Patna became an abode to large number of scholars, artists, legists, calligraphists, etc. and Mirza Sadiq, a resident of Gujarat, who came to Patna in 1619-20, was one of them. He composed a poem in praise of Patna. Gardens were integral part of Islamic urban landscape and under the Mughals gardens not only reflected their aesthetic taste but also symbolised authority. In context to city of Patna too, there are references to

several gardens (bagh). On the eastern extreme was spacious Bagh Jafar Khan with a summer palace, water basin of four sides and a white house called Barhadari, symbolizing the Mughal authority. Several Mughal Princes were given the subahdari of Bihar and this led Captain Hamilton to describe: "Patna as the residence of the Prince of Bengal who is always of royal blood". To the Europeans the provinces of Bengal, Bihar and Orissa together constituted a natural unit of operation denoted by the term Bengal. Another significant garden was Chhajju bagh named after the main gardener Chhajju and its delicious fruits were regularly sent as present to Nawab Alivardi Khan and Sirajuddaula. Defence of medieval fortified towns depended on the stationed military force. Bagh Jafar Khan was a camping ground of armies at Patna. An Italian traveller Niccalao Manucci described Patna as a town where a garrison of seven thousand horses are kept.²⁷ Medieval Patna was also a very important commercial centre and this is very well reflected in its bazaars Muradpur, Tripolia (had three huge entrance), Guzri, Begumpur, Marufganj, Mansurganj, Thatheri mohallah (market of utensils), Dariyapur Gola (market of grains), Khazekalla, etc. John de Laet (1631) and Fray Sebastian Manrique (1641) termed Patna as a large town having many bazars, vast trade and over six hundred brokers. Abdul Latif of Ahmadabad remarked: "All kinds of articles needed by men for food and clothing are twice thrice cheap...in no other city of India can be seen so many men of Iraq and Khurasan as have taken up their residence".²⁸ On the eastern side of the city were several quarters referred as malsalami (custom houses) which also acted as a caravan-sarai in the times of the Mughals. Saif Khan's Sarai was a cosmopolitan sarai where merchants of different countries resided. Opium, varieties of textiles and saltpetre placed Patna on international map and the city became an important centre of trading activities for the Portuguese, Dutch, English, French, Armenians, Danes, Praychaes (traders of East Bengal), merchants of Bhutan, Tipperah (sub-Himalayan area), Central Asia, etc. The European traders established their 'Agencies' and 'Factories' in the town especially to procure saltpetre which was in great demand at Europe. Regarding saltpetre trade at Patna, Bernier (1656-68) notes, "... is carried down the Ganges with great facility and the Dutch and the English send large cargoes to many parts of the Indies and to Europe."²⁹ Peter Mundy (1632) and Tavernier (1665) described Patna as the most famous mart in India in the middle of the seventeenth

century. The advent of Europeans gradually brought changes in the form and the function of the city but these change were more conspicuous in the 18th century rather than 17th century and the main actors were the Dutch, the English and to some extent the Danes. The Portuguese were the first to enter Bihar and extended their commerce to Patna. Expulsion of the Portuguese by the Mughals in 1632 from Hugli coincided with the arrival of the Dutch at Patna. According to Om Prakash," a factory had been set up in Patna in 1638 but closed the same year for reason of economy."Next attempt to re-establish the factory at Patna was made sometime between 1645 and 1651. The general letter from Batavia to Amsterdam dated January 24, 1652 shows that...factories existed at Pipli, Balasore, Patna, Kasimbazar and Hugli.³⁰ Besides the factory at Patna...had two saltpetre collection agencies...at Chuprahy...north west of Patna...at Singia, north of Patna.³¹ The English like the Dutch were unsuccessful in establishing a factory in the beginning at Patna and were finally able to establish a factory and a trading agency during 1650s. The Dutch initially held superior position in comparison to the English, at Patna both in terms of commercial venture and social life.³² The position of the English began to improve gradually towards the last quarter of 17th century and in it important role was played by the factors like Job Charnock. As the chief of Patna factory (1664-80), he gained a thorough knowledge of the people and country, in midst whom he had to live and work. According to Qeyamuddin Ahmed,"Although subordinate to the Hugli Agency, Patna was more advantageously placed. All the news regarding the political developments at Delhi...reached the Hugli or Calcutta Councillors through those of Patna. The Chief of the Patna Factory was not only a commercial Agent...also...diplomat."Farukhsiyar's 'farman' of 1717 gave the English a preferential treatment in context to commerce and all the privileges obtained since the reign of Shah Jahan(1627-58) was thus recognised.

A new chapter in the history of Patna began towards the end of Aurangzeb's reign (1658-1707) when his grandson Mohammad Azim (Azim-us-Shan) became the subahdar of Bihar in 1703. During his three years stay the city took a new shape and a new name Azimabad.³³ With a dream to make it 'a second Delhi' scholars, poets, artists were invited from different places. To quote Qeyamuddin

Ahmad: "The period witnessed some sort of cultural renaissance. Many eminent scholars, poets, sufis, historians and anthologists came and settled in the town. Among the more eminent personages, mention may be made of the famous historian, Ghulam Husain Khan Tabatabai and Nawab Ali Ibrahim Khan." Ahmed-bin-Muhammad, an Iranian theologian, who came to the city in the first half of 18th century, remarked that "there are few cities of its (Patna's) destiny in Bengal or even in Hindustan." During his subahdari, the old city was divided into number of quarters or mohalla according to the type of people living there. Lodhi-Katra, Lohanipur (formerly known as Nuhanipur), Daryapur were Afghan settlements where as Mughalpura was a Mughal quarter. The Hindu Diwans and Muslims lived in Nauzarkatra on the edge of holy Ganges....³⁴ Locality named Taksal in Marufganj area which had a mint at the time of Akbar continued functioning till 1798. The area called Kaua-Kho³⁵ was the administrative head quarter of Mohammad Azim. Although his subahdari was for a very brief period yet he was successful in creating a composite Indo-Persian culture at Azimabad. During the time of political upheaval in the Mughal court in the first half of 18th century a large chunk of population flowed down to this city. The population of the town, during this period, had started spilling outside the walls of the fortification. The glory of Azimabad could not be maintained for a long time as the subah of Bihar in the mid 18th century got drawn into the politics of Bengal and the final result of it was grant of Diwani (right to collect land-revenue) of Bengal, Bihar and Orissa in 1765 to the English East India Company, marking the end of Mughal rule in the region. From 1757 to 1764, Patna was continuously the centre of British military operations in the east.

With the establishment of British rule during the second half of 18th century, Bihar became a sub-province and the importance of Patna in contemporary politics declined. The Europeans in general and the English in particular contributed to the Patna's physical shape in their own way. To quote Surendra Gopal: "... the English did not want to live in the old town: they desired to maintain their distance from the local population. They disliked living in the old city which was congested and unclean and where chances of clashes with local populace were greater. Hence, they decided to develop the area midway between the western ramparts of old town and Dinapore along the river bank. Since the part of the area west of western gate was

already inhabited....The old city of Patna thus grew in length without any definite idea about its limit. " Initially the factories, store houses of the Europeans and the bungalows of the English East India Company's officials were along the river bank of Ganga,outside the city walls. The opium business at Patna between 1640 and 1750 was controlled by the Dutch prior to the English victory at Plassey in 1757.To the north of Patna was an off-shore revetment of the Hollanders, locally known as Welandez ka Pushta. Tavernier (1640-67) has mentioned that he stayed in this area during his trip to Patna. There were two big bungalows with extensive compound and godowns. They also had saltpetre factory at Patna. In 1676 Streyasham Master found on his arrival in Bengal that there were six Dutch factories under the Directorate of Bengal, Patna being one of them.³⁶ The 18th century Historian Ghulam Hossein Khan Tabataba in *Siyarul Mutaqherin* writes: "Hollanders...had a factory at Azimabad, a house of great beauty and vast extent...." Mittan ghat was the ferry port used by the Dutch for loading and unloading cargo. There are references of even French presence and participation in the trade at Patna but the sources do not tell much about their establishment. There is incidental reference of the French Factory in one of the letter from Bengal to the Court of Directors dated 29th January 1738.³⁷ The two principal articles of French trade in Bihar were saltpetre and coarse calico cloth.³⁸ Around 1774-75 the Danes established a factory at Patna but the sources are mute about it. In 1766 an exclusive market for the English army was established by Robert Barker called Barkerganj. Around the same period Captain John Garstin, constructed Golghar, a grannary. Gulby ghat, named after H R Galvy was the river port exclusively used by the English for ferrying goods to Fort William at Calcutta. Gradually, new structures came to adorn the skyline of the city. By the end of the 18th century most of the Europeans had left the city, except the English. The first quarter of 19th century, witnessed the emergence of colonial Patna with future guidelines for the development of city under Bishop Heber.³⁹

To conclude, much of the lost glory of Patna revived during the medieval period, giving it a new identity as a medieval city in terms of function and structure, under the Afghans and Mughals. The city almost emerged in the same area where it existed in the ancient times and gradually evolved according to new socio-economic needs

with overlapping function as capital, emporia, cultural centre, etc. The city also had its share of ups and downs in the form of natural calamities (devastating fire in Alamgunj in 1621, famine of 1670-71)⁴⁰, and political upheaval (seizure of Patna by the rebellious Prince Khurram in 1632, Farukhsiyar's self-proclaimed accession to the Mughal throne in 1712, encampment of subahdar of Awadh Safdar Jung in 1742, threat of Maratha in 1743, Patna massacre of 1763 etc.). Amidst this condition, the Europeans in general and the English in particular later contributed to the cityscape of Patna in their own way with colonial structure. The eastern segment of the city represented the old walled city where as the western, the modern colonial city. In spite of segregation in living areas, Patna continued to grow. What remained unchanged since its inception was the cosmopolitan environment with composite Indo-Persian culture, which is very well reflected in the narratives, diaries, memoirs, chronicles, etc. of the European and non-European writers.

ENDNOTES:

¹See Habib, Muhammad. "Introduction", *Elliot and Dawson History of India As Told by Its Own Historians*, Aligarh: Cosmopolitan Publishers, 1952, pp.36-68.

²See Habib, Irfan, "Economic History of the Delhi Sultanate: An Essay in Interpretation", *IESHR, Vol. IV, No.2*, (1978), pp.287-303.

³Gillion, Kenneth L. *Ahmedabad: A Study in Indian Urban History*. California: University of California Press, 1968, p.1.

⁴The area forming the state of Bihar developed as a separate political and administrative unit during the medieval period with unification of Magadha, Mithila and Chotanagpur. Situated in the Gangetic plain it was main link between North India and Bengal.

⁵Sinha, Ranjan. "Patna as a Manufacturing and Trading Centre (1765-1865)," in Ahmad, Qeyamuddin. ed. *Patna Through the Ages*, Patna: Janaki Prakashan, 1988, p.179.

⁶Ibid.

⁷See Askari, Syed Hasan. *Aspects of the Cultural History of Medieval Bihar*, Patna: Kashi Prasad Jayaswal Research Institute, 1984, pp.37-40; Prasad, Ram Chandra. *Bihar*, New Delhi: NBT, 1983, pp.41-78.

⁸Ibid. p.39.

⁹Jha, Sudhir Kumar. *A New Dawn, Patna Reincarnated*, New Delhi, Veerendra Printers, 2005, p.3.

¹⁰Yang, Anand.A. *Bazar India, Markets, Society, and the Colonial State in Gangetic Bihar*, New Delh:, Munshiram Manoharlal Publishers Pvt.Ltd.,2000,p.56.

¹¹Ahmad, Qeyamuddin."Patna-Azimabad (1540-1765) A Sketch", Q. Ahmad, ed., op.cit. p.71.

¹²Houlton, Sir John. *Bihar, the Heart of India*, Bombay: Orient Longman Ltd., 1949, p.15.

¹³Ray,Aniruddha.*Transformation of Bihar.European Discourses(From Late 16th to Early 19th century)*,Darbhanga: Maharajadhiraja Kameshwar Singh Kalyani Fondation,2003.p.p.10-11.

¹⁴ See Ahmad, Qeyamuddin." Bihar Under Pathan Rule (1540-1574)",in Askari, Syed Hasan and Ahmad, Qeyamuddin ed. *The Comprehensive History of Bihar, Vol. II, Part II*, Patna: Kashi Prasad Jayaswal Research Institute, 1987, pp.50-51.

¹⁵ Hasan Nishat Ansari on the basis of numismatic evidence of pre-Akbar period (bilingual silver coins of Sher Shah) has established that Patna was also known as 'Hazrat Rasulpur'.

¹⁶ Naqvi, Hameeda Khatoon. *Urban centres and Industries in Upper India 1556-1803.*, Bombay: 1968, p.9.

¹⁷ Fazal, Abul Allami. *Ain-i-Akbari, vol.II*, H. Blochman(tr.), Delhi:Low Price Publication,2008,p.129.

¹⁸ Ibid. p.166.

¹⁹ Bihar constituted a strategic area commanding the route to Bengal and Orissa through Teliagarhi pass and Jharkhand belt. The Subah (province) consisted of seven Sarkars-Champaran, saran, Hajipur, Tirhut, Rohtas, Bihar and Monghyr.These were subdivided into 199 Parganas and 46 Mahals (associated with collection of tax).

²⁰ Terry, Edward. *A Voyage to East India*, London: Printed for J Wilkie, Reprinted from the edition of 1655, p.84.

- ²¹ Foster, William.ed.*Early Travels in India, 1583-1619*, Delhi: S Chand & Company, 1968, pp.23-24.
- ²² Ahmad, Oeyamuddin.,ed.op.cit.,p.74
- ²³ Buchanan, Francis. *An Account of the Districts of Bihar and Patna in 1811-1812*,Patna:Bihar and Orissa Research Society,Vol.I,p.63
- ²⁴. Ahmad, Qeyamuddin. ed. op.cit., p.73.
- ²⁵ For detailed information on mosques, madarsas, etc. at Patna see, Askari.S.H. op.cit., pp.47-48.
- ²⁶ Manucci, Niccolao, *Storia da Mogor or Mogul India, Vol.II*, (trs.by) William Irvine, Calcutta: Editions Indian, 1907, P.400.
- ²⁷ Ahmad, Qeyamuddin. ed.op.cit., p.78.
- ²⁸ Bernier, François. *Travels in the Mogul Empire, AD 1656-68*, revised and annotated by V A Smith, (1st pub. In 1934), Delhi: Low Price Publication, 1989, p.440.
- ²⁹ Generale Missiven,II,P.564,cited in Prakash,Om.The Dutch East India Company and The Economy of Bengal,1630-1720,Princeton:Princeton University Press,1985,p.38.
- ³⁰ Ibid.
- ³¹ The superiority of the Dutch Company to the English is mentioned in the letter of Henry Aldworth dated July 12, 1666 at Patna to agent Trevis. Reference is also of inferior life style and thatched houses of the English. Infact in the beginning the Chief of English factory and the Company servants did not have a permanent residence at Patna as their economic condition was poor. They resided at Singhee,15 miles from Patna.Manucci and Tavernier during their journey mentions that they did not see any English men at Patna
- ³² Mohammad Azim shaped the city according to his own perception and is said to have spent a crore on building the new city,.Azimabad (in 1704) was eight mile in length and about less than a mile in width with a population of approximately one lakh .
- ³³ Askari, Syed Hasan.op.cit., p.41.
- ³⁴ Prasad, Om Prakash. *Pataliputra se Patna Tak Ka Itihas*, Patna: Kashi Prasad Jayaswal Research Institute, 2010, p.202.

³⁵ Jha, J. S. "Early European Trading Companies in Bihar," Dutta, K. K. ed. *The Comprehensive History of Bihar, Vol. II, Part I*, Patna: Kashi Prasad Jayaswal Research Institute, 1976, p.6.

³⁶ Ibid. p.30.

³⁷ Sarkar, Jagdish Narayan. *Glimpses of Medieval Bihar Economy (Thirteenth to mid-eighteenth century)*, Calcutta: Ratna Prakashan, 1978, p.55.

³⁸ See Gopal, Surendera. *Stepping into Modernity, Patna In The Nineteenth Century*, Patna: Khuda Baksh O P Library, 2008, pp.1-61.

³⁹ John Marshall (the Factor of East India Company), De Graff (the Dutch traveller) and Thomas Bowrey (the English traveller) have given description of devastating famine of 1670-71.

Also see, Prasad, Rajiv Nain. *A Brief Survey of Socio-Economic History Of Medieval Bihar*, Patna: Kashi Prasad Jayaswal Research Institute, 1999, pp.115-125.

BIBLIOGRAPHY

Ahmed, Qeyamuddin. *Patna Through the Ages*, Patna: Janaki Prakashan, 1988.

Askari, Syed Hasan. *Aspects Of The Cultural History Of Medieval Bihar*, Patna: Kashi Prasad Jayaswal Research Institute, 1984.

Askari, S H and Ahmad, Q. ed. *The Comprehensive History of Bihar, Vol. II, Part II*, Patna: KPJRI, 1987.

Bernier, Francois. *Travels in the Mogul Empire, AD 1656-68*, Revised and Annotated by V A Smith, Delhi: Low Price Publication, 1989.

Buchanan, Francis. *An Account of the Districts of Bihar and Patna in 1811-1812*, Patna: Bihar and Orissa Research Society.

Dutta, K K. *The Comprehensive History of Bihar, Vol. II, Part. I*, Patna: KPJRI, 1976.

Fazal, Abul Allami. *Ain-i-Akbari, Vol. II*, H. Blochman (tr.), Delhi: Low Price Publication, 2008.

Foster, William.ed.*Early Travels in India, 1583-1619*, Delhi: S Chand &Company, 1968.

Gillion, Kenneth L. *Ahmedabad: A Study in Indian Urban History*, California: University of California Press, 1968.

Gopal, Surendra.*Stepping into Modernity, Patna in the Nineteenth Century*, Patna: Khuda Baksh OP Library, 2008.

Habib, Muhammad.*Elliot and Dawson History of India As Told By Its Own Historians*,Aligarh:Cosmopolitan Publishers, 1952.

Houlton, Sir John.*Bihar, the Heart of India*, Bombay: Orient Longman Ltd., 1949.

Jha, Sudhir Kumar. *A New Dawn*,Patna Reincarnated,New Delhi: Veerendra Printers,2005.

Manucci, Niccolao.*Storia Do Mogor or Mogul India, Vol. II*,(trs.by) William Irvine,Calcutta:Editions Indian,1907.

Naqvi, Hameeda Khatoon.*Urban Centres and Industries in Upper India, 1556-1803*, Bombay.1968.

Prakash,Om.*The Dutch East India Company and the Economy of Bengal,1630-1720*,Princeton:Princeton University Press,1985.

Prasad, Om Prakash. *Pataliputra Se Patna Tak Ka Itihas*, Patna: KPJRI,2010.

Prasad, Ram Chandra.*Bihar*,New Delhi,NBT,1983.

Ray, Aniruddha. *Transformation of Bihar: European Discourses (From Late 16th to Early 19th Century)*,Darbhanga:Maharajadhiraja Kameshwar Singh Kalyani Foundation,2003.

Sarkar,Jagdish Narayan.*Glimpses of Medieval Bihar Economy (Thirteenth to mid-eighteenth century)*,Calcutta,Ratna Prakashan,1978.

Terry,EdwardD. *A Voyage to East India*,London,Printed For J Wilkie, Reprinted from the Edition of 1655.

Yang, Anand A. *Bazar India,Markets, Society, and the Colonial State in Gangetic Bihar*, New Delhi,Munshiram Manoharlal Publishers Pvt Ltd.,2000.



JOURNALS

Habib, Irfan. "Economic History of the Delhi Sultanate: An Essay in Interpretation," *IESHR*, Vol.IV, No.II, 1978.

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Cancer and My Life

EXTRAORDINARY LIFE OF AN ORDINARY WOMAN

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This article is a critical perspective to understand relationship between my experience of fighting cancer, seeking appropriate medical procedure and my shifting position in the social structure of the society that I live in. More than any other factor in my life this illness and its ramifications has made me realise that as a patient I experienced not only institutional inequality, gender bias but also gradual decline in my social position. In this journey of illness, the experience of shock, extreme pain during the treatment later gave way to self-awareness. My understanding of cancer as a disease in this article is an attempt to comprehend changes that have come in me as an individual and also in my surroundings.

Cancer as I believe brought both pain and self-awareness in my life. This is one more story of a cancer survivor. I never thought I would one day be looking at this illness from an academic point of view and I want to tell my readers that those who survive, for them it is the beginning of new life. The disease and its long treatment made me realize that I have to live one day at a time and don't have many alternatives.

I was diagnosed with breast cancer at the age of 46 when I was climbing the ladder of success and for the first time in my life, I was gradually becoming financially secure and probably happy. Life had always been tough for me and whatever I have achieved it is with great difficulty and by surmounting numerous problems. To understand the social reasons behind my illness I want my readers to understand my life before the illness stuck me and what happened afterwards. I have made moderate attempts at placing this disease in a complex, continuously shifting social relations and in myriad ways how people look at you after the disease. May be my attempt is to understand cancer as a power relation based on my life before and after (?) cancer. I have attempted to then gravitate towards the process of internalizing my understanding in terms of acceptance of my cancer scarred body, people's reactions, responses and behaviour towards my illness in terms of my becoming a 'burden' in a chain of maintaining social linkages and relations.

Diagnosis and Treatment

I sometimes wonder how was it possible that I could not understand the commands of my own body which was telling me how much stressed out and overworked my body was? One of the reasons I could go for higher studies is due to the fact that I did show some promises both as sportsperson and the fact that despite being heavily involved in sports I could still maintain decent grades. My parents were opposed to my higher studies as it entailed long years of struggle but I was firm that this was my calling in life. Once the decision was made I soon realized that while higher studies assists in broadening your intellectual horizons but does not provide you with decent life conditions. In the meantime I lost my father and in quick succession I was married and divorced within a short span of time. From the perspective of political economy, losing father early in life meant economic downswing and further compounded by years of struggle to get a job in Delhi University and the fact that I had strength to end the marriage before it could wreck my life meant that I was constantly under stress while facing social inequality that also had direct bearing on my health.

I choose to ignore the norms of society and immersed myself in research and did my doctorate. I secured many national and international fellowships including University Grant Commissions' Minor Research, Shastri-Indo Canadian Doctoral and Fulbright fellowships. I was beginning to be recognized both at national and international levels and at least my professional life was looking up.

When I discovered lump in my right breast for some reasons I knew it was cancerous. My mother had benign lump in her left breast at the age of 82 and I was in high risk category due to my age and being childless. Fine needle tests confirmed what I already suspected and thus began my long journey of treatment, hospital visitation and rounds of chemotherapy followed by radiation. My operation took place at a private hospital but the phenomenal expenditure involved to save my life forced me to shift from private to government hospital and now AIIMS has become my second home. In the process I also began to realize that the economic cost of my illness was gradually making me go almost bankrupt.

I opted for radical mastectomy and I have to admit here that in an increasingly commercialized world where image of body and self have become co modified, I too was not immune to loss of organ associated with my gender and sexuality. I distinctly remember going through various stages of grief, frustration, agitation and then acceptance. Initially I went through the period of grief asking questions to God, why me? Haven't I suffered enough and never got answers. People asked me how come I did not detect this lump earlier, they questioned my lifestyle and some blamed my single status. Then there were those who started patronising me what to eat, which god to pray, to stay away from people, to stop teaching without ever asking me how I was to afford this expensive treatment if I stopped working. All these human emotions and questions crowded my mind and generated more agitation and grief. I gradually began to realize that when life threatening disease occurs in one's life then the set social life of that individual gets completely disturbed. I also realized that I was gradually becoming dysfunctional for people around me and was getting isolated.

This was followed by period of complete silence and gradual acceptance of this disease and my gradual disassociation with people who told me that in case I require their assistance I should call them but they never visited me even once. I became an outsider to the extent that a colleague of mine told me not to inform others about my disease as I would become a social outcaste.

I had very little control over the process of medical treatment and I will be frank with my readers that when I was being wheeled into the operation theatre I prayed to God to give me death. But that wish was not granted. I was well aware of the fact that the severity of my illness made the possibility of full recovery not only remote, a mirage but also a very complex process which I had to constantly comprehend throughout my treatment.

I thought post operation pain was enough. Imagine yourself lying in ICU and aware that some patients around you are dying and their bodies are being taken out. I wanted to scream take me out of this hell but neither my brain nor my body was obeying my orders. There were times when I thought I am dead and the pain that was shooting through my body was the process of leaving this world. Strange I would have welcomed death than to endure the pain that

I was going through! Well readers post operation pain is not hell if you have not experienced what chemotherapy can do to your body. How do I describe it in words, it is like billions of ants injected into your system at one go and they are craving to bite you everywhere. My first four rounds of chemotherapy were as dreadful as they can be. I experienced almost all the side effects and oh yes you start hating smell of any kind as everything starts smelling like chemo drug. I remember my friends urging me to have a teaspoon of glucose to survive and sitting on my bed patiently to coax me to eat or help me to run to bathroom or just give me massage to calm me down. I began to lose hair by second round of chemotherapy and this made me march to barber shop and I got my head shaved and walked out bald. I was now in the words of one of my dear friends enlightened Buddha! I had to be shifted onto a new chemotherapy drug which was expensive but with fewer side effects. I was given three rounds of this new chemotherapy. Radiation was simple procedure and only scarred my skin but by then I was already a different person. I never bought wig and nor I tried to hide from the world what I was going through. I even remember when I was administered chemo drug; I would either be correcting answer scripts of my college students or filling numerous medical reimbursement forms and later submitting them. I even remember driving own my own to AIIMS and driving back home as my brother was busy looking after my mother who due to old age had to be hospitalized quite frequently.

It is interesting that before I was diagnosed with this disease I was branded as single, divorced and an outspoken person and now I was a cancer patient. At this juncture I began to observe the reactions of my surroundings to my illness and finding expected and some shocking variations. There were so called friends and relatives who wanted to know my well being on e mails but never called up. Some friendships ended on e mails as they never thought I would survive this illness or worse may ask for financial assistance and what if I die without repaying them? Income tax department sent me notice of heavy movement of money in my bank account way beyond my income levels! Then there were friends who just put money under my pillow and till date I don't know who kept that money. If the world wants to see real angels then they should meet these friends of mine. How did I react to these extreme emotions and behaviour?

Initially I went into shell which was the easiest thing to do anyway but gradually I began to realize that this disease has given me window to understand myself and the world around me.

With this realization came another deeper understanding that the financial cost of the treatment was preventing me from an expected role of being a really 'sick patient'. I was buying medicines for lakh rupees a month way beyond my income level and at the time I was also paying a home loan. So between my sickness and financial situation the only recourse left for me was to take minimum leave and get full salary. Therefore I took leave only for three days when administered chemo. I forced my body and mind to obey my commands and would march into the classroom to teach which later proved to be therapeutic in my recovery. I had to continue with my domestic responsibilities, looking after my sick mother taking her to hospitals umpteen number of times and doctors at AIIMS treating me were also against taking long medical leave as they never wanted my physical form to affect my mental health. I remember the words of Professor Dr. Vinod Raina 'work to keep focus away from cancer, if you survive there is another new beautiful life waiting for you.' At that time I found his words funny as during those months of treatment I could barely see life beyond a day let alone in future!

Beyond Treatment

When I began to deconstruct my illness and in the process understand my own self and need to maintain balance in adverse circumstances. I devoted myself to studies and believe it or not I continued teaching except for a brief period of two months when I took medical leave. I used to run all the errands, go and buy my own medicines, go for long walks, talk to trees, birds and dogs in my college and tried my best to save my mother.

In the meantime my mothers' health began to deteriorate and she succumbed to old age. It was indeed a very difficult period for me, I was undergoing radiation treatment at that time and I remember my friends taking me for radiation session even the day my mothers' body was cremated. Friends who took me hospital had only one thing to say, 'life has to go on'. It was a strange day lying on radiation table I was thinking about the dead body of my dear mother and wondering at this dichotomy of life and death. It was strange to

witness my elder brother Rajiv who stood like rock in face of immense storm in our lives and the soothing words of my dear friend Dr. Dhananjay who continued to be pillar of support, immense strength and courage. My homeopathic doctor Poonam Jain whose medicines helped immensely to reduce the side effects of the treatment became in due course my guide and counsellor. In the course of ten months duration of my treatment, I lost many friends and relatives who abandoned the sinking ship and came to have a new meaning and understanding of life.

What experiences I have gained from my long treatment. It does not matter who supports or abandons you what matters is how you going to face the world. I accepted my illness and thought to myself that god wanted me to become a better person in the process. I no longer get involved in unnecessary arguments, ego I try to keep it at a distance, and I have become more silent and a bit withdrawn from the world and people who believe more in status, money and materialism. I now watch people more closely than ever before and instead of getting angry at people I just prefer to look the other way. I do work at my own pace, continue to follow my spiritual world, teaching, walking and enjoying nature.

I learnt that I have to be gentle to myself and use humour in difficult times. I have learnt the hard way that one neither should nor allow crisis to rule one's life. Cancer has made me aware of myself. I don't want to be known as walking dead person. I don't want my life to become a dump yard. I have stopped becoming addictive to work and have begun to use more of my creative processes like intuition, attention and awareness. I have begun to live in the present moment and not in past or future. I now firmly believe in the power of healing based on being honest with myself and others. I have learned to respect myself and be more focussed.

I now pay attention to commands emanating from my body. Cancer has offered me the opportunity to reflect on those who supported me so much and to be grateful for their gift of giving. I have learnt the hard way that I have the right to create a space for myself, if only to enjoy the rising sun or sit in balcony and watch the world go by. I also learned that people who left me loved my image not the real me. I think I am emerging as more humane person as I accept and integrate all that I have been and all that has happened in my



life. I have also understood that suffering is part of living life and death should not be taken as an escape but as a source of life energy. As someone has rightly said that 'living is a gift of wonder' and one should live every moment peacefully and share it with others.

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