ISSN 2250-2866

Volume 11 Number 1 January-July 2012

RAJIV GANDHI UNIVERSITY RESEARCH JOURNAL

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ISSN 2250-2866

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Rajiv Gandhi University Research Journal

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Rajiv Gandhi University Research Journal
(January-July, 2012), Vol.11, No.1: 1-15
ISSN 2250-2866

Development Organization: Strategic Issues in Sustainability of Participatory Forest Management

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(Received on 05-01-2012 Accepted on 16-06-2012)

Abstract

The degradation of the forest resources has adverse impact on the rural poor, specifically the tribal people who are the most marginalized community. Sustainability of the forest resources is key to the survival of the tribals in particular and human kind in general. Tribals must be involved in the forest management and party to the key decision making process. They are facilitated for this by development organizations, i.e., civil society, community based organizations and non-governmental organizations. The development organizations play a key role in people centric development. They helped in decentralized planning and development in India. However, strategically the sustainability of the development organizations is also important in the context of sustainable development. This paper examines these in the context of participatory forest management with data from Madhya Pradesh.

Keywords: *Development Organization, Joint Forest Management, Rural Development, Sustainability.*

Introduction

India is a developing country. The majority of its population lives in rural areas. Since independence there have been considerable activities in the field of eco-

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nomic development. A vast amount of money has been spent by the government and various international donor agencies for the upliftment of the poor. And yet the level of development remains alarmingly low. There is still much poverty, malnutrition, unemployment, under-employment. This is a revealing truth for the rural poor among whom the indigenous people or tribals constitute a significant proportion. These indigenous communities in India largely occupy the forested regions where for a long period in their history, they have lived in isolation from the mainstream of life but in harmony with nature.

The forests support development of indigenous people which can sustain economic, environmental and social well being. Development is not merely in terms of economic growth (GNP/GDP) but essentially social development, with emphasis on equitable distribution, freedom of expression and qualitative aspect of life. The contribution of forest is immense in terms of ecological conservation and economic sustenance of the poor in general and indigenous people specifically.

It has been observed, in the context of development, right from the First Five Year Plan to the Eleventh Five Year Plan, we have not been able to realize the desired planning goals. It is essentially because the people's participation was missing in the development paradigm. Peoples priorities, concerns, and perspective were not built into the planning process. The development organizations raised this issue and showed that unreached can be reached. Through their efforts there was considerable improvement in health and education sector and subsequently in all other sectors of development including development of tribals through effective natural resource management strategies. The decentralized, people – centric planning and management regime became reality due to the efforts of the development organizations.

Contribution of Forest for Development

In the above context, it is imperative to examine the contribution of forest for development of the rural poor. India still is a developing nation. The majority of its population lives in rural areas. Forests play a vital role in the rural economy. For nearly three quarters of the population of developing countries wood is the staple energy source. In many areas, particularly where a majority of the population is landless, forests and trees are among the few resources that are available to rural dwellers. They provide three different kinds of benefits: *jobs and incomes* often needed to supplement inadequate returns from agriculture; *produce* such as fuelwood, food, fodder and building poles for the home; and indi-

rectly but just as importantly a range of *environmental benefits*, without which other activity, such as agriculture might be impossible.

Forest sector is important, as it is the second largest land use after agriculture. It is a source of goods and services for the society. In remote forest fringe villages about 300 millions tribal and other local people depend on forest for their subsistence and livelihood and about 70 per cent of India's rural population depends on fuelwood to meet its domestic energy needs. For about 100 million of them, forests are a main source for livelihood and cash income from fuelwood, non-timber forest products (NTFP) or construction materials. More than half of India's 70 million tribal people, the most disadvantaged section of society, subsist from forests. Forests protect important catchments for water, conserve soil, ameliorate climate and combat against global warming and desertification. It provides services as wildlife refuge, watershed protection, prevention of soil and water run-off, and ground water recharge. Both wood and non-wood products are important so are environmental services of flora & fauna.

India's biodiversity is rich and unique. It is one of the 12 mega diversity countries in the world having vast variety of flora and fauna, which collectively account for 60-70 per cent of world's biodiversity. Its ten bio-geographic regions represent a broad range of ecosystems. India has world's 6 per cent flowering plant species and 14 per cent of world's avian fauna. (World Bank, 1996). There are nearly 45,000 species of plants in the country and 81,250 recorded species of fauna. (NFAP, 1999). It has a network of 664 protected areas which have been established over 1,58,508 sq. km. (4.83 per cent of geographical area) comprising 99 national parks, 516 wildlife sanctuaries, 42 conservation reserves and 7 community reserves. (FSI, 2009).

Forests contribute 1.7 per cent of GDP of the country. However, this figure does not take into account its numerous non-market and external benefits and the vast amount of fuelwood and fodder and other forest products collected legally or illegally. One estimate shows that total annual removals from the forest is worth about US$ 7.1 billion or Rs.30,000 crores which includes about 270 million tonnes of fuelwood, 280 million tonnes of fodder and over 12 million cubic meter of timber and countless non-timber forest products (NTFP). This does not include value of environmental services provided by the forest, which according to World Bank estimate (World Bank,1996) are equivalent to US$ 19 billion per year.

For several tribal groups living in or near forests, about 30 per cent of their diet

is derived from forest resources (i.e., wild vegetables, tubers, fruits, nuts, bamboo shoots, small animals). Medicinal plants are important in the primary health care system. The indigenous people have developed interesting, and often sophisticated knowledge system of ethno-medicine and use of a vast variety of plants for medicinal purposes.(NFAP, 1999).

The agricultural sector, which is also important for survival of rural communities, depends almost entirely on livestock for the energy needed for various farm operations. The economics of maintaining cattle, sheep, and goats is largely dependent on forests as a source of fodder – be it leaf or fruit fodder.

Wood (timber) is also required for making various types of ploughs and agricultural implements, each with a different life-span. The bullock- cart is the main means of transport in the rural sector. According to one estimate, there are about 13 million bullock- carts in the country, which accounts for an investment of about 3,000 crores. About 2 crore people find direct or indirect employment in the bullock -cart transportation system.

The village community also requires timber for the construction of houses. Apart from this, bamboo (generally known as the poor man's timber) is used for various other purposes. Agricultural implements and tools are made from wooden poles and bamboo. Animal husbandry and dairy development programmes are also related to the availability of grass, fodder, leaves, and so on. House construction in tribal area is undertaken with materials collected from forests. Timber, bamboo, grass, creepers and bark are useful for this purpose. The community depends on forest for various edible products as well. Forestry, in this way, is a part of the livelihood strategies of rural people and tribal communities in particular. Not only it meets basic needs by supporting food securities and poverty alleviation, and providing health needs and shelter all in a sustained manner. But it also provides means of employment, income, food, fuelwood, fodder, agricultural productivity.

Forest offers scope for the development of cottage industries for tribal. Many trees provide source of raw materials such as *tassar* and silk production, rearing milch cattle, *pattal* (leaf-plate) making, basket weaving, oil, paper making and others.

Life of indigenous people (tribals) is connected, in one way or the other, with forests, right from birth to death. Their folklore, rites and rituals revolve around the forest. In times of distress, the forest is the last resort for them. Even in areas where forests do not exist, tribals continue to periodically visit the distant forests

to procure traditional requirements. Apart from this, financial benefits accrue to them from the collection and sale of non-timber forest products (NTFP). Forests are their economic resource base and occupy a central position in the tribal economy. Tribal life is profoundly affected by whatever happens to the forests.

The potential of NTFPs for poverty alleviation is very important. The rural poor and tribal communities collect various kinds of products throughout the year to sustain their livelihood. Activities related to NTFPs provide employment during slack periods in the agricultural cycle and provide a buffer against risk and household emergencies. These constitute a part of the household activity and in several cases can be the main source of income. Therefore, tribal life is profoundly affected by whatever happens to the forest. However, degradation of forest resources has been instrumental in increasing poverty and misery among the rural people.

Forest Management for Rural Development

Traditionally, forest management practices aimed at developing and understanding the protective and productive aspects of natural forests. Biological, technical and macro-economic considerations received overriding priority. In the process, people's role in safeguarding the resources and their active participation were relegated to a secondary place. Only recently, the role of forests and forestry together with their protection and production has received attention along with its social importance.

After all, forestry is about people. It is about trees only in so far as trees can serve the needs of the people. (Westoby, 1989). Forestry and Forest Policy should concern itself in every conceivable way in which, forests, wood loots and trees can contribute to human welfare. This fact has been recognized by the professional foresters world over. Therefore, the theme of the 8th World Forestry Congress, 1978, Jakarta, was "Forestry for the people". The 9th World Forestry Congress held at Mexico in 1985 reinforced this by adopting the main theme of the Congress as "Forest Resource for the Integral Development of Society". In fact, future of human society is intrinsically linked to the future of the forest.

The sustainability of forest resources is critical to survival of human kind. However, for its sustainability the people's organizations consisting of Civil Society Organization, community based organizations and Non- governmental organizations (NGOs) can be instrument of Rural Development through sustaining forest resources and integrating it with other sectors of rural development. The

role of NGOs is an important component in development process as they build in people's concerns and priorities in development planning and implementation. (Fowler, 1997).

Efforts in Participatory Forest Management

Social Forestry

To arrest further degradation and to augment tree resources, Social Forestry, in mid 1970s, provided the most challenging area for social analysis in rural development as a stepping stone towards Participatory Forest Management. The National Commission on Agriculture (NCA), 1976, stressed the socio-economic importance of social forestry in the rural community as well as in the management of forest resources. This primarily aimed at providing goods and services to the rural poor.

In the context of India, social forestry was conceived as the science and art of growing trees and/or other vegetation on all land available for the purpose, in and outside traditional forest areas and managing the existing forests with an intimate involvement of the people and more or less integrated with their operations, resulting in a balanced and complementary land use with a view to provide a wide range of goods and services to the individuals as well as to the society. (Tiwari, 1984).

The social forestry programme was designed to cover all segments of society- rural and urban- for an overall development of the nation. The main objectives vis-a-vis development of rural economy were: to provide fodder, firewood and small timber; to provide timber for sustaining and creating village level cottage industries based on wood; to improve the socio-economic level of the village through increased avenues for gainful employment; to optimise the use of agricultural land through agro-forestry practices and to increase the farmers' income level; and to improve the income from marginal agricultural land through tree plantation. It aimed at growing trees in groups, strips, in lines or singly over vacant lands near habitation which were otherwise not utilized.

State level social forestry projects were supported by World Bank, Canadian International Development Authority (CIDA), Swedish International Development Authority (SIDA), Overseas Development Administration (ODA-Now known as DFID) and other agencies. It helped, to some extent, increase in biomass production, promotion of agroforestry on private agricultural lands, afforestation of public and common non-forest lands; awareness, and beginning

of community participation in forest development.

However, the major drawbacks of the implementation of the social forestry programme were lack of transparency and accountability, exaggeration of physical target achievements and unsustainable investments. It did not help in institutional reforms, on the contrary led to large recruitment of staff and diversion of attention from natural forest management to poorly productive plantation forestry. It has not been proved, as originally conceived, that the social forestry would result in reversing the trend of the degradation of natural forests by meeting demand for the fuelwood, fodder and small timber from the plantations raised outside forest lands. The economic benefit to the landless poor people came through wage employment. Beyond this, the community participation was not very significant. Even the development organizations were neglected and not consulted for expressing people's aspirations and their needs.

Joint Forest Management

Simultaneously with social forestry, other forestry projects for plantations and protections made attempt to check further degradation of forests to alleviate miseries of rural poor. These experiences provided focus on the vital issue of people's involvement in forest protection and management. The policy makers realised that along with the Government, the people and the people's institutions are the real stakeholders in forest management. Some of such experiments have borne results – like the experiences of Arabari in West Bengal, Sukhomajri in Haryana, Dasoli Gram Samaj Mandal in U.P., Forest Protection Committee in Orissa and elsewhere. In many places, the villagers have zealously protected the natural forests on their own. Such attempts by the villagers need encouragement and patronage.

As mentioned earlier, the earliest attempt to involve people in forest management started in 1972 at Arabari in Midnapore district in West Bengal. For protection of the forest, the village forest committee was, in turn, provided with usufructs of all non-timber forest products (NTFP), first preference for employment, plus 25 per cent of net cash benefit from the sale of Sal (*Shorea robusta*) poles. The material benefits which are potentially sustainable were the clear motivation. This kind of joint efforts between Government and people led to evolution of Joint Forest Management (JFM) programme in India.

Coupled with such experiences, genesis of JFM is rooted in the National Forest Policy, 1988. It made a significant departure from the earlier policies of 1952 and 1894. Though the NFP 1988, has main thrust on conservation of flora and

fauna diversity it clearly recognises that "the life of tribals and other communities living within and near forests, revolves around forests. The rights and concessions enjoyed by them should be fully protected. Their domestic requirements of fuelwood, fodder, minor forest produce and construction timber should be the first charge on forest products". (NFP, 1988). Conservation and people's livelihoods are integral part of the forest development and development of the rural poor.

The NFP, 1988 has been further strengthened by the 1st June 1990 circular of Ministry of Environment and Forests, Government of India (GoI). It has highlighted both the need and process for involving village communities and voluntary agencies in the protection and development of degraded forests. It encouraged to form village level institutions for forest management. Formally, the non-governmental organization (NGO) has been identified to provide interface between forest department and village communities. This has been further strengthened by circulars issued by MoEF in February 2000 and December 2002. It has further highlighted the role of NGOs and civil society organizations.

In fact, it has been recognize that, the development organizations (NGOs and Civil Society) mobilize the community very well for protection and management of forests which lead to sustainability of forest resources. Sustainability would yield to availability of forest product to community. They also facilitate the equity consideration among the community members. Strategically, therefore, sound management of development organizations will lead to people – centric development which, in turn, will support effective resource management. (Edwards and Fowler, 2003). Forest management, whether it is JFM or Community Forest Management, is no exception to this principle.

Over the last two decades, 28 states have adopted participatory forest management through JFM guidelines which recommended involving communities living in the forest fringe area for conservation, protection and management of forests and thereby sharing the benefits towards sustainable livelihoods for the local communities. JFM has paved the way for community participation in forest management. It has been fairly successful. According to an estimate of Ministry of Environment and Forests, GoI, 21.4 million ha. of forest lands are currently being managed under the JFM programme by approximately 99,868 JFM committees in 28 states in India till February 2007. In this effort, the role of development organisation has been very important.

Role of Development Organisation in Participatory Forest Management

The 1988 Forest Policy clearly identified the role of NGOs and Civil Society Organisations as the bridge between Government and rural communities. The Development Organisations played a crucial role in mobilizing communities informing village forest committees. They have also played important role in capacity building of communities of developing micro-enterprises and linking them to market.

As we know, most of the development organisations are intermediaries in the sense that they work between the grass-roots or community level and other levels and sectors of society (such as Government, the general public, businesses and other Institutions of the market), providing a range of support services that connect these different Institutions with each other and with groups that are poor or socially excluded.

It is also known factor that, although like Government, they deal with issues in the public domain such as poverty, injustice, exclusion or degradation of the natural world, the development organisations have no statutory authority. Their calling is voluntary and self-chosen, so they must continually justify their presence in, and value to society.

Moreover, a development organization's power and influence is based on civic engagement, social mobilization and reliance on social capital, not the political mandate and 'strong arm' of Government, or the financial capital and influence of business. The quality of development organisations engagement with communities is, therefore, a key determinant of organisational legitimacy.

It is also a fact that, in terms of their activities, the development organizations have organizational and wider development goals whose achievement relies on forces beyond their control – in the constituencies they work or try to influence at home and abroad.

Development Orgnisations' Development Objectives

Given the above context, they are concerned with community empowerment and building of various assets for sustainable development. They try to ensure decentralized governance where people will have more say in matters of sustainability and utilization of various resources. They make efforts to build human assets (development of individuals), social assets (community mobilization, group, federations etc), physical assets (physical infrastructure to induce development process), natural assets (augmentation and access to land, water,

forest) and financial assets (development of gram kosh, financial autonomy which is key for sustainability). Thus the development intervention goals are:

- Empowerment of communities
- Increase in livelihood options
- Conservation of natural resources
- Appropriate Institutional arrangement for and sustainability
- Equitable distribution of goods and services.

Development Partnership Opportunities

Essentially to achieve the development intervention goals, they would like to reduce the gaps in vision, information, policy and legal structure. Simultaneously they would like to build institutional and human capacity. For this, they have the opportunities to develop partnership with various organisations.

Development organisations can have linkages with various department of government to avail funding for various schemes like watershed, JFM, *Sarva Siksha Abhiyan* (Education) and such programmes. It must seek linkages with Research and Academic Institutions for conducting research and documentation on various activities. Case studies can be developed for wider circulation for learning on success and failure as well. These institutions also can help in capacity building and awareness campaign. They need to develop linkage with donor agencies, umbrella NGOs, mother NGOs, etc for sustainable flow of funds for implementing various projects and also for capacity building of its staff. It is also important to develop networking with other NGOs and civil society organisations for community mobilization, capacity building, human and social capital formation. The development organisations utmost requirement is to have strong linkages with community institutions, both formal and informal, for increasing their abilities and capabilities and also to develop micro-enterprises with market linkages for enhancement of livelihood options.

A Case for Madhya Pradesh

Given the poverty scenario in India vis-à-vis natural resource management, case of Madhya Pradesh (MP) is so obvious. It is the second largest state in India. It is a land locked state with 9.7 per cent geographical area of India and has a population of 7.25 crores (Census, 2011). Out of total population of 6.03 crores (Cencus ,2001), scheduled tribe and scheduled caste population together constitute 35.3 per cent (Census 2011 figures for SC and ST population are yet to be available) which is higher than the national average of 24.6 per cent. There

are about 54,903 villages in which 73 per cent of population resides. Out of this about 20,000 villages are forest fringe villages. M.P. has the highest number of tribals in the country with several primitive tribal groups. Population below poverty is 37.43 per cent which is again higher than the national figure of 26 per cent. It has a large segment of disadvantaged population. Rural workforce in primary sector is staggering 87.5 per cent and only 12.9 per cent of population is engaged in non-farm activities. Its population is dominated by cultivators (42.9 per cent) and agricultural labourers (28.7 per cent). Coupled with this, they have a strong presence of livestock diversity.

Madhya Pradesh is endowed with rich natural resources. Forest is an important resource for the rural communities, which constitutes 30.9 per cent of the total geographical area of the state. Forest flora is diversified with nearly 500 medicinal plants species. There are 7 biological hot spots with reference to biodiversity. It has a strong network of protected areas comprising of 9 National Parks and 25 sanctuaries. It is also endowed with several important rivers, like Narmada and wetlands.

Table 1: Forest, Tribals, Poverty and Development Correlatationship in Selected Districts of M.P.

District	Forest Area (in per cent)	Tribal Population (in per cent)	HDI Rank
Betul	39.0	37.5	30
Chhindwara	40.0	34.5	13
Mandla	63.0	54.8	16
Seoni	37.0	37.0	26
Shahdol	33.0	46.3	31
Sidhi	42.0	30.4	25
East Nimar (Khandwa)	26.8	46.0	21
Dhar	15.0	53.5	23
Barwani	50.0	64.8	44
Sheopur	43.0	20.1	33
Jhabua	19.0	85.7	45

Note: HDI – Human Development Index. Madhya Pradesh had 45 districts when last HDR was prepared.

Source: Third Human Development Report, M.P. 2002a

Interestingly, wherever there is good forest cover, there is also heavy concentration of tribal people. But if we consider the development indices in the selected tribal areas, the picture is dismal (Table 1).

It is evident that the forest dependent communities are in a precarious condition. Further loss of natural resources will impoverish their conditions.

Strategic Issues in Sustainability for Development Organisations

In the above context, it is imperative for the development organisations to bring in sustainable development. It has to devise strategies for ensuring benefit sustainability, organisational sustainability, financial sustainability and finally community sustainability. Obviously, the development organisations have to sustain themselves to ensure sustainable development for communities. The key strategic issue is that development organizations must be so organised to last that they can provide the development input to the society over a sustained period of time. The key issues then are: economic, social and institutional, which would be threatened by internal weaknesses or external threats.

Economic Issues

Most of the grass-root level development organisations grapple with the problem of insufficient financial capital. This is key to survival. However, most of the organisations do not have to depend only on external funding. It has to devise strategies for resource mobilization. Some organisations do generate funds through many innovative methods. Such efforts will make them financially sustainable. The development organisations are accused of lack of transparency in income and expenditure. Coupled with this, lack of maintenance of records pertaining to accounts and failure to submit audited accounts in time dent their images. Certainly, they need to improve on this front to be sustainable.

Social Issues

Many a time, it has been observed that development organisations lack intellectual capital and professionalism. It is no more *jhola-chappal* culture with voluntary action only. It requires much more socio-technical competence with public relations qualities to be the true professional. It must have client orientation and there should be space for creativity and innovation. It must create a climate for participative decision making. A flat and lateral organisation is more successful than the thorough hierarchical organisation like government. There has to be consensus and it must not overlook the stakeholders' requirements. Their actions would be more sustainable if they have the ability to overcome factionalism

within and outside the organisation. Effective leadership is a crucial issue for sustainability of the organisations. There is also tremendous need for developing second generation leaders to take them forward. It need not be a one-man show, neither the organisation should collapse after departure of a good leader. These are some of the social issues which need careful attention by the development organisation.

Institutional Issues

The development organisations have to meet various legal provisions – statutory or otherwise from time to time. It must have clarity regarding its legal *locus standi,* that is, whether it is a Society or Trust or Company and the mandates accordingly. It must have the ability to adopt and modify rules over time depending on the contemporary trends and situations. It should be able to absorb new skills and technologies for enhancement of capability for its staff and communities as well. Paying attention to changes in government regulations and policies will help them to avert challenges and competitions from similar organisations in their area of operations. Conflict resolution mechanism would help institutional health. Paternalistic influence of external agencies will curb the sustainability and accordingly it should be prepared to face such challenges. Efficient monitoring mechanism has to be in place for healthy development of the organisations.

Sustainability *Mantra*

Sustainability could be ensured if we can practice the following *mantra*

- Maintain a good ***institutional health*** that is the ability to combat internal weaknesses.
- Develop ***institutional strength***, that is the ability to face external threats.

Conclusion

There is a greater need to formalize community based management systems which facilitate participatory forest management both at the local and state level. Culture of indigenous people and dynamics of social processes have to be understood properly as sustainable participatory forest management is key to sustainable rural livelihood. A sustainable alliance has to be forged among government organizations, NGOs and local level organizations (which constitute development organizations). There has to be an effective partnership among all the stakeholders for capacity building, monitoring and evaluation. Sociological/ social anthropological insights, perceptions and knowledge are, therefore, instru-

mental and essential for bringing reform for sustainable development of rural communities.

It is important to empower communities to take decision on management of forests. We need to understand them and also learn from them. Sustainability mantra can be facilitated by following principles (adopted from Chinese philosopher Lao Tzu):

- Go to the people, live among them
- Learn from them, plan with them
- Start with what they know
- Build on what they have
- Teach by showing, learn by doing
- Not odds and ends but a system
- Not piecemeal but an integrated approach
- Not to conform but to transform
- Not relief but release

Even in the age of liberalization and globalization it has to be understood by the development organisations that there can be no financial assets if there are no ecological assets. Sustainable development is increasingly linked to environmental conservation. The paper is being concluded with the wisdom of a Tribal Chief, which gives enough insights to the question of sustainable development which is the aim of all development organisations.

Only after the last tree has been cut down
Only after the last river has been poisoned
Only after the last fish has been caught
Only then will you find that money cannot be eaten.

Therefore, it is indeed imperative that for sustainable participatory forest management, we have to draw heavily on expertise of development organizations who rely on indigenous knowledge of the communities. Sustainability of forest resource is linked to the sustainability of the development organizations, which, in turn, facilitate the empowerment of people which can lead to sustainable development.

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Rajiv Gandhi University Research Journal
(January-July, 2012), Vol.11, No.1: 16-27
ISSN 2250-2866

Forest resources, tribes and the problems of their livelihood - An Overview

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(Received on 06-02-2012 Accepted on 02-05-2012)

Abstract

The paper outlines the symbiotic relationship of tribes with their forests and land. It presents a picture of deprivation of the tribes from enjoying their traditional rights over forests and land consequent upon the implementation of various state policies. Associated with policy related issues are commissioning of various projects in tribal areas and governments seemingly indifference which add to their misery. The paper also discusses the outcome of such deprivation and suggests for government intervention keeping in view the welfare of the tribal people in terms of their rights over forests and land.

Keywords: *Tribal communities, Forest policy, Globalization, Land Acquisition Act, National Tribal Policy, Displacement, Poverty, Forest dwellers, Exploitation, Explosion, Tribal Rights, Land Alienation.*

Introduction

In the global development context, tribes' issues have acquired a paramount significance. These issues no longer are only the concern of indigenous peoples, anthropologists, and bureaucrats but are also issues of public debate. (Rath, 2006; Wilmer, 1993; Chatty and Colchester, 2002). The prominence of tribal peoples' concerns stems from the realization that they have not benefited from development projects, while the mainstreamed societies have prospered at their

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expense, pushing them deeper into the poverty trap. The forests of India are home to significant numbers of forest-dependent people, mainly tribes whose socio-economic living conditions have not altered even after six decades of independence. The traditional rights of local communities provide for subsistence and non-timber values that are usually unrecognized by the state-owned and controlled forest management agencies. In its mid-term appraisal of the IXth Five Year Plan, it was documented that forests provided sustenance –non-timber forest produce (NTFP), small timber, fuel wood and fodder to 100 million forest dwellers out of which more than 60 millions are tribes. Ironically, the legislations pertaining to wildlife conservation and the establishment of national parks and wild life sanctuaries deny them access and residence rights.

The symbiotic relationship between the forests and the local dwellers was not recognized and the forest became property of the state. The tribes who have a lifelong relationship with the forests –which are their very homes, their religion and their culture – were conspicuous by its absence in the new frame. It is because of this basic lack of understanding that there is state of confrontation and regime of destruction in almost all tribal concentrated regions of India, which in the final analysis means great injustice to the tribal people.

Tribal rights to forest resources

Colonial Government did not pay any attention to the development of tribal communities, because it aimed at only regulatory functions, such as maintenance of law and order and collection of revenues. The government of British India enacted the Scheduled District Act in 1874 and kept large tracts of tribal areas outside the Jurisdiction of normal administration. The introduction of the National Forest Policy in 1894, curbed the traditional rights in the forests of tribal communities. The Forest Policy led to the induction of contractors, traders, and non-tribal labour to forest areas in a substantial manner. As a consequence, the commercialization of the forests led to the loss of valuable forest cover. Subsequently, soil erosion reduced the fertility of soil and forest produces. This further widened the gulf between tribal communities and non-tribal communities.

However, due to more forest area and comparatively less population, tribal communities enjoyed freedom to use the forest that belonged to them. But after India won her freedom, the Government of India redefined the Forest Policy in 1952, and as per this rule the traditional rights of forest dwelling tribes were converted into certain concessions. The policy of 1952 curbed various facilities enjoyed by tribal communities as old policy had envisaged. The old policy had

scope for releasing forest land for cultivation by tribal people and provision for meeting the need of the villagers from the outlying areas in the reserved forests. The Government had also not imposed any restriction over the private forests of tribal peoples as well as no restriction on free grazing in forests. The new policy restricted the rights of the tribal people in the reserved forests. As has been highlighted, the forests as a perennial source of food, medicine, fodder and income for tribal communities and their traditional right over forests were no longer recognised as their rights. The close relationship of tribal people with the forest was described by Elwin (1963) as follows:

> To a vast number of the tribal people the forest is their well-loved home, their livelihood and their very existence. It gives them food, fruits of all kinds, edible leaves, honey, nourishing roots, wild game and fish. It provides them with material to build their homes and to practice their arts. By exploiting its products they can supplement their meager income. It keeps them warm with its fuel and cool with its grateful shade. Their religion leads them to believe that there are many spirits living in the trees. There are special sacrifices to the forest gods; in many places offerings are made to a tree before it is cut, and there are usually ceremonies before and after hunting. Tribal folk-tales often speak about the relations of human beings and the sylvan spirits and it is striking to see how in many of the myths and legends the deep sense of identity with the forest is emphasized....

From time immemorial until comparatively recently the tribal people have enjoyed the freedom to use the forest and hunt its animals and this has given them a conviction, which remains even today in their hearts that the forest belongs to them. This happy state of affairs for the tribal people was not to last forever, however. From about the middle of the 19th century, people from outside began to move into the forest, lured by its wealth of natural resources, and the colonial government sensing the commercial potential of forests gradually extended its authority over them in the name of scientific management.

Since Independence, the diversion of forest land for non-forest land user has continued unabated. About 4.3 million hectares of forest land for agriculture, 2623 million hectares for river valley projects, 0.502 million hectares of land for industries and townships,0.134 million hectares transmission lines and roads, 0.161 million hectares and miscellaneous 1.008 hectares has been diverted for non-forest uses between 1951 to 1980 in our country. This represents an aver-

age loss of forest land at the rate of nearly 0.5 million hec/year. This process of diversion of forest land to non-forest use and their degradation has caused floods, water logging, increased erosion of fertile land and the silting of river and dams.

As has been mentioned earlier, after independence in 1952, a new national forest policy added further restrictions on tribal peoples. For example, under the old policy the forest land could be released for cultivation subject to certain safeguards, and free grazing was allowed. The new policy barred cultivation and required a paid permit for grazing, which was difficult to obtain. Elwin (1963) very aptly depicts the position of the tribal people in the changed circumstances:

> The tribal who regarded himself as the lord of the forests, was through a deliberate process turned into a subject and placed under the Forest Department (FD). Tribal villages were no longer an essential part of the forests but were there merely on sufferance. The traditional rights of the tribes were no longer recognized as rights. In 1894 they became "rights and privileges" and in 1952 they became "rights and concessions". Now they are regarded as "concessions". At the same time, although the new policy expressed ecological concerns, vast forest lands in ecologically sensitive areas were destroyed to make way for big projects or clear-felled to raise revenue for the government.

The National Forest Policy of 1988 was a significant move in favour of both forest conservation and the livelihoods of forest communities. It endorsed the national goal of keeping one-third of the land area for forests, which had been recommended in 1952, and it incorporated specific provisions to safeguard the rights of tribal and other local people. "Indeed, meeting the needs of local populations dependent on the forest eco-system was held to be the first charge on the forest. This meant that forests could not be exploited to meet the raw material demands of industry, nor earn revenue for the state at the cost of the local populations (Human and Pattanaik 2000:27). However, rules to implement the policy were not put in place until much later, and state governments in the meantime progressively reduced the traditional rights of the tribal forest-dwelling people. Only those families who have been primarily residing in forest areas for three generations (nearly 75 years) will be entitled. The verification procedures to determine eligibility are not simple and could be quite time consuming, as disputes may arise among the forest-dwelling communities themselves.

The act also prevents the use of forest land for development purposes such as mining, reservoir construction, and industrial plants without the consent of the tribal people who live in forests or in the vicinity through *gram sabhas* (village assemblies). But there is a risk that politically connected commercial interests could manipulate gram sabhas to obtain such lands for commercial purposes. The tribal rights activists also warn against the machinations of some bureaucrats, especially those in the Forest Department who think that the department is the master of all forests in India. This could obstruct the implementation of the act and deny its benefits for tribal people. Implementation of the Act leads to further complications as the law deals with legal challenges.

Moreover, the large scale direct and indirect displacement of the Adivasi poor, in the name of development has contributed to creating a huge army of disaggregate casual workers, pushed into the migrant sector while the state completely abdicates all the responsibility to regulate or govern this most vulnerable section of the society. From a policy perspective, it is important to understand that tribal communities are vulnerable not only because they are poor, asset less and illiterate compared with the general population; often their distinct vulnerability arises from their inability to negotiate and cope with the consequences of their forced integration into the mainstream economic, social, cultural and political system, from which they were historically protected as a result of their relative isolation. During post-independence, the requirements of planned development brought with them the spectra of dams, mines, industries and roads on tribal lands which resulted in the concomitant processes of displacement. As tribal institutions and practices were forced into uneasy existence with or gave way to market or formal state institutions (most significantly in the legal sphere), tribal peoples found themselves at an intense disadvantage with respect to the influx of better-equipped outsiders into tribal areas.

In recent decades the perception of forestry has transformed because of the problem of deforestation, loss of bio-diversity, non-conservation of resources, non-protection of forests and lack of 'sustainable development'. As a sequel, a paradigm shift towards decentralization and grass-roots participation in planning and governance of forest resources is also manifested in India. In view of their abject poverty and century old tradition of depending on forests and moreover, due to lack of alternative viable option for livelihoods, the indigenous tribal people have to retain their traditional right over forest resources. The tribes as forest dwellers conceived themselves as the trustees of forest resources, preserving the forest for the benefit of future generations. Based on their traditional

knowledge of protecting and conserving forests for generations, tribes adhere to sustainability principle by the economic and rational use of the minor forest produces. As has been emphasized the life of the tribal people being linked with forests and land, the tribes desire that they should be accorded full control over resources. Across the country the confrontation between the tribal people and the government has been on the issue of land, water and forest resources, be it in South Bastar of Madhya Pradesh, Adilabad in Andhra Pradesh, Gadchiroli in Maharashtra and Malkangiri in Odisha. Notwithstanding these facts, tribal development policy embarked upon more than six decades was to modernize and 'mainstream' and make capable of participating in National building. In the process of integration and development paradigm, the tribes entered the most, particularly when land and forest – the two aspects around which the community life of tribes is centered – were taken away from them.

Despite the new provisions under the scheduled tribes and other traditional other forest dwellers (Reorganization of Forest Rights) Act 2006, arbitrary takeover of forest resources, establishment of state monopoly over forest resources and the conservation of traditional occupants of forests into encroachers, continue by market and anti-tribal policy over the period.

Globalization, forests and tribes

For a long-time, the tribal communities who have been completely forest-dependent and living in harmony with nature find themselves in hand-to-mouth existence as they are forced to cope with a life dependent on illegal mining, migration, as well as seasonal livelihoods. After the process of liberalization and globalization, the role of the state has become minimal and this opens the doors to large scale establishment of companies in the tribal heartlands. There are huge projects, for instance Vedanta, Tata and mining giants etc, which are directly affecting the tribal communities' lives. These multi national corporations are targeting the poor and marginalized sections and threatening them with state forces. This has become politicized and everyday affairs in the areas of tribal areas of India. Thus, these situations have forced tribal people to migrate to other areas in search of livelihood.

In most of the tribal concentrated districts, ecological degradation, erratic rainfall and a high risk of drought in the area have resulted in food insecurity, increasing out-migration and periodic deaths from starvation. Ecological imbalance is now seriously undermining the livelihood patterns and increasing vulnerability. A small land base, low agricultural productivity and low incomes have led

to mounting indebtedness, trapping tribes into a vicious circle of exploitation. The life of the tribes is increasingly vulnerable due to a persistent lack of assured entitlements to their resource base. Land alienation has deprived them of their land; forest legislation has turned them into encroachers on land they have always used; and they have also been excessively affected by displacement due to mining operations, irrigation projects, wildlife sanctuaries, etc. Tribal land alienation is the most important cause of the pauperization of tribal people, rendering their economic situation, which is extremely vulnerable even at the best of times, and has become even more precarious. The access of tribes to forests for their livelihoods has shrunk both because forests themselves have shrunk, and because the regulatory regime continues to restrict tribes from collecting and processing non-timber forest produce for their livelihoods. Shifting cultivation has also been ruthlessly restricted. The most important livelihood option of the tribal today is settled agriculture. However, as tribals are systematically deprived of their cultivable holdings, by non-tribes and even by government itself, they are reduced to asset-less destitution. The Department of Rural Development, Government of India commissioned in 1997-98 a number of state- specific studies of the problem, and reports were then received from Bihar, Andhra Pradesh, Madhya Pradesh, Gujarat, Rajasthan and Maharashtra.

Unfortunately, the 19th century colonial law like Land Acquisition Act (LAA) is being used indiscriminately in the great voyage of development. This law does not admit the concept of right to life and the will of the Raj has been accorded the hoary status of 'public purpose'. Like an indomitable, inanimate instrument for the transformation of the agricultural based traditional system with a modern system, the Land Acquisition Act is misused towards snatching away from the poor all those natural resources which had formed the basis of the life. The tribes, whose honour is inexorably linked with his land- the only source of his livelihood is being snatched away by state in collaboration with dishonest industrialists and corporate people. The situation in the tribal area in relation to the displacement is especially a matter of grave concern. The rich natural resources located in these areas are required for development. The traditional rights of the people who are fully dependent on these resources for their living are not recognized as they are not formally recorded. The existence of the community and its relationship with the habitat are not even getting away from any law whatsoever. Moreover, all these aspects of life, which cannot be captured within the frame comprising formal rights concerning property and market relations, are conspicuous by their absence. Whatever may be the formal position about land acquisition, to the ordinary tribal, it is nothing but forcible occupation of land.

A number of tribal concentrated states have been formed in the North-East. There has been unrecorded confrontation between the formal authority of the state and the traditional authority of the village community, which has been sharper. In view of this problem, the tribes should be enabled to retain their identity as a living community so that they can become equal partners in the national life with dignity and self-respect retaining the best from their tradition. The tribes of Bastar (Madhya Pradesh) and Gadchiroli (Maharashtra) have been claiming primacy of community in the management of social matters, forests and other resources. The tribes have been demanding on three basic issues: i) right of confirmed use of resources by those who depend on them for their living, ii) right of unbreakable link between the means of production and the worker and iii) rejection of those laws which are unconstitutional and against human rights.

Restrictions imposed in the use of forest and other resources by the government to the tribal community, their displacement, alienation of their land are the factors contributing to the tribal unrest.

Issues and problems in tribal regions

In the words of the draft National Tribal Policy (NTP), "Land is the most important source of livelihood for tribes.. However, and in spite of State enactments to prevent alienation of tribal land, wrongful alienation of tribal land is the single most important cause of pauperization of tribes...." Further, they are prevented from exercising their traditional rights over the forests, even as the forests have been opened up to all sorts of plunder and destruction by the process of so-called development. Suggesting that the "deep sense of exclusion and alienation" among tribes was responsible for unrest in certain tribal areas, the NTP states candidly: "A situation is thus developing where the STs view the state as their exploiter and enemy, and the preachers of violent actions as their protector and friend. Tribal people tend to support these violent movements as they feel that it would help them get their rights, protect them from exploitation and redress their grievances."

Since 1991, the Global Environmental Facility (GEF) has provided funding for biodiversity conservation and climate change projects. The WB has administered 70 per cent of the GEF allocations to India. The World Bank -managed eco-development project of the GEF was implemented in seven NPs. The implementation generated considerable unrest in these parks. The forest people in Nagarhole faced police firing, several villagers in Buxa were fired upon by FD personnel and villagers in Pench were thrown out of their homes and their be-

longings were destroyed. The WB inspection panel severely indicted the Bank's role in the project and criticized-the implementation process in Nagarhole.

The eco-development committees (EDCs) that were formed became omnipotent and undermined the role of the panchayats, gram sabhas and traditional village and community institutions. The EDCs were non-representative, undemocratic and there was no participation in the decision-making process by the forest people. The project itself became money making scheme for vested interests and a few FD personnel. There was complete absence of consultation in preparing, developing and planning the projects. The administrative and management practices resorted to were alien to the forest people, especially in tribal areas. All these resulted in village-level and intra-community conflicts in these NPs. The seven-year project ran from 1996 until 2003, with finance provided through a GEF grant of US$20 million and a WB (IDA) loan of US$28 million. It sought to support biodiversity conservation by implementing an 'eco-development' strategy for seven critical PAs, enabling collaboration between PA managers and local people living in and around the PAs.

The project affected a total of 427,000 villagers (89,000 living within the PAs) in and around the Periyar Tiger Reserve (Kerala), Buxa Tiger Reserve (West Bengal), and Palamau (Bihar), Gir National Park (Gujarat) Pench Tiger Reserve (Madhya Pradesh / Maharashtra), Ranthambore National Park (Rajasthan) and Nagarhole National Park (Karnataka).

Central to the conservation strategy was the 'voluntary' relocation of people living within the PAs to 'buffer zones' and the provision of support for alternative (non-forest-based) livelihoods. Participation was to be assured through the village-level EDCs that were charged with overseeing the preparation of 'micro-plans' for village development. The project served to strengthen the FDs, which forcibly relocated tribal communities and blatantly violated the project agreement by restricting 'development' benefits only to those people willing to move out of the NPs. In 1998, complaints about the project made by tribals at the GEF assembly in Delhi were publicly dismissed as unfounded by Bank officials. At the same assembly, GEF officials were criticized for failing to respect grassroots calls for suspension of the entire eco-development project.

In the Gir and Pench National Parks, affected villagers assert that the project had undermined traditional livelihoods, increased unjust restrictions on resource use and often led to the impoverishment of tribal and other forest dwellers that have been forced to depend more on the market economy and migrant labour.

Villagers complain that micro-plans were written by the FDs, while villagers' proposals were ignored and traditional knowledge disregarded. After the closure of the project, villagers in Pench and Gir felt they were worse off and less secure. They felt the project had primarily benefited park authorities, who increased their control over the PAs and further marginalized the local people.

There are frequent occurrence of malnutrition related deaths in the tribal communities in India in different states including Rajasthan, Bihar, Jharkhand and Madhya Pradesh. The high number of these deaths and the continuity proves that the tribal communities are more exposed to food insecurity and child malnutrition in these states. The state governments, rather than live up to their responsibilities blame the deaths on the communities, their food culture and living styles, accusing the members of these communities that they are superstitious. The governments say nothing about their own rampant corruption and neglect. The difference between social groups, however, cannot be a principle for discrimination and exclusion in a society.

The government needs to pay more attention to the tribes. It is not because they are tribes, but because they are currently the most exposed groups to food and health insecurity. The ratification of the International Covenant on Economic, Social and Cultural Rights (ICESCR), by India and the constitutional guarantee to the right to food as a fundamental right, casts a mandatory obligation upon the Government of India to protect, promote and fulfill this right of its people. However, Madhya Pradesh state has the highest rate of child malnutrition and mortality in the country, a record in which India as a country itself is one of the worst in the world.

Concluding remarks

A perusal of the above analysis reinforces the ground reality that forest dependent tribes are highly impoverished community in India. They are constrained to migrate to urban settlements in subhuman living conditions without basic requirements. Deforestation, exploitation and recurring droughts and other natural calamities drive them into relentless grip of disease, suffering and starvation. About the decision which ends up destroying their land, livelihood and survival, leading to perpetual misery, the tribes are never consulted. These are voiceless people and unfortunately nowhere on the political agenda appear the restoration of their traditional rights to harvest and sell non-timber forest produce at fair and remunerative prices.

In this backdrop of analysis, we can suggest that our legal frame should be

restructured with the right to life of the common man particularly the poverty – stricken tribes as the central point. First of all, all unconstitutional elements should be identified and eliminated from all the laws particularly those concerning the command over resources, ownership of means of production and existence of labour. (Sharma, 2010).

Forests have not only been disregarded in economic policy but also have been plundered for short-term gain. Sustainable development of forest resources and their effective/optimum utilization is crucial for alleviation of rural poverty. Hence, what are needed are a strong institutional framework- and an effective legal and regulatory environment ensuring the rights of specific groups among the tribes and forest dwellers being recognized and protected simultaneously providing opportunities to develop sustainable forest business to these communities. (Lahiri, 2010).

In its report titled "Unlocking Opportunities for Forest-Dependent People of India", released in February 2006, the World Bank points out that forests offer vast potential for poverty reduction and rural economic growth in India, while supporting critical national conservation goals. The report states: "Forests are mainly used as a safety net during difficult economic periods, or for seasonal subsistence products like fuel wood and fodder. For communities (tribes and forest dwellers) to benefit from the untapped potential of forests, wide-ranging and carefully phased reforms are required at both the national and state levels addressing: 1) stronger forest rights and responsibilities for forest communities; 2) more effective management systems targeted at communities involved with forestry; 3) improved access to more efficient market systems for major and minor products; and 4) more effective and flexible institutions and capacities."

Investment in social forestry, reclamation of agricultural land, provision of free and compulsory education, health services and guaranteed employment or source of employment with multiple livelihood options, equitable sharing of resources with utmost priority for tribes, immediate implementation of Panchayats Extension to Schedule Areas (PESA, 1996)[1] in the fifth schedule areas, will certainly ameliorate the situation and usher in an era of peace in the so called 'disturbed tribal areas'.

1 It decentralized existing approaches to forest governance by bringing the Gram Sabha center stage and recognized the traditional rights of tribes over "community resources"- meaning land, water, and forests Regions with significant tribal populations in central India have been specifically mentioned in the fifth Schedule of the Constitution, and have been provided with some safeguards, which, however, have not worked well because of political and administrative apathy.

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Rajiv Gandhi University Research Journal
(January-July, 2012), Vol.11, No.1: 28-45
ISSN 2250-2866

Maoist Armed Conflict and Peace Process in Nepal: Some Lessons to Learn

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(Received on 06-01-2012 Accepted on 20-06-2012)

Abstract

After a decade long armed struggle against the Nepali monarchy, the Maoist understood the situation making a proper assessment of their strategy that it did not bring them the desired output. They realized the democratic values and the need of popular support for achieving their objective of a democratic republic. Today, Nepal has emerged as one of the youngest sovereign, democratic, republic disproving all past speculation thereby bringing an end to the century long Nepali monarchy. The Prime responsibility on the Constituent Assembly (interim government) is to draft a Constitution which should be more inclusive, more democratic. Unlike Nepal, it is noted here that given the strength of the Maoist insurgents, their armed struggle against the Indian State is not going to succeed and never can be except loss of precious lives, property and resources. Besides, in India despite so many socio-economic and political challenges, majority of the people have faith in the democratic way of governance of the state. Therefore, it is expected that inclusive and sustainable development with prime importance to deprived people particularly tribal would solve the Maoist armed conflict.

Keywords: *Armed Conflict, Maoist armed conflict, Maoist in Nepal, Maoist in India, Nepali Monarchy, The Jhapa Movement, The Royal Coup, Constituent Assembly, United Nations Mission in Nepal (UNMIN), Royal Nepali Army, Salwa Judum, Naxalbari*

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Understanding Conflict

The issue of 'armed conflict' is a complex area of study because there is great controversy and fast-moving debate. The theory of conflict gives a conceptual framework to enable researchers to analyze, describe and predict trends in a conflict situation. Conflict is a fluid and ambiguous term, and can refer to a debate or a contest, a disagreement, argument, dispute, quarrel, a struggle, a battle or confrontation or a state of unrest, turmoil, chaos and violence. (Warner, 2001:2). As conflict is understood as an omnipresent part of human interaction, it is less about the question of their elimination, but it is rather about their regulation or peaceful settlement. (ibid., 3). The term 'Armed Conflict' is preferred to that of 'war' because its usage commonly encompasses a far broader range of circumstances and conditions from violent political protest or insurgency to violence enacted by trained and organized military groups. Armed conflict is a mechanism of social and political transformation as it is witnessed in Nepal.

Two main schools of thought exist in conflict discourse (Rubestein, 1993:146-157). One of the schools of thought considers conflict as pathological and dysfunctional while another school considers it as functional. In the former, 'conflict' generally carries a negative connotation and is interpreted as something irrational that needs to be suppressed because it is opposite to co-operation and peace. Another school of thought considers that conflict can also be an approach for functional change in the political system. According to this perspective, conflict is a continuous social process and has great influence in shaping and reshaping social relation and the power structure of the society. New innovations, policies, procedures, laws, local power relationship, etc. determine the causes and intensity of a conflict.

An alternative perspective was put forward by Karl Marx (1972) citing a case of intense conflict between two classes of people, the bourgeois who owns the means of production and the proletariats who sell their labour. Likewise another prominent theorist Max Weber (1948:436) in his 'Social Action Theory' suggests that conflict is endemic in social process but tends to operate in favour of powerful people of the society. Folger and Jones (1994) emphasize on some basic causes of conflict as follows:

- Competition over the scarce resources, power, and position
- Difference in perception, work style, attitudes among individuals,
- Divergent ideologies
- Developmental mismatch

- Resistance to social, cultural, technological, political and economic and any other changes
- International vested interests

Nepali politics and the Emergence of Maoists Armed Conflict

It is a surprise to everyone the way the Nepali Maoist started their people's war with great enthusiasm but over a period time they could realize that they would not win simply militarily. After a decade long armed struggle against the monarchy, the Maoist understood the situation making a proper assessment of their strategy that it did not bring them the desired output over a period of time. They realized the democratic values and the need of popular support for achieving their objective of a democratic republic. (Pande, 2005:9).

Land, People and Economy

Nepal is a roughly rectangular slab of 147, 181 sq. km. According to Census of Nepal 2001, The Central Bureau of Statistics, Government of Nepal, the total population of Nepal is 23,15,1423. According to the preliminary result of the National Population Census 2011 released by the Central Bureau of Statistics of Nepal, the total population is estimated to be 26,620,809. Farming is the major occupation of the people. Geographically, the country comprises three ascending ecological belts. To the South, adjacent to India, is the fertile low-lying strip of the Tarai or plain region, home to 48 per cent of population, mainly Madheshi. The central hill region including Kathmandu has long dominated Nepali politics. The Western hills and Mountainous regimes have always been the poorest part of the country and the strongest base of Maoist support. The Madhesi people live in the Tarai region who are basically people of Indian Origin and many of whom retain close ties with relatives across the border. One-third of the Tarai population is immigrant hill people. Over 60 per cent of Dalits live in the hills, disproportionately more in the middle and far west. They are basically landless and dependent on work in upper- caste owned farms. (Vanaik 2008:47). In the west there is larger proportion of mongoloid ethnic groups who have subsistence fields than those in the eastern hills; many of them can't ensure their livelihood.

A brief account of Monarchy in Nepal

The Kingdom of Nepal was forged in the late 18th century by Prithivi Narayan Shah, the ruler of the Gorkha principality (in present- day West Nepal) who captured Kathmandu in 1768. In 1846, Jong Bahadur carried out a public massacre and established a hereditary Rana premiership in which successive mem-

bers of Rana dynasty ruled for personal wealth and power. The political system of Shahs and the Ranas was characterized by a strong hierarchical and dominating class. The rigid centralized structure of administration and politics remained intact with the ruling class. Both Trivuban (1911-55) and his son Mahendra (1955-72) consolidated royal authority assuming powers to appoint and dismiss the Prime Minister and Cabinet. This caused discontent and dissatisfaction among the intellectuals and politically active people who later raised voice against the regime. (Mishra, 2006:17).

The Panchayat Constitution of 1962

The new Constitution, which was promulgated by King Mahendra on 16 December 1962, with the new system, came to be known as Panchayat System. The most striking feature of this 1962 Constitution was that it established a party-less Panchayat System in Nepal. The Constitution provided that the sovereignty of Nepal would be located in the hands of the king as he became the real head of the state (The Constitution of Nepal, 1962). It is observed here that 1962 Constitution reversed the process of democratization in Nepali polity. In this regard it is worth mentioning that the first amendment of 1967 prohibited the formation of political parties; thereby party-lawlessness became the permanent feature of the Panchayat System. It is noteworthy here that the post of prime minister was created for the first time under this Constitution.

Abolition of Panchayat System

The amendments in the Constitution of Nepal, 1962 did not satisfy the emerging democratic aspirations of the people; rather it created discontent and dissatisfaction among them. This caused a nation-wide movement in 1979 for the abolition of the Panchayat System and establishing a multi-party system in the country. The final blow to the Panchayat system came in the form of a movement initiated by the Nepali Congress and the communists jointly. The movement became so intensive that King Birendra found no alternative but to declare abolition of Panchayat system in April 1990. He declared the kingdom of Nepal as a multi-ethnic, multi-lingual, independent, sovereign, Hindu and Constitutional Monarchical kingdom. The Constitution stated that Monarch is the symbol of Nepali's nation and the unity of the Nepali people. The executive powers vested in the king were to be carried out with the advice of council of ministers, headed by the Prime-Minister (The Constitution of Nepal, 1990). It is very important to note here that it was in this people's movement of 1989-90, the Maoists and other extremist communist groups played an active role under their organization

named United National Peoples Movement (UNPM).They stood for a Constituent Assembly to draft a national democratic constitution. (ibid).

In pursuance of this demand, they were not initially inclined to participate in the general elections of May 1991 for a multi-party parliament under the new constitution of November 1990. However, they changed their position, perhaps with a view to change the system by working from within. For this, they formed a two-tiered organization, The United Peoples Front of Nepal (UPFN) and Communist Party of Nepal (Unity Center). Both political parties participated in the election of 1991 and won nine seats by polling 4.83 per cent of votes cast. They emerged as the third largest political group after Nepali Congress and the Communist Party of Nepal (UML). The Unity Center disintegrated and formed into two factions led by Nirmal Lama and Niranjan Govind Vaidya on the one hand and Dr. Baburam Bhattarai and Puspa Kamal Dahal on the other. It is the latter group that represents Maoist insurgency in Nepal. The UPFN led by Lama and Vadya succeeded in securing recognition of the election commission for the 1994 election and also participated in the election. But another group led by Baburam and Prachandra was not recognized as a separate party. The Baburam group, being not qualified to participate in the elections, boycotted them "as a face scaring" response and also gave a call to all others to do so. In 1995 this group called itself as Communist Party of Nepal (Maoist) and went underground.

However, these Maoist groups did not stop at boycotting elections in the areas of their influence and dominance like Ralpha, Rukum, Jajarkot and Salyan. They started attacking landlords and government functionaries as also those voters and political activists who took part in the election process. The unleashing of violence by the Maoists was also in retaliation against the severe police action against their activities under the Military operation code named "Romeo" during 1994- 95. On 13 February 1996, the Maoists declared peoples' war (PW) in Nepal.

The Jhapa Movement

Influenced by Naxalbari Movement and Cultural Revolution of China, a militant revolutionary peasants' struggle emerged in the Jhapa district in Nepal. It was in 1974 the "Jhapa District Committee of East Kosi provincial Committee defied the decisions of the Kosi provincial committee and advocated the Maoists strategy of organizing a guerrilla Maoist warfare that was adopted by the extremists. To lead this movement the establishment of the Communist Party of Nepal (ML) took place on 26 December 1978 (Khadka, 2004). It was not simply concerned with the change of the policies of the government, but was totally opposed to the existing political system.

Emergence of Maoist Armed Conflict

As discussed earlier, the emergence of the CPN (Maoists) in 1995 as the front runner in carrying out the mass movement of armed struggle was not a new phenomenon. However it was under the leadership of Pushpa Kamal Dahal (Prachanda) the party ultimately decided at the historic meet held in March 1995 to go ahead with the initiation of people's war and chalked out the strategy and tactics. In March 1998 a formal split in the party took place, CPN (UML) under the leadership of Man Mohan Adhikari and Bander Gautam leading CPN (ML). It was on 4th February 1996, Baburam Bhattarai presented to the Nepali Congress led government of Sher Bahadur Dueba with a list of 40 demands related to nationalism, democracy, framing of a new constitution, declaration of Nepal as a secular nation, etc. However, with the failure of the government in fulfilling those demands on 13 February 1996, the armed groups of the Maoists attacked several government establishments from where the Maoist insurgency became intense. The armed struggle started in the traditional Communist/ Maoist strong holds of western part of Nepal, particularly in the districts of Rolpha, Rukum, Jhajankot. The CPN (M) began attacking local banks, burning loans paper to indebted farmers, attacking police-station, accumulating small arms and involving in illegal cross-border trades, etc. During the early years of commencement of the people's war, the Maoist was perceived as merely a revolutionary party among the masses. Neither king Birendra nor the parliamentary leadership had taken the CPN (M) declaration of armed struggle too seriously thinking police action would be enough to crush such adventurism. Similarly, Prime Minister Girija Prasad Koirala attempted to crush the Maoist movement through police operation named "Kilo Sera 2". It caused enough damage to both sides, but the Maoist Movement could not be brought to halt. Instead it kept the pace of the Movement going. It is worth mentioning that during 1996-2001, the CPN (M) had a tactical understanding and tacit co-operation with king Birendra (Janadharana Weekly, 19 December 2002).The reason being that king Birendra ignored the Koirala government's requests for the use of army against the Maoist and the king also did not approve until 2001 the government's proposal for a new armed force to fight the Maoist.

The Maoist changed their paths after the massacre of king Birendra. In the aftermath of the massacre of the Royal family, the Maoists described the new

king as a 'Murderer' and identified themselves openly with the slain king Birendra in order to harness popular support and sympathy. The Maoist came above ground to conduct open rallies and meetings, while the talks with the government started insurgents maintained their main political demands as non- negotiable, a republic sans Monarchy and a constituent assembly to decide on a new constitution. (Mishra,2006:.30). On 25 November 2001 king Gyanendra declared emergency in Nepal. The Royal Nepalese Army was deployed to fight against insurgency. There occurred enough casualties from both the Maoist and the RNA sides. Subsequently, the king initiated ceasefire with the Maoists. However, the king and the Maoist could not reach an agreement because the Maoist struck to their earlier demands for a new constitution and declaring Nepal a republic.

The Royal Coup and International Reaction

In February 2005 king Gyanendra sacked the government and vested all the executive powers in him, arrested the country's political leaders and suspended civil liberties. He justified his acts by citing the failure of multiparty governments both in countering insurgency and tacking the Maoists. The February 2005 proclamation is all about accusation against political parties and their leadership. The evil political tactics of King Gyanendra, who acted as an anarchist, brought him international criticism.

Maoist warfare strategy

The Maoist armed struggle in Nepal is based on Mao's basic idea about guerrilla warfare. Like the Royal Nepal Army the Maoist ran military camps for their cadres in the dense forest area of Mahottari along the Indo-Nepal border. Ex-Gorkha soldiers along with some deserter of Nepal Army also trained the Maoists in lieu of money. The Maoists also raised several other battalions, upgraded their military brigades and set up training base areas in Kuwakot in Bhatna Village Development Committee (VDC) of western Nepal. The Maoist weapons included AK 47 riffles, SLR 303 riffles, country guns, hand grenades, explosives and detonator, LMGS, RCLS, impoverished explosive device (ICD). (Mehta, 2002:106).

Basic causes behind the Maoist insurgency

There are socio-economic and political reasons responsible for Maoist armed conflict in Nepal. UNDP Human Development Report 2001 stated that 38% of Nepal's population was extremely poor and was not in a position to meet their basic requirements. Generally in Nepal's semi-feudal society the distribution of

land is very unequal and a large majority of population is landless and poor peasants. (Thapa, 2003:25). Therefore, the CPN (M) did not lag behind but instead took the issue on hand and started mobilizing the people of the region.

The mid-western region where the Maoist Movement started is the least developed and poverty stricken area of the kingdom with a low level of education, poor health and infrastructure facilities. There are also complaints that justice is being too expensive and too slow with many cases of corruption and rulings obtained through money. It is probably this state of affairs that people in some of the remote districts started to approach the Jana Adalats (Peoples Courts) set up by Maoist for justice. (*Saptahik Bimarsha*, 22 March 1996). Besides, the geographical situation of Nepal is favourable for the Maoist to wage guerrilla war. The Maoist Army consists of young men, women, students, and tribals. The Maoists slogans of de-Hinduisation, anti-Brahmanism, secular politics and abolition of Caste and class hierarchies are appealing to the ethnic communities particularly the Mongoloid communities. (Upreti, 2006:39). Besides those who had faced hardship at the hand of the government and state forces, those who had been persecuted by village officials, police authorities and banks also became sympathizers of the Maoist cause.

Initiatives towards peace process in Nepal

One of the significant political movements towards democracy in Nepal was Jana Andolan II that was declared in March 2006 by the Seven Party Alliance (SPA that comprised Nepal Congress, Nepali Congress (Democratic), Communist Party of Nepal (UML), Jana Morcha Nepal, Nepal Workers and Peasants Party, Nepal Sadbhabana Party (A), and United Left Front and the Maoists. The movement gained momentum when an alliance of seven mainstream political parties reached a 12 point agreement with the Maoist. Some of the major points in this regard were that both sides would unite to end the monarchical autocracy to restore democracy, establishing an all-party interim government, call for a constituent assembly, and would work to end the conflict between the Royal Nepali Army and the PLA. (Vanaik, 2008).

The Constituent Assembly Election and the emergence of Parliamentary Democracy

After a long political stalemate, on 10 April 2008 Nepal went through a paradigmatic political transformation witnessing triumph of democracy rooted in the primacy of ballots over the bullets. The historic election to the Constituent Assembly is the most significant in the democratic movement of Nepal when the

Nepalese choose 601 member Constituent Assembly. There were 74 political parties, 17.5 million voters and over 80, 00 observers along with high profile individuals such as former US President Jimmy Carter. So far as the election result is concerned, of the 601 Constituent Assembly members, 240 were directly elected and 335 members through proportional representation and the remaining 26 members were nominated by the Prime-Minister. Besides political parties receiving more than 23512 votes in the proportional voting system garnered at least one seat in the Constituent Assembly. The evolution of the fractured mandate with none of the political parties commanding absolute majority has provided considerable space for the small parties to play influential role in the constitution making process. The CPN (Maoist) securing 220 seats of the 575 elected seats overwhelmed the two traditional ruling parties the Nepali Congress which secured 110 seats and the Communist Party of Nepal (UML) with 103 seats. Besides the regional political parties like Madhesi Janadhikar Forum, which stands for the cause of the Madhesi people, secured 52 seats while Tarai Madhesi Lok Tantrik Party got 20 seats and other smaller political parties could manage to get less than 9 seats. (Pande, 2008). Here we can mention the number of seats secured by major political parties in the Constituent Assembly election of 2008.

The Constituent Assembly election manifested the rise of new political forces such as the MJAF, TMLP and the SP. The electoral victory of the CPN (Maoist) was a surprise to every one's expectation on which people give different views. To some people some of the major factors were the initiatives of the Maoists in their agenda setting of the Constituent Assembly including republicanism, secularism, federalism, land reforms and emancipation of the marginalized section of the society. Pushpa Kamal Dahal the leader of the majority party CPN-M became the Prime-Minister while Ram Baran Yadav from MJAF was chosen as the President of the new republic.

Recent developments in the peace process

Nepal's peace process has been described largely as home grown and unique because unlike other countries where cease fire, peace agreement and peace processes have been initiated and facilitated by international actors (outside power), Nepal's peace process developed within the country. (Upreti 2008). The most serious breakdown in power-sharing and consensus decision-making, of course, came in the aftermath of the Constituent Assembly election. The outcome of the election had been, and continues to be difficult for many in the non-Maoist parties to accept Plans to establish local peace committees and

Table-1: Seats secured by major political parties in the Constituent Assembly election of 2008 in Nepal

Political Parties	Elected seats	Nominated seats	Total
Communist Party of Nepal (Maoists)	220	9	229
Nepali Congress	110	5	115
Communist Party of Nepal (UML)	103	5	108
Madhesi Jana Adhikar Forum	52	2	54
Rastriya Prajatantra Party	8	0	8
Communist Party of Nepal (M-L)	8	1	9
Sadbhabana Party	9	0	9
Jana Morcha Party	7	1	8
Communist Party of Nepal (United)	5	0	5
Nepal Workers Peasants Party	4	0	4
Rastriya Prajatantra Party Nepal	4	0	4
Rastriya Jana Morcha	4	0	4
Rastriya Jana Sakti Party	3	0	3
Nepal Sadbhabana Party (Anandidevi)	2	1	3
Rastriya Jana Mukti Party	2	0	2
Nepali Janata Dal	2	0	2
Dalit Janajati Party	1	0	1
Communist Party of Nepal (United)	2	0	2
Sanhgiya Loka Tantrik Rastriya Manch	2	0	2
Nepal Rastriya Party	1	0	1
Samajbadi PrajaTantrik Janata Party	1	0	1
Chure Bhawar Rastriya Ekta Dal	1	0	1
Nepal Lok Tantrik Samajbadi Dal	2	0	2
Total	**575**	**26**	**601**

Source: www.election.govt.np Nepal news.com

have been only belatedly and partly implemented. The Constituent Assembly, which is a forum for real debate and consensus-building, instead has been used by major parties as a forum for confrontation, with Madeshi parties, the Nepali Congress, the UML and the Maoists all at different times engaging in blockages and boycotts, instead of democratic debate. Now Nepal's Legislature-Parliament elected Baburam Bhattarai, Vice-Chairman of the United Communist Party of Nepal (Maoist), became the new Prime Minister defeating the Nepali Congress Leader Ram Chandra Poudel. The Maoist victory was made possible, thanks to a last minute four point agreement with the Madhesi on four fundamental issues of peace, constitution and functioning of a joint government. (29 August 2011, The Hindu). The Maoists were supported by the United Democratic Madhesi Front (UDMF). The main challenge before the new government run by Dr. Bhattarai was the drafting of the new constitution in accordance with the socio-economic-political and cultural aspirations of the people of Nepal. (see The Hindu, 31 August 2011). The second fundamental aspect of the peace process is the commitment of the Maoists to the transformation of their movement, to adapt to democratic multi-party norms and to respect the rule of law.

Issue of Federalism

There are several key strains within the constitution writing process. The first is the debate over federalism. Given that the Interim Constitution has committed Nepal to a federalist structure, the question is not whether Nepal will be federal, but what shape its federalism will take while these can, broadly speaking, be defined as either ethnic or geographical conceptions of federalism; such categorisations are too simplistic. Major political parties such as the Madhesi Janadhikar Forum (MJF), Madhesi intellectuals and civil society leaders argue for a three-state federal structure based on the mountain, hill and plain geographical regions of Nepal (See Nepal election Portal April, 2008). However, while they argue federal states should be created along these boundaries, they conceptualise a unified, Madhesi race that would live harmoniously in the Terai, should they be granted regional autonomy. Therefore, Madhesi perceptions of geographical-based federalism are also rooted in their perception of ethnicity. However, the burgeoning role of ethnic, caste and religious identities in Nepali politics, especially since the Jan Andolan II in 2006, has led to a proliferation of historically marginalised ethnic groups declaring their desire for regional self-determination, or even secession, within the new federal framework (See the report of the International Crisis Group July, 2007).The CPN-M has drawn a sketch of two federal and two sub-states on the basis of ethnic composition,

geographical contiguity, and linguistic bases. It has proposed Seti-Mahakali and Bheri-Karnali federal states on the bases of their geographical suitability. The other administrative areas as such Magrat-Tharuwan, Tumuwan, Newa, Tamsalng, Kirat Limbuwan, Kochila, Madhesi are based on ethinicity. Within the Madhesh autonomous state, three sub-states Mithila, Bhojpur and Awadh have been proposed on linguistic basis. But some parties have expressed their opposition to ethnic based federalism as a ploy to dismantle national identity. For example, Jana Morcha Nepal has opposed the concept of federalism and expressed its preference of a unitary state.

Land Reforms

Land reform issue is another major challenge before the new political regime in a semi-feudal society of Nepal. Article-19 of the Interim Constitution states that all Nepali citizens have a right to private property (See The Interim Constitution Report, 2007). However, compensation for victim and return of property seized during the conflict remain unfulfilled which is one of the objectives of the peace process. Land reform has been almost non-existent so far. Now the Maoists have committed to return the property confiscated during the insurgency (See The Hindu, 2 November 2011). The CPN-M has exploited the ambiguous phrase "unjustifiably" seized property in the CPA in order to stall the return of private property acquired during the civil war. (Kumar, 2008: 30). Another key problem is the lack of data available. Records of purchase and ownership are extremely limited, having either been destroyed in the conflict or never having existed at all.

Role of United Nation Organisation in the Peace process

The United Nation is playing very constructive role in the peace building process in Nepal. The UN through the office of the High Commissioner for Human Rights (OHCHR) in Nepal has been responsible for Monitoring Human Rights. The United Nations Mission in Nepal (UNMIN) is playing an active role in the management of arms and armed personnel of the Nepali Army and the CPN (Maoist). The United Mission in Nepal which has playcd a key role in the peace process wants to facilitate army integration. (Pande, 2008). The UNMIN ceased to operate on15 January, 2011. Now The Interim Council of Minister is mandated to form a special committee to supervise, integrate and rehabilitate the PLA. The Nepali Army has clearly expressed its willingness to abide by the directives of the legitimate government but has objected to the merger of politically indoctrinated combatants into the army. The UN Secretary-General Ban

Ki-Moon stressed in October 2008, "the peace process faces continuing challenges at the local level (See the Report of the Secretary General, U.N. Security Council, October 2008). In particular, this refers to dismantling the paramilitary structures of political party youth wings, most notably the Youth Communist League (YCL). However, demilitarising the YCL has proven difficult for several reasons. Firstly, the paramilitary structure is the core of the YCL. Following their first national conference in February 2007, a YCL press release stated that it was a "militant organization" whose duties include conducting the elections in a free and fair manner; being vigilant against conspiracies in relation to the elections; playing an active role in fighting attempts by 'regressive royal forces' to avoid the elections. (See The OHCHR, 2007). During the election, the YCL committed several electoral violations, which mainly included physically intimidating voters and candidates that have been extensively documented by UNMIN ("UNMIN Election Report No 3" 6 April 2008). Thus, the demilitarisation of the YCL would extinguish the very essence of the organisation.

Issue of reintegration of Maoist Combatants

As a significant development towards the peace process, Nepal's political parties arrived at historic agreement on peace, constitution writing and power sharing. The Unified Communist Party of Nepal (Maoist), the Nepali Congress (NC), The Communist Party of Napal (Unified Marxist-Leninist) and the Madhesi parties settled the future of the 19,602 Maoist Combatants agreeing to integrate a maximum of 6,500 fighters into the Nepal Army (NA) and provide rehabilitation and cash packages to the rest. According to the deal, the former combatants would be integrated in a newly created special directorate under the Nepali Army, which will also include Nepali Army and personnel from other security forces. The Directorate would be responsible for development works, industrial security, and disaster relief. Those combatants who opt for voluntary retirement will get between $6,300 and $10,000approximately, depending on their respective ranks. There will be packages between $ 7,600 and $11,400 for those who prefer rehabilitation. Maoist's weapons will come under the government. (See The Hindu, 2nd November 2011).

Mine action experts advise the Maoist army on the safe storage and destruction of improvised explosive devices and provide advice and training to the Nepal Army in the clearance of anti-personnel minefields to International Mine Action Standards. They monitor the weapons stored mainly at the cantonment sites of the Maoist army, in Ilam, Sindhuli, Chitwan, Nawalparasi, Rolpa, Surkhet and Kailali, and at the Nepal Army's barracks in Chhauni in accordance with the

Agreement on Monitoring of the Management of Arms and Armies. Civil Affairs officers monitor and report on the re-establishment of local governance and public security. They also encourage local dialogue to promote peace building at the district level. China's current position on its neighbours specially towards Nepal is termed by some policy analysts as that of sleeping Dragon. But in fact China has changed its approach and considers Nepal as a gate way to South Asia in order to promote its trade with the region and is thus hopeful of long lasting peace. Given the political instability in sovereign, democratic, republic of Nepal, India's response would be that of a facilitator than anything. A stable democracy in Nepal is in the interest of Nepal as well as India and so also for the South Asian region. That is why India has involved in the post conflict peace building process in Nepal. (Murthy, 2011:283).

Implications for the Indian Maoist Insurgents

Unlike Nepal (where once autocratic Monarchy prevailed), India is the largest and more stable democracy in the world. India is a union of states. The Constitution of India provides for a parliamentary form of government, federal in structure with certain unitary features. The constitutional head of the State is the President whereas Prime Minister is the head of the government. India has one of the largest army in the world. The active judiciary along with vibrant Indian media has made the political system stronger than ever before.

Besides the strength India is possessed with, it is facing many internal security threats like terrorism, communalism, regionalism and more importantly Maoist armed conflict which is also a part of discussion in this paper. Given the growing Maoist violence across India, the Prime Minister has termed Maoist insurgency as the greatest threat to our internal security. There are numerous reasons behind the spread of the Maoist insurgency in India. In this regard former IPS, K. S Subramanian says, "Maoist violence in the country is the consequence of increased atrocities against scheduled tribes (especially in the central tribal belt) and wide spread tribal unrest due to commercialisation of forest resources. It is the consequence of non-performance on the basic issues related to tribal development as laid down in our constitution". (Subramanian, 2010:25). Thus Maoist insurgency in India is result of socio-economic grievances particularly of the tribal people accumulated over a period of time. Though Maoist armed struggle started during the Naxalbari uprising, it has reached its peak in this era of liberalisation, privatisation and globalisation. The commercialisation and corporatisation of forest resources have reduced the indigenous community's access to them. Alienation of tribal land and control by richer non-tribal people

from outside are significant factors in tribal unrest. Displacement due to construction of large dams and other industries has impoverished these communities. (ibid.,32). In the light of this, it is not surprising that the Maoists have easily managed to garner support among those sections of STs and other downtrodden people of the society who became victims rather than beneficiaries (whether it is in Odisha, West Bengal or Chhatishgarh). Speaking to the Standing Committee of Chief Ministers of Naxalite-affected states the Prime- Minister stressed that the Maoist movement had "gained its strength and spread to 160 districts all over the country". The concern expressed in the Constitution's Fifth Schedule that the laws of the land should be suitably adapted in their application to the scheduled areas was ignored. The effect of non-recognition of the rights of local community's command over resources had resulted in disorganisation, displacement and destitution of the adivasis. (ibid). The annual report of the Ministry of Home Affairs (MHA) says that "(n) axalis...is not merely a law and order problem but has deep socio-economic dimensions" (Gautam, 2006). The misunderstanding of the problem leading to armed struggle has cost much casualties of Maoists, state forces as well as the innocent civilians. The anti-Maoist operation groups like 'Grey Hounds' in Andhra Pradesh, 'Salwa Judum' in Chhatishgarh, 'Pahari' battalions in Jharkhand, Special Operation Groups in Odisha have been measures taken by the GoI to counter Maoist threat. Furthermore, employment is being created in the Central Paramilitary Forces for youth from Maoist affected areas. It has been observed that the decades long armed violence could make no substantial progress. Neither the government nor the insurgents have become successful. Again it is noted here that given the strength of the Maoist insurgents, their armed struggle against the Indian State is not going to succeed except loss of precious lives, property and resources. In this regard the Report of the "Expert Group to Planning Commission on Development Challenges in Extremists affected areas" made a profound analysis of the socio-economic situations in the state of Andhra Pradesh, Bihar, Chhatishgarh, Odisha and Jharkhand and suggested that the problem of violence and terrorism should be understood in proper development prospective and handled politically and administratively rather than by using brute police force. But this thinking is a sharp departure from the hitherto held position that the Army is meant to and equipped for dealing with external aggression by forces of the hostile country and not with the people of the country. This principle has already been sacrificed in dealing with disturbances caused by insurgency in the North-East States and Jammu and Kashmir which has long been the victims of externally induced terrorism. The Disturbed Areas Act and Armed Force Special Power Act have

been designed to the North-East bordering states. And now the same approaches are suggested to be extended to the tribal areas to introduce the army to deal with the Maoist challenge. (Dubhasi, 2010). But it is also argued that the nature of insurgency problem whether it is in the North-East region or Jammu-Kashmir is different from Maoist insurgency. Insurgency in the North-East and Jammu-Kashmir is linked to external power due to their proximity to international border and thus more sensitive from national security point of view. On the other hand Maoist armed conflict is basically home grown and however, given the complex nature of the Maoist problems which are rooted in the socio-economic problems of the tribal people than any other political reason, the similar approach may not be applicable. There are two basic approaches, the first one being- using coercive powers of the State to combat and defeat guerrilla war of the Maoist challenging the authority of Indian Republic and the Indian political system of Parliamentary Democracy; secondly, promoting development to improve the living of tribal, providing good governance to win the confidence of the tribal. The question is which should come first? Because there cannot be development and good governance without law and order; and there cannot be law and order without development. How can the State machinery function and development schemes be executed successfully if the Maoist armed groups attacks school, Panchayats, police station taking away weapons from the armoury, abducts Tahasil and Block officers as prisoners of war? At the same time Maoists forces cannot be defeated without gaining confidence of the tribal people. Such is the terror let by the Maoist that the tribals are forced to support the Maoist leaders and their cadres instead of the State. Thus, it appears that besides the use of force against the Maoist, it is good governance and pro-tribal policy which would work wonderfully in solving Maoists problems in India.

Conclusion

The Constituent Assembly election in Nepal has established the primacy of participatory democracy, unveiled mandate for peaceful change and helped in strengthening the social base of the political power. The new political regime urges the political parties to engage into a politics of compromise and co-operation for transition from authoritarianism to constitutional democracy. Drafting the new constitution incorporating the socio-economic and political aspirations of the people of Nepal is the prime concern of the new government led by Dr. Bhattarai. It is high time the Maoist must disband their erstwhile People's Liberation Army, with an agreed number of combatants being integrated into the Nepali Army. At the same time Nepali Army must be democratised with keep-

ing the spirit of the nation that emerged after the abolition of Monarchy. There is a unanimous view that the peace process needs to revive Nepal's economy, generating new jobs and employment opportunities. For the creation of a new Nepal, restructuring the state through new democratic constitution, consolidating security, rebuilding the devastated economy and resources mobilizations are some of the major concerns of the new regime. Effective mechanisms should at last be established to implement and monitor implementation of peace process commitments and commitments to include strong representation of women, marginalized groups and independent civil society voices. The Maoist leadership must be consistent in words and deeds, in its immediate and long-term commitment to democratic multi-party norms. While contextualising the Maoist problem in India, the decade's long armed conflict between the left wing extremists and the State forces has simply resulted in loss of innocent lives, property and resources without any solution. As different from the case of Nepal, since Maoist insurgency in India has it's root in the socio-economic problems of the tribal people, it is good governance which should be the biggest weapon to fight against the Maoist menace.

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Rajiv Gandhi University Research Journal
(January-July, 2012), Vol.11, No.1: 46-54
ISSN 2250-2866

Child Labour: A Challenge for Sustainable Social Development

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(Received on 19-4-2012 Accepted on 06-06-2012)

Abstract

This paper deals with one of the social evils known as child labour which is prevalent in the society. Children are the backbone of a nation but sometimes these children are found to be exploited by engaging them either in hazardous or semi hazardous work. In India emphasis has continuously been given on the development of children. In the Eleventh Five Year Plan of India, the Government sought to bring in the 'inclusive growth' which would lead to sustainable development. However, many children, especially from the vulnerable sections are still forced to join workforce at a tender age. There are socio-economic compulsions that propel the phenomenon of child labour. This also poses a question mark on the objective of achieving 'inclusive growth' through sustainable development. The present paper tries to find out the socio-economic compulsions behind the occurrence of child labour and the impact of physical work on the health of children.

Keywords: *Child Labour, Inclusive Growth, Sustainable Development, Socio-economic compulsions.*

Introduction

India is home to around 440 million children who are below 18 years of age. The figure constitutes almost 19 per cent of the world's total child population.

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The strength of a nation lies in having healthy, protected, educated and well-developed children who may grow up to be productive citizens of the country. It is estimated that around 170 million or 40 per cent of India's children are vulnerable or experiencing difficult circumstances in social, economic and geo-political spheres. India is very familiar with the concept of 'Child labour' as it is a burning issue and a social curse to the humankind. As identified by many researchers and academicians, it is the poverty which compels the parents to send their children to work so as to earn money to run their family. Due to the tender age, children are exploited easily by the employer.

Article 1 of United Nations Convention on Rights of the Child in the year 1989 says that "A child means every human being below the age of 18 years unless, under the law applicable to the child, majority is attained earlier". In general the term 'child' refers to a person who has immature mind due to the tender age and due to this, s/he is unable to understand the effects of his/her own work. Work that does not interfere with education (light work) is permitted from the age of 12 years under provisions of the International Labour Organisation (ILO) Convention 138. International Programme on the Elimination of child labour defines "child labour" as work that deprives children of their childhood, their potential and their dignity, and that is harmful to physical and mental development. Article 24 states that the Indian Constitution prohibits the employment of children in factories, mines or other hazardous employment. Article 39(e) requires the state to ensure that children are not abused, that citizens are not forced by economic necessity to enter avocations unsuited to their age or strength. Article 39(f) mentions that children and the young are to be protected against exploitation and moral and material abandonment. Article 45 ensures provision of free and compulsory education to children up to the age of 14 years. In spite of all the rights and laws, educational attainment remains a dream for many children.

The extensive practice of child labour is one of the single greatest barriers to any poverty eradication program. The children are compelled to work at the cost of their education. Child labour denies a child from a proper childhood. When they themselves reach parenthood and are not capable to earn a decent income for their family, they are more likely to send their own children to work. The children who are the child labourers at present are the generation on which sustainable development depends because sustainable development requires active involvement of every person for making it meaningful and successful. The delegates at Johannesburg on 26th August, 2002 addressed the problem of child labour as one of the most concerned matters.

State Governments are often found to take initiatives to make a dent of the problem. For example, the Kerala Government has made no special effort to abolish child labour but it has expanded the school system rather than enforcing the labour legislation. It has reduced the number of child labour. (Weiner, 1994: xiv, 213).

The existence of labour market for children would minimise the relative cost of children, which in turn, may increase the total fertility rate above the level that would have prevailed in the absence of an earnings potential for children. Fertility is responsive to those economic incentives. With the existence of child labour, the net economic value of children is determined by the time and commodity costs of child's consumption expenditure. (Dessy: 2000). In the poorest households, child labour is fairly inelastic with respect to per capita expenditure. There is a flat or increasing relationship with per capita expenditure. This is consistent with the significance of child income to the survival of households below the poverty line. (Edmonds; 2002). A state level analysis does not support the poverty argument as states with low incidence of child labour are not necessarily the richer states. (Dev and Ravi: 2002).

Income, poverty, female education, fertility rate and agricultural productivity are the important factors to determine the extent of child labour in a society. (Ramachandran, and Massun: 2002).

Poverty clearly has a role to play in explaining the incidence of child labour by means of an absence of demand or the inability to pay for education but it does not constitute a barrier impossible to overcome. (Kabeer : 2001).

The state of education in India also needs to be improved. High illiteracy and dropout rates are reflective of the inadequacy of the educational system. Poverty plays a role in the effectiveness of the educational system. Dropout rates are high because children are forced to work in order to support their families. The poverty is the only root cause of the child labour. The poverty may be because of unemployment, illness, old debt and litigation, loss in the business or due to any other reason. It compels the parents to send the child for performing some jobs and to earn for the parents. (Chhina: 2009).

Objectives and Methodology

Based on the issue of child labour and sustainable development, this paper aims to make a study on it with special reference to Tripura. The specific aims and objectives of this paper are:

i. to explore the compelling situations under which the children join

labour market; and

ii. to assess the impact of working sector on the health of working children.

Though the economy of India is one of the fastest growing economies in the world, this growth is not equally distributed in all regions of the country. The pace of development of North Eastern region is much lower than the rest of the country. The typical topography of the region along with its strategic location makes the region a geo-politically sensitive one. The problem of insurgency, extremist activities, inter-community clash and social unrest are found to be rampant. Census, 2001 illustrates the presence of Child labour in the North Eastern states where Assam registers 3,51,416, Manipur- 28,836, Meghalaya- 53,940, Nagaland- 45,874, Sikkim-16,457, Tripura- 21,756 and Mizoram- 26,265. Though Tripura is the smallest state in terms of area in North East India yet there exists a fair amount of child labourers in the state. It has a population of 3.7 million and an important international boundary of India. It borders Bangladesh on its North, South and West. Its only link with the rest of the country is through another state, i.e. Assam. Tripura is also characterized by low capital formation, high occurrence of poverty and unemployment. (Govt. of Tripura, 2009-10).

We have selected West district, South district, Dhalai district and North district of Tripura for this study. The study is purely based on purposive sampling and for the present study, it is necessary to choose such sectors where the children are working to earn money directly or indirectly. West Tripura is selected because it is the highly populated district in Tripura with a population of 15,32,982 followed by South District and North District. The people are migrated to Agartala because it is the capital city and therefore the working opportunity is also high here. The various sectors where the children are found to be working are: Agriculture, Beggar, *Bidi* Maker, Brick kilns, Daily labour, domestic servant, Factory, Garage, grocery shop, Household chores, Livestock, Rag picking, stone dresser & crusher, Tea stall & hotels, Tea garden, Transportation, Vendor.

The main instrument of the primary data is questionnaire which is filled in after interview of the subject and after an intensive observation. We prepared two schedules; one is for the working children while the other is meant for collecting the information from their parents and employer (if applicable). The total number of children is 441 (Four hundred and forty one only) and they represented our sample.

The paper is discussed in two parts. The first part is concentrated on the socio-economic compulsions which are responsible for the incidence of child labour whereas the second part deals with the health conditions of the children according to their sex.

Socio-Economic Compulsion contributing to Child labour

Poverty as a socio-economic factor is one of the major causes for the occurrence of child labour. However, the Government of India has introduced various schemes for the eradication of poverty and many of the schemes are also running well. Still, many families send their children to work in order to supplement the family income. There are other factors also that compel the family to send their children to work place. As described by Kumar and Shrikantan (1991), the economic backwardness of the region exhibited by low employment opportunities, poverty, low literacy rate and inadequate infrastructural facilities are considered to be the prime cause of child labour.

Besides these causes, there are some other factors which contribute to the inhumane conditions of the child. The working children or the respondents explain various social and economic factors which coerce them to become a "child labour". Gender inequity as a socio-economic compulsion is admitted by 100 per cent of the female child worker while 71.73 per cent of the male children have to work as helping hand of their parents. Large family as another socio-economic constraint is revealed by 17.9 per cent of the female respondents and 82 per cent of the male respondents.

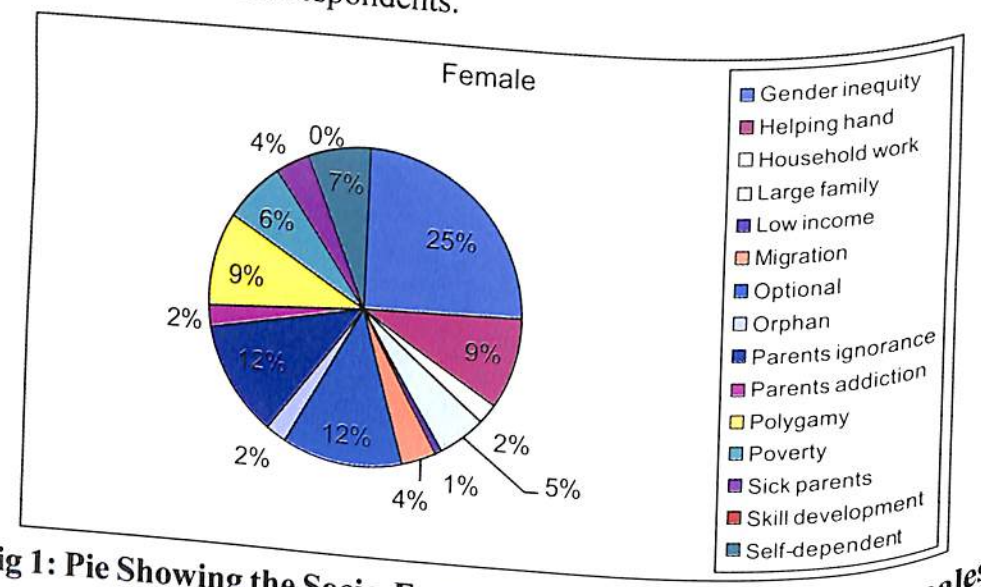

Fig 1: Pie Showing the Socio-Economic Compulsions among Females
Field Survey, 2010, 2011

The percentage is also higher among the male children who admit that low income is the cause their to join labour market. About 12.3 per cent of the surveyed female children acknowledged that the work is optional to them which denote that as the work is readily accessible to them, they joined the labour market at the cost of their education.

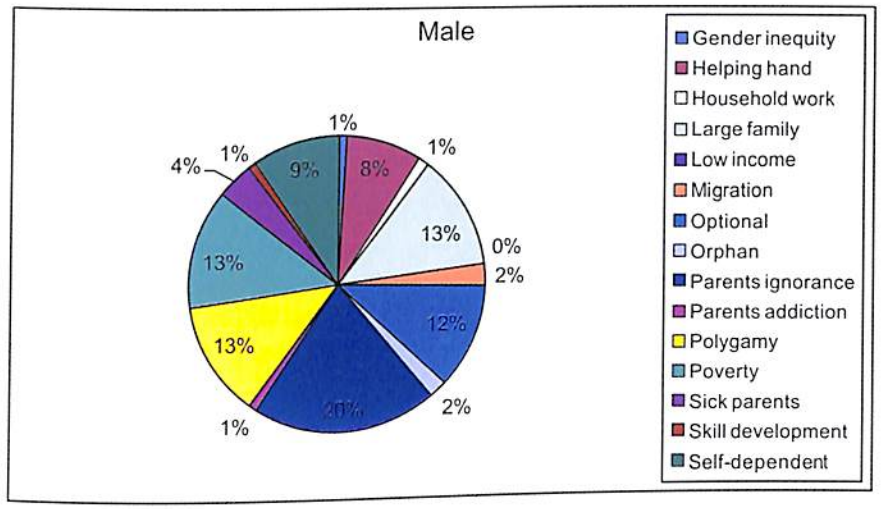

Fig 2: Pie Showing the Socio-Economic Compulsions among Males
Field Survey, 2010, 2011

Parental ignorance was the compulsion for 16.8 per cent of the surveyed male and 11.6 per cent of the surveyed female children. Incidence of polygyny in the families of child workers also compels them to work as revealed by 10.6 per cent of the surveyed male and 9.4 per cent of the surveyed female children. Poverty as one more socio-economic constraint is revealed by 78.6 per cent of the male children and 21.4 per cent of female children. Further, 7.9 per cent of the surveyed male child labourers said that to become a self dependent one, they joined the labour force. Skill formation as the cause behind the incidence of child labour was admitted by the male children where the percentage of female children is nil. It is the skill development which makes them to work from the childhood and they are interested to develop their skill from the early age because it would help them to earn money in their future.

Impact of the Work on the health of the working children

The Human Development Index is calculated as a simple average of the dimension indices. The HDI of India is 0.56 whereas HDI of Tripura as published in the "Economic Review of Tripura 2010-2011" by the Directorate of Economics & Statistics, Govt. of Tripura is 0.59. Leaving the last two dimensions of knowl-

edge and standard of living, we shall be discussing about the health. The hazardous work in which the children are engaged affect their health condition by reducing their life expectancy. During our survey, we also enquired about their health condition and we tried to make out some relation between their health and their particular sex.

Table 1: Impact on Health of the Working Children

	Health Problem after joining work								Total
	Accident	Asthma	Cold	Diarrohea	Fever	No	Pain	Skin	
Sex Female	1	23	5	3	22	39	15	30	138
	0.7%*	**16.7%***	3.6%*	2.2%*	**15.9%***	28.3%*	10.9%*	**21.7%***	100.0%
	4.2%**	47.9%**	45.5%**	60.0%**	28.2%**	22.8%**	39.5%**	45.5%**	31.3%**
Male	23	25	6	2	56	132	23	36	303
	7.6%*	8.3%*	2.0%*	0.7%*	**18.5%***	43.6%*	7.6%*	**11.9%***	100.0%
	95.8%**	52.1%**	54.5%**	40.0%**	71.8%**	77.2%**	60.5%**	54.5%**	68.7%**
Total	24	48	11	5	78	171	38	66	441
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Field Survey, 2010 & 2011

Table 1 illustrates the impact on health according to the sex of the children. Among the surveyed female child workers, 21.7 per cent of them suffer from skin infection while 17 per cent of them face asthma or breathing problem frequently because the children engaged in *Bidi* binding uses tobacco dust to make *Bidi*. This is followed by 16 per cent who suffers from fever. This generally happens in the children working as plucker in the tea gardens. Among the surveyed male children, 19 per cent suffers from fever followed by 12 per cent as dermatitis problem. The cold and flu or fever is mostly common in the male children which comprise 54.5 per cent. On-job injuries are also highest among the male children as compared to their female counterpart. From this analysis it can be assumed that these entire health problems from the very childhood retard the life expectancy of each and every child who is working under various inhumane conditions.

Health of each and every child depends on the health of the mother and if a future mother suffers from life threatening diseases from the very childhood, she would likely to give birth to an unhealthy child which will ultimately result in low level of Human Development of the society.

Conclusions

In many poor families, the indispensable asset for their livelihood is children's capacity to work. So programmes on sustainable livelihoods initiated by Government of India may be designed and implemented, keeping in mind the issues regarding the practice of child labour and welfare of the child workers.

There are many compulsions behind the incidence of child labour. But the consequence of recent global economy and social trends has immense effect on the children of the poor families which coerced them to send their children to labour market. Certainly this social menace can be minimized by a holistic approach for sustainable development of the nation. For that all the decision making bodies should take into consideration the best interest of the children while designing plans and programmes for inclusive growth.

The present study has focused that most of the children of the poor families get involved in laborious activities for a number of reasons. The main reason is to help their poverty stricken families by supplementing the family income. When the children are engaged as child labourers, it denounces the life of those children as unskilled and uneducated one by depriving them from a proper and healthy childhood. In view of the fact that these children are the future of the society, sustainable development can only be achieved through the eradication of child labour from the society. To meet the challenges of Millennium Development Goals, special emphasis must be given to the interests and welfare of the children who are trapped in the predicament of child labour.

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Rajiv Gandhi University Research Journal
(January-July, 2012), Vol.11, No.1: 55-65
ISSN 2250-2866

Reading the Non-Translated Passages in Three Translated Novels of Ngugi Wa Thiong'o

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(Received on 17-04-2012 Accepted on 22-05-2012)

Abstract

Ngugi wa Thiong'o, held as probably the most vocal voice in Kenyan literature in English, has been at the centre of an unresolved debate regarding the use and position of English language in the act of literary composition in relation to the socio-political readership of the nation (and the African continent at large). The very fact that he bid adieu to writing in English after composing three novels in it, and again translated the later novels into English has brought the charge upon him of finally submitting to the lure of wider readership provided by the English language. However, the reason that he did not translate many of the passages from his novels written in his native tongue into English has prompted this paper. The present paper is an attempt to critically examine those passages that have been left non-translated in the three later novels of the author, viz. Petals of Blood, Devil on the Cross and Matigari in an attempt to arrive at the possible reasons why Ngugi refrained from translating these passages into English. At the same time, it has also been my attempt to locate the relevance of these passages into the socio-political context of the Kenyan nation as presented by the author in his novels.

Keywords: *Ngugi wa Thiong'o, Petals of Blood, Devil on the Cross, Matigari, Homecoming, non-translated passages, neo-colonialism, Gikuyu*

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The focus in this paper has been on the non-translated portions in the three later novels of Ngugi wa Thiong'o, viz., *Petals of Blood*, *Devil on the Cross* and *Matigari*, with the view to find the position that these passages occupy in the respective novels and their relation to Ngugi as an author. The choice of these three novels arises from the fact that all of them deal with the neo-colonial situation in Kenya after independence and contain Ngugi's critical views regarding the practices of neo-colonialism and international capitalism – things he felt to be the bane for newly independent nations like Kenya. Over and above, these are the first three novels of Ngugi to be composed in his mother tongue and then translated into English; and it is the act of translating these novels into English that has given occasion to a considerable body of debate revolving around him.

Translation, as an act, has become quite a debatable issue with Ngugi because of the various stances that he has adopted in the course of his career as a novelist. Ngugi's rejection of the English language as a mode of expression for his views and ideas and as a mode of communication between him and his readers came with his understanding of the English language as being essentially linked to the colonial culture brought into Africa by Europe. The realization that in choosing the English language he was deliberately restricting his range of readers since the people about whom and for whom he was writing were in general not in a position to address themselves to the English texts led him to choose Gikuyu as his preferred mode of expression. The composition of *A Grain of Wheat* made him realise "only too painfully that the novel in which I had so carefully painted the struggle of the Kenyan peasantry against colonial oppression would never be read by them"(Ngugi, *Moving the Centre*, p.9). Such view of the author can be linked to his views on the position/stance that an African writer should adopt in order to define the consciousness of his nation. Regarding the rejection of the English language by Ngugi, Nicholls Brendon observes:

> Ngugi's assumption is that language is a 'people's collective memory-bank' of a historical experience and that is a space in which all the living and ancestral voices of a community are articulated (Ngugi, *Writers in Politics*, p. 60). He delineates this assumption even more directly in *Decolonising the Mind*, when he writes that language is 'a carrier of culture' (Ngugi, *Decolonising the Mind*, p. 13). At stake in the writer's choice of language is nothing less than a community's possibilities for self-definition (Ngugi, *Decolonising the Mind*, p. 4). (Brendon, *Ngugi wa Thiong'o, Gender, and the Ethics of Postcolonial Reading*, p. 191)

Referring to the historical context in Kenya in which Ngugi was writing in the 1980s and which led him to consider his mother tongue as a more potent means for the expression of his views through writing, Nicholls Brendon further observes:

> [The] act of reading a literary text is itself an exclusionary and elitist gesture in Kenya, since it would have excluded over 90 percent of the Kenyan population when Ngugi wrote his novels in the 1980s. As Ngugi himself has noted, 'the present language situation in Kenya means that over ninety percent of Kenyans (mostly peasants) are completely excluded from participation in national debates conducted in the written word' (Ngugi, *Writers in Politics*, p. 43). (Brendon, p. 191).

It is one of the reasons which led Ngugi to emphasise more on the theatre than on the novel as a means for involving the common people into national issues.

Later, after such declarations, when he again reverts to the same language which he had abandoned in strong terms – though through the act of translation – he is drawn into the line of criticism for not adhering to the same principles which he had propounded. However, instead of entering into the debate regarding the use of the English language as the means of creative expression for writers in Africa, the focus of this paper will be on how the non-translated passages function in the novels undertaken for study in this paper; and the approach will be purely from the point of view of a reader who is ignorant of the Source Language (Gikuyu) in which they were written.

It is seen that in the three novels taken up for discussion, the non-translated passages can be broadly divided into two categories, viz., (i) those provided with their equivalent English translations and (ii) those without their English equivalents. It might be pointed out here that because of my ignorance of Gikuyu, I have not been in a position to compare between the original and the translated versions of the novels.

But the passages do raise the question why Ngugi did not translate them into English, and one of the most important guesses in this respect is the difficulty that the author/translator might have faced in searching the correct equivalent in the Target Language. While it is an issue confronted at the linguistic front, I feel that there might have been a cultural reason behind it – the fact that certain things and phenomenon cannot be translated into another culture and they are best understood and conveyed within the original culture. Perhaps a reason why Ngugi did

not, or could not, translate them into English might have the feeling that the English reader, possibly rooted in the European tradition would not find the proper English equivalent in their culture and the effect of the original would be lost in the process. Another possible interpretation for these passages might be that in his design to reject colonial culture and to pit Gikuyu culture as an alternative to the former, he might have deliberately left these passages in the original. It might be pointed out here that even in his early novel, *Weep Not, Child*, there is a detailed description of how the Gikuyu God made the world and handed it over to the first Gikuyu man and woman to rule over it and offer sacrifice to him under the Mugumo tree. Narrated to the young people by Ngotho, the Gikuyu story of Creation serves as an alternative narration to the Christian story of Creation as laid down in the Genesis:

> Now, you know that at the beginning of things there was only one man (Gikuyu) and one woman (Mumbi). It was under this Makuyu that he first put them. And immediately the sun rose, and the dark night melted away. The sun shone with a warmth that gave life and activity to all things... Creator who is also called Murungu took Gikuyu and Mumbi from his holy mountain. He took them to the country of ridges near Siriana and there he stood them on a big ridge before the finally took them to Mukuruwe wa Gathanga about which you have heard so much. But he had shown them all the land – yes, children, God showed Gikuyu and Mumbi all the land and told them,
>
> "This land I hand over to you, O man and woman
>
> It's yours to rule and till in serenity sacrificing
>
> Only to me, your God, under my sacred tree...."
>
> (Ngugi, *Weep Not, Child*, p. 24).

While the passage quoted above is not from a translated novel, it represents the author's desire to uphold his tribe's culture as an alternative mode of existence in opposition to that provided by Christianity. I feel this reason to be a strong one since the novel *Weep Not, Child* is based on the conflict between these two cultures during the early days of colonial expansion in Kenya.

In *Petals of Blood* Ngugi gives two versions of the songs sung in the party at Chui's place, with the English translation below every line:

> Waru wa ngirigaca
> *Red potatoes*

> Uthigagirwko ku?
> *At whose place are they peeled?*
> Uthigagirwo kwa Ngina
> *They are peeled at Ngina's place.*
> Twetereire oe Kinhinguro
> *We waiting for her to pick the key.*
> Ciana citu ciaragie Githungu
> *Our children speak in English.*
> Harmabee! Tuoe Madaraka
> *Harambee! We take up high offices.*
>
> (*Petals of Blood*, p.149-50)

The reply from the men comes from the juicy sections of songs normally sung during the preparations leading to the circumcision:

> Ngwirwo ni utuku
> *They say it is dark.*
> Ngwirwo ni utuku
> *They say it is dark.*
> Ngionaga Irima
> *But I can still see.*
> Cia Tumutumu
> *Tumu Tumu hills.*
> Hui, Wainaga
> *Oh yes, Wainaga.*
> Njuguma nduku
> *A big club.*
> Ya gukura k—ru rabucu
> *For pulling out a jaw of cunt.*
> Hui, Wainaga
> *Oh yes, Wainaga.*
> K—na igoto
> *Cunt with banana leaves.*
> K—na igoto
> *Cunt with banana leaves.*
> Githi k—ni unyuaga mbaki
> *So cunt! You take snuff.*
> Hui, Wainaga.
> *Oh yes, Wainaga.* (*Petals of Blood*,, p.150).

It is clear that the English version of the song is given in order to facilitate the non-Gikuyu reader to grasp the meaning of the song, but perhaps the need to include the Gikuyu version too in the novel and not simply rely upon the English version is indicative of the author's feeling that simply translating the meaning of the words in the song will not convey to the ordinary reader the real essence of the song in the context of Gikuyu culture and tradition. For example, the song mentioned here is one of the initiation songs sung during the circumcision ritual among the Gikuyus; thus the author might have felt the need to place both the original and the translation in the novel to give the reader an idea of how such songs are sung during the rituals. In my opinion, though limited by my ignorance of the language in which the novel is originally written, the English version gives the reader the literal meaning of the words contained in the song, the essence and the mood of the song cannot be conveyed properly or completely outside its original socio-cultural context. It is beyond doubt that some of the words in the song that refer to the sexual organs and the act of love-making can be quite 'shocking' to the sensibilities of the reader whose reception is cultivated on European traditions; but the use of such words and references to the sexual organs and the act of love-making form the theme of songs sung during the celebrations leading to the circumcision festival. Accompanied by dances around the fire, the young people lose themselves in the frenzy leading to the initiation rites in the tribe, as Ngugi has presented in his *The River Between*. However, the manner in which Ngugi discusses the dances and the songs leading to the initiation ceremony, the aim has been to show how the introduction of English education and Christianity in the ridges was serving as a wedge in the unity of the tribe. Also, Ngugi might have included the original version of the song along with the English translation in *Petals of Blood* so as to give the non-Gikuyu readers an idea of the form of the song as it would have been sung among the Gikuyus. This almost the same with some of the songs included in this novel. For example, the song sung by the children when the rain falls has also been provided with the English version at the right side of the page along with the Gikuyu:

Mbura Ura	Rain pour down
Nguthinjire	So I'll slaughter you
Gategwa	A young bull
Na kangi	And another
Kari Igugku	With a hump
Guku Guku	Hump, Hump!

(*Petals of Blood*,, p. 196).

The same song is sung again by the children on another occasion (p. 202). There is another song which has been done in the same manner as the above. This is a song played on the record player at Wanja's new 'house' where Munira and Karega go to visit her. It is a song composed by Elijah Mburu and goes thus:

Huni cia Ngita	*Young loafers with guitars.*
Ndigacienda ringi	*I'll never like them again.*
Ndacietiire party	*I invited them to a party.*
Ikienda kundakaria	*They angered me.*
Igikua muhiki	*They took away my girl.*
Wakwa Ndethuriire	*Mine that I had chosen.*
Huni cia Ngita	*Young loafers with guitars.*
Ndigacienda ringi.	*I'll never befriend them again.*

(*Petals of Blood*, p. 286)

Besides these secular songs, Ngugi has included a song of spiritual content in the non-translated version in this novel. Also, he has not provided any English translation or English equivalent to it. It is a song which Munira remembers as having transformed his entire outlook on life and divinity:

Tukiacha dhambi, Mfalme mwema
Hata tukifa, Tutawala tena
Halleluya, Halleluya
Hata tukifa, Tutawala tena. (p. 296)

Matigari, Ngugi's sixth and his third novel to be translated from Gikuyu into English, presents the readers with a third strategy in translation in addition to the two mentioned before. This is in terms of typography. Some of the passages that have been translated into English have been typed in italics with the authorial guide that these are to be understood as having been spoken in Swahili by the characters engaged in conversation. Again, these passages in italics also contain some Swahili words whose meaning in English is given at the bottom of the pages in which they occur. For example:

> 'Hey *mzee*,' the black man shouted, 'Can't you see the sign? *Hakuna njia*. Ha- ha-ha!...Or can't you read? That isn't the way to the servants' quarters.' (*Matigari*,, p. 44)

The meaning of the passages in italics is provided at the bottom of the page as:

Mzee (Kiswahili): 'old man'.

Hakuna njia (Kiswahili): 'no way'. (p. 44)

Such passages occur at many places in the novel, such as:

'Wapi ule mwiwi?' one of the policemen asked.

....

'Ni ule mzee! Ni ule mzee!' one of them said. (p. 51)

Wapi ule mwiwi? (Kiswahili): 'where is that thief?'

Ni ule mzee (Kiswahili): 'It's the old man'.

It is quite interesting to note that generally the words connected with abuse in this novel have been kept in the original language. This has been done to keep the 'sting' of those words intact and also because of the reason that, if translated, the words would lose their strength. For example:

'Wake up, *wewe punda milia!'* (p.52)

Wewe punda milia (Kiswahili): 'you zebra'.

It is clear that if the above words in italics had not been kept in the source language, they would have lost much of their effectiveness in translation; perhaps indicating that there are certain symbols and meanings in every culture that are best understood in their own context. Similarly, the meaning of the abbreviations provided for the international/multinational financial institutions and organisations on page 50 is based on the Gikuyu words upon which they are constructed:

AICI: American International Conglomerate of Insurance; meaning, in Gikuyu 'thieves'.

ACIO: Agribusiness Co-ordinating International Organisation; meaning, in Gikuyu 'those'.

BIU: Bankers' International Union; meaning, in Gikuyu 'thorough'.

Hence, 'the real thieves'. (p. 50)

While this is indicative of Ngugi's anger on the manner in which the international companies were becoming the sources for the entry of neo-colonialism in the guise of international capitalism; it also symbolises the author's going back to his own native language and culture for finding the tools to combat the evil of international capitalism.

The passages printed in italics to indicate that the conversation is in Swahili are

quite considerable in number; such as:

'Bob, come and listen to a bloke who claims that my house belongs to him.' (p. 44)

And again in the next page:

'Bob, the fellow claims to know your dad.'

'My father? He disappeared in the forest years ago. Fate unknown, but presumed dead.'

'Yes, together with my old man. Don't I know?'

'Ask him what happened to them. This play is more interesting than our evening rides.' (p. 45)

At certain points the passages in italics are of considerable length, as is the following passage in page 47:

'What's the matter?' he asked, still remaining on horseback.

'Insulting the memory of my late father...to my face! Oh, the cheek...'

'Does he know him also? Didn't he also disappear at the same time as my dad?'

'Yes. And this scarecrow seems to know everything. I'll flay him until he squeals everything.'

'Cool it. Remember you are playing a comic role; the tragic role was played by our fathers. Ask him a few more questions. Maybe he will provide the missing link in my theory about the fate of my father.' (p. 47)

While reading such passages, the question which is likely to arise is why Ngugi resorted to such typographical tactics to remind the reader that the conversation is not in translated language. One possible explanation might be the author's desire to keep the reader constantly aware of the existence of a previously colonized culture; which even after the attainment of independence has remained under the hands of those who have chosen to become the new flag-bearers of the earlier colonial masters. Perhaps it is also important to note that in *Matigari*, the title of the Chapters is provided both in English and in Gikuyu.

Ngugi's earlier novel, *Devil on the Cross*, however, does not provide the reader

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Ngugi's earlier novel, *Devil on the Cross*, however, does not provide the reader

with the English translation of all the non-English words. There are passages and words in this novel which have been kept in their source language and yet the meaning or English equivalents have not been provided to the non-Gikuyu reader, such as '*Uhuru wa Mwafrika*' (p. 111); '*Wangenijuta*' (p. 117); '*tafadhali*' (p. 125); '*namtakieni*', (p. 125). It is left to the non-Gikuyu reader to make sense of the meaning of these words by trying to locate them in the context of the passages in which they occur. In Chapter Twelve, there is a phrase in Gikuyu spoken by Gatuiria which might have been a proverb '*Mke ni nguo...Lakini nguo si mke*' (p. 242), whose meaning is obscured because of the absence of the English equivalent.

Besides such words, Ngugi has also included a Congolese tune in the novel which is sung by the band of Hell's Angels during the competition in the cave, and unlike the song in *Petals of Blood* where the English version is provided for the readers benefit, Ngugi has incorporated only the Congolese version:

> Babanda nanga bakimi na mobali
> Mobali oyo boto ya matema
> Nakei konuka mobali nangae...
>
> (*Devil on the Cross*, p. 93).

The same tune is repeated later after a few pages (p. 126).

To conclude, the brief study of the non-translated passages taken from the three translated novels of Ngugi wa Thiong'o point out a few things to be noted. The first is perhaps his growing dependency on the power of his native tongue to articulate his views and sentiments regarding the contemporary state of newly independent Kenya, which he saw as gradually slinking into the clutches of modern imperialism in the disguise of international capitalism. He, therefore, may have decided not to translate some of the passages into English so as to let the readers feel the 'flavour' of the source language. Secondly, it may have been his desire to maintain and preserve the effectiveness of some of the proverbs, songs and words (of abuse in particular) in their original context since some words lose their effect when taken out of the original culture. And lastly, he sometimes leaves some of the words and passages non-translated which undergo a different kind of handling in *Matigari*, where he uses italics to let the readers know that the conversation is not in English. The process is made more complex when he uses Swahili words in these 'to be understood as non-English' passages. The degree and frequency of the non-translated passages in *Matigari* is perhaps the highest among all the three novels taken up for discussion in this paper. I also

realize that there can be other explanations to the issue of non-translation of the passages in the three novels of the author taken up for discussion above but it is also my fond belief that this paper will, at least, help to throw some light on it and invite further investigation into the matter.

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Rajiv Gandhi University Research Journal
(January-July, 2012), Vol.11, No.1: 66-78
ISSN 2250-2866

Ecological Consciousness in Alice Walker and Mamang Dai: A Study of 'In Search of Our Mother's Garden' and 'The Legends of Pensam'

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(Received on 17-05-2012 Accepted on 09-06-2012)

Abstract

Nature has been a consistent source of influence and creativity for many women writers. The paper is primarily concerned with the recognition of this awareness through the work of Alice Walker and Mamang Dai and how their construction of the self is constituted through the influence of Nature around them . A woman is objectified through her identification with Nature. This objectification is rooted in the western concept of the binary opposite. Naturally Feminists have found this subject relevant because of their belief that the principles of binary opposites uphold patriarchy. Evident in their writing is a holistic worldview where, Walker and Dai propagate a kind of spiritualism in Nature that is inclusive and yet transcends boundaries touching lives across cultures. Also taking significant recourse to narrative strategies they attempt through their writings to provoke fellow women to embark on a path of empowerment

Keywords: *Binary Opposite, Feminism, Narrative strategies*

It is very important to contemplate the intimate and intricate relationship of women to women and women to Nature. It is essential to the survival of the throbbing dynamism that is around us that constitute Nature. There runs a perceptible consciousness in humanity that it is women and how women are treated that

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colours the whole world, including Nature. It is probably because the essence, the sensibility and the power of creating are attributes that we associate at once with women and with Nature too. The paper is specially concerned with the recognition of this awareness through the works of two women writers and how their construction of the self is constituted through the reflection mirrored by the Nature around them. Alice Walker's *In Search of Our Mothers Garden* (1983) and Mamang Dai's *The Legends of Pensam* (2006) are both autobiographical and a reading of these texts reveal the deep concerns and conflicts evident in the environment around and how it affects the life of the people intimately connected to them. Their writing also demands for a responsiveness to the past and history of their people as a perennial source of inspiration and sustenance. To borrow the lines from Jago Morrison[1] these texts can also be read as a 'patch working of a new kind of narrative form, out of the multifarious materials of biography and nostalgia, literature and rumour, history and mythology.' (Morrison, 2003:80).The principal structure of examination and retrospection is contextual and the narration also based on the writers own experiences. Their writing brings forth the awareness and significance that women should share their experiences especially in their relation with the biological world around them. Nature in her various forms has always been a persistent preoccupation of many significant female writers sometimes even to the extent of Nature playing an authoritative role in their psyche. Emphatically voiced concerns form an essentially women's perspective expressing the anxiety that they have about the present deterioration of the ecology which is a reflection of the decay of the society in general.

In her book *Black Feminist Thought* (2000) Patricia Hill Collins writes 'In binary thinking, one element is objectified as the Other and is viewed as an object to be manipulated and controlled.' (Collins, 2000:70). And then she further quotes Mclintock that 'Feminist scholarships points to the identification of women with nature as being central to women's subsequent objectification and conquest by men.' (qtd. in Collins, 71). Women face a distinctive set of challenges within and without, at home and in the society, acclimatizing and searching for avenues of expressions, usually under the condescending gaze of a patronizing society. She has been objectified through her identification with Nature. In fact it is a matter of interest that this objectification of the women is rooted in the western concept of the binary opposite. In critical theory a binary

1 Jago Morrison said these lines with reference to the texts of Maxine Hong Kingston in the essay 'Memory blocks: the fictional autobiography of Maxine Hong Kingston', in *Contemporary Fiction*.2003:80.Routledge, London.

opposition is a pair of related terms or concepts that are opposite in meaning. Halpin states examples of binary opposites like'...white / black, male / female, reason / emotion, culture / Nature, fact / opinion, mind / body, and subject / object....' (qtd. in Collins, 70). In situations, where a woman is objectified and subsequently treated as synonymous to the abstract qualities of passivity, irrationality, emotionality and other analogous endowments, it automatically leads to a retardation of any opportunities to grow, to be appreciated and to be empowered. It is precisely because, as Patricia Hill Collins puts it, 'Feeling cannot be incorporated into thought or even function in conjunction with it because in binary oppositional thinking, feeling retards thought and values obscure facts.'(Collins, op cit., 70).

'The Jewish – Christian tradition has also contributed to an instrumental and heirarchical conception of nature. The Genesis account of Creation must bear a large share of the guilt for this state of affairs.'(Marti Kheel, 1993: 246). Kheel further discusses how, the book of Genesis has been influential in the perception of sex and gender and also shaped the construction of men and women in art. The story of the creation of Eve – the first woman, though divine in nature, is nonetheless a product of patriarchal glorification very injurious to the subsequent construction of women. 'Eve has gone down in history as the embodiment of evil....' (ibid., 253). Every woman became Eve and she represented the fundamental character and identity of all women. Even in the story of Pandora, the Greek equivalent of Eve, some Feminists have commented that she is "blamed for bringing all the ills into the world"[2]. However, a reading of Walker and Dai reveals a holistic worldview, where the essential connection between women and Nature is nurtured and propagated rather than being made an object of subjugation. Their writing explores spiritualism in Nature that is inclusive and yet transcends boundaries influencing lives across cultures.

In his book *Women, Media and Politics* (2010), Devgan states '... the ancient religion of the Great Mother would be a very feminine religion and emphasize the feminine virtues of compassion, caring, nurturing, loving and creativity .This is supported by the fact that in the first civilizations of the Neolithic age, warfare and violence against other people are completely unknown .We only begin to find weapons of war, fortifications and images of violence in the later bronze and iron ages. Where it seems people began to worship male warrior gods.' (Devgan,

2 Concepts where Eve and Pandora have been blamed for all the ills of the world has been discussed by A. K. Devgan in his Essay '*Why the Hand that Rocks the Cradle, is not Ruling the World'(Devgan, 2010:pp. 154-156)*

2010:155). In a very interesting finding anthropologists claim that the early species of cavemen who roamed the earth two million years ago did not go hunting or gathering food, and instead stayed back to watch the children. It was their females that took on the job of feeding the family[3]. Here we have a glimpse that even primitive females took on the role of provider of food for their family. It may have been because they were better equipped to harness the bounty offered by Nature. Comprehension and appreciation of Nature is a prerequisite for such an ability, an observation which is also echoed by Aikant when he writes 'It is true that women universally have some fundamental sensitivity to the land, air, water with which they are intimately associated and have a stronger "ethic of care" for others including the environment. (Aikant, 2011:196). Further he quotes Shiva 'women are the custodians of prakriti-Nature or the feminine principle – which is the manifestation of Shakti, the divine feminine creative energy of the cosmos. Prakriti seeks to nurture and maintain the harmony and diversity of the natural forests as a life source from which men and developed industrial cultures are alienated which must be recovered. When this holistic view is replaced by the commercial paradigm it signifies for women 'simultaneously a beginning of their marginalisation, devaluation, displacement and ultimate dispensability.' (qtd in Aikant, 2011:196).

French writer and Feminist, Simone De Beauvoir, in her seminal book *The Second Sex* (1949), dwells on the healing as well as nurturing aspect of Nature especially in the life of a growing female. The awareness and the consciousness of Nature is an experience gained through journeying in this life for a girl. As an adolescence her experience holds the key to a singular understanding of the soothing aspects of Nature, leading to an intimate association of the two. Growing up in a patriarchal society expectations of her are very low, her role limited not only at home but even in the society. Thus not being burdened with demanding expectations she has the freedom to explore her own sensitivity and originality. 'The young girl throws herself into things with ardour, because she is not yet deprived of her transcendence; and the fact that she accomplishes nothing, that she is nothing, will make her impulses only the more passionate. Empty and unlimited, she seeks from deep within her nothingness to attain all. That is why she will devote a special love to Nature: still more than the adolescent boy, she worships it. Unconquered, inhuman, Nature subsumes most clearly the totality of what exists. The adolescent girl has not as yet acquired for her use any portion of the universal: hence it is her kingdom as a whole; when she takes posses-

3 The Sentinel, 03/06/2011. P. 05.

sion of it, she also proudly takes possession of herself.' (Beauvoir, 1949:385). Nature helps in mitigating many of her dilemmas and becomes her lone ally giving her solace. Nature becomes for her a 'splendid refuge'. The demands of the society compel her to put on the garb of different roles. At home it is the rules set by her parents that bind her, the daily routine leaves her very less time for herself, in the society she is an adult and she has to submit to the conventional role expected of her as wife and a mother thus surrendering herself at the altar of social institutions. 'Whereas among plants and animals she is a human being; she is freed at once from her family and from the males – a subject, a free being. She finds in the secret places of the forest a reflection of the solitude of her soul and in the wide horizons of the plains a tangible image of her transcendence; she is herself this limitless territory.... ' (ibid., 386). Nature with all its beauty gives her glimpses of pure joy, and freedom. It is in the Nature that her free will as well as her creativity is nurtured and as she grows to know herself, her creativity finds full flowering. One is lost completely without hope if one has to live a life without autonomy and self expression. Thus it is evident that time and again female writers have asserted the emanicipatory as well as nurturing aspect of Nature in shaping and defining critical awareness in the lives of fellow women.

In her autobiographical book *In Search of Our Mothers Garden*, (1983) Walker narrates how her own mother was a source of inspiration for her, being resilient to the harsh realities of racism, slavery and poverty around her. She says 'she laboured beside-not behind-my father in the fields'. (Walker, 1983:238) In her essay of the same title "In search of Our Mothers Garden", 'she uncovers a matrilineage that is the wellspring from which all creativity flows. She unmasks this mother lode as a spiritual connectedness of female experiences that is the source of the continuation of contemporary creativity. Mothers' gardens are the taproot, the central source, that births into existence all manner of creative womenhood, but the challenge for African American women and women of colour is to tap into the source in order to perfect or achieve fullness of outcome.' (Bates, 2005:36). Walker admires the grit and struggles of black women and having witnessed the struggle of her own mother and sisters and how they laboured to regain any miniscule sense of happiness and freedom, through their domestic chores, gardening, stitching, taking care of children and ameliorating each other. It is a personal account of the writer's struggle to define the amazing range of artistic gifts possessed by women like her mother. They are women of spirit, who despite working from dawn to dusk, manage to keep alive the desire to feed their creative spirit and to discover new possibilities that help them to

question as well as define their position in their own tradition and community. They accomplish their dreams, with the only opportunities, namely the materials and the land they could have. Their struggle to her is their journey as an artist and as an explorer to discover 'the aesthetics of African American creativity.' (ibid., 37).

As members of the African American community the role of a woman is paramount ;in cementing relationships and readying the soil where creativity could flower, where capacities and abilities could develop, where fatigued bodies and indomitable spirits could soar ; such a garden was laid down by the mothers and grandmothers who nurtured these creative sparks in their children and others. 'Creations of the mind's garden, according to Walker, manifest literally in the minds flowers. Walker reflects on her own living sainted mother and the creative art within her.' (ibid., 39). She writes of her mother that she was an industrious women bringing up 'eight children of her own and half a dozen of her neighbours' and priding in her abilities as a gardener. She writes 'The artist that was my mother showed itself to me only after many years. This is what I finally noticed'. 'She planted ambitious gardens...Whatever she planted grew as if by magic and her fame as a grower of flowers spread over three countries. (Walker, 1983:241). Rather it is through her flowers and her vegetable gardens that flourished at any time of the year that her mother got immense contentment. It was not only the source of sustenance but also nourished her soul. There is none of the restrictive limitations that confine a woman's life in any sense.

Years after visiting their home again in Georgia, the sight of her garden brings tears to her eyes. The daffodils standing straight seemed to make her stand tall and rise above everything else. But why is this exhilaration at the sight of her flowers and her garden? It was not simply the beauty that overwhelmed her. The fact that in spite of all the harsh realities around her : realities of slavery, racism, gender subordination, she was able to nurture life and grow flowers of immense beauty and in a way engage in a process of 'bringing to life' when everywhere around her life was being destroyed. She says '...our mothers and grandmothers have, more often than not anonymously, handed on the creative spark, the seed of the flower they themselves never hoped to see....' (ibid., 240). The green thumb that her mother was endowed with, was her gift, it made her an exceptional artist. Only when she was working among her flowers she seemed to be radiant 'almost to the point of being invisible – except as Creator: hand and eye. She is involved in work her soul must have. Ordering the universe in the image of her personal conception of Beauty' (ibid., 241). She says 'Her face,

prepares the Art that is her gift, is a legacy of respect she leaves to me, for all that illuminates and cherishes life. She has handed down respect for the possibilities-and the will to grasp them'. (ibid., 241, 242). Thus whenever Alice looks back at her childhood and growing years, even her memories of poverty and struggle are seen through a maze of beautiful blooms, of colour and vigour of life. It is due to her mother's appreciation and devotion to Nature that the detrimental effects of racism, slavery and sexism are unable to colour her vision of her childhood. Her childhood is made secure as much by the presence of flora as the presence of her mother.

So often we tend to overlook and even ignore the little interests and passions of our mothers and grandmothers, we tend to hear but not listen to the stories they narrate and we set out to search for opportunities of creative expressions in avenues alien to us. But what we sadly do not realise is that art also lies in our own homes, in our mothers kitchen and gardens, in their stories and narrations and in our thought process itself. 'The minds flowers not only manifested in her mother's literal garden but also in her art of storytelling. Her creative spirit increased to grow aesthetically pleasing flowers to the eye and to tell aesthetically pleasing stories to the ear.' (Bates, op cit.39). Thus the inextricable link between ones mother lore and the creative spark in all of us is to Walker the path that will guide us to self discovery as she writes of her own experience 'Guided by my heritage of a love of beauty and a respect for strength-in search of my mother's garden, I found my own.' (Walker, op.cit. 243) . Well armed to face and conquer new challenges one should never forget that a lot from the past has to be reclaimed. '...each woman is capable of truly bringing another into the world. This we all must do for each other'. (ibid., 39). An artist herself, Walker explores the avenues where simple, industrious and most of the time uneducated women find channels of expression, creativity and solidarity. Activities like cultivating, gardening, sowing; reaping though they appear mundane is nevertheless intensely significant.

Mamang Dai's narrative *The Legends of Pensam*, (2006) is a keen and enduring concern of the writer discoursing on how the Adis[4] negotiate their daily existence as modernity and globalization with all its sophisticated nuances seep into the animistic habitation. Since ages indigenous history and knowledge have been kept alive and passed through generations through the voice of the mouth. Stories form an integral part of tribal life, and she uses stories within stories as the

4 Adi is used here to refer to the collective group of tribals occupying the East-Siang belt of the Himalayas sharing a common culture and tradition.

structural framework helping the readers to negotiate through the maze of lore's to discover their significance. The human being is a story telling being, and 'There is a new attention across disciplines to narrative knowledge-the impulse to story life events into order and meaning.' (Sandelowski, 1991). It is undoubtedly a pivotal text indispensible in its function as a historical narrative of the Adis; a repository of stories from the collective memory of those who are an integral part of her narration and of the community.

Like Walker, Dai too is essentially conscious of her role as a writer. She is aware of the need to articulate the history of her people and that without history Adis are without identity as it is with other cultures. Her work contributes to an integration of biological, social economic and very importantly cultural factors that helps us to make sense of the gradual and irreversible changes on the indigenous mode of life and thought. She voices forth the concerns of the natives i.e. the tribal people, their apprehensions, and struggles against persistent external pressures with which they have to contend daily.

The tribal's have always identified their ways of living, and their relationship with the ecology through the stories popular in their culture. The narrative begins at a timeless space when the Adis were spread over many villages nestled in the heart of the Siang valley co -existing with ecology. 'In keeping with a commitment to recognize the land as more than a background – a picture and a story in which humans participate with other life forms' (Thomas, 2011:224), the first chapter itself conjures up a world where man walked amongst beasts and spirits in awe at the same time with a reverence for the forest that towered above, breathing life and fear into him. '...it was a nebulous zone that that divided the world of spirits and men - in fact, at one time men and spirits had been brothers.' (Dai, 2006:31). Complicated metaphysical questions with feeble attempts at answers are as easily addressed by the great old shaman when he says 'We are not here without a purpose', 'Our purpose is to fulfil a destiny. The life of man is measured by his actions and his actions are good if their origin is pure. From nothingness we have come to be born under the stars, and almighty Donyi - polo, the sun, the moon, whose light shines on us all equally, is the invisible force that guides each one of us. All life is light and shadow; we live and we die, and the path of destiny is the quest for faith.' (ibid.,57).

There was a time when one had to walk miles in the dense forest sometimes accessible only through the back of an elephant and crossing mighty rivers. And then the '*migluns*', the white men, came to map *terra incognita*, with their 'gifts' and guns. Years later the administration with their packages of 'develop-

ment' and slithering roads made in ways to the land quickly followed by the immigration of the 'ayings' or the plainsmen. 'They were beyond time. Till the road came.' (ibid.,147). Any attempt at urbanisation, of such an agrarian, rural and forest landscape was totally out of place. The ravaged and altered landscape was symbolic of the apprehensions and dilemmas in the minds and souls of the tribals.

The narration spread over generations is held together by the looming presence of orators and shamans like Rakut's father, Hoxo the boy who was found from the wilderness and the headman's beautiful daughter Nenem .They are the storehouses of collective memory. Having experienced and witnessed the process of transformation and acclimatization of their people due to the inevitable effects of globalisation they echo the deep concerns sometimes muffled or unarticulated. They are as alive as the narrator, and like her they tell stories that are a reality of some particular time. As she says 'Here Hoxo and Rakut live and remember on a piece of green earth wedged between high mountains and big rivers.' (ibid.,190). And Rakut himself points out to at an essential truism when he says we are just 'peripheral people thinking out our thoughts.' (ibid.).

Dai's self-reflection through her narration brings forth perspectives as an insider and also as a woman. Greta Gaard rightly points out the necessity of native history when she writes one has 'to look into your culture and find what is liberating in it.' (Gaard: 1993:308). Very significantly the act of narrating stories itself has the potentiality of emancipation and brings about a catharsis even in the personal life of the writer, in the process healing wounds and re-linking her to her lost self. Dai investigates her people against the background of her personal experiences and ends up reiterating her dependence on 'my own people and my land'. It is by identifying with them that her sense of identity and completeness is achieved. In this sense her needs and experiences are what we see in a number of post colonial texts .A search for one's identity is a search for one's land. As she says of Nenem, the girl, who loved and was loved by a '*Miglun*' and yet 'She chose land over love'. The autobiographical tone is unmistakable.

Nenem is torn under the tension of two powerful pull of cultures: of the '*Miglun*' and of her own people. Yet her decision is indomitable, nonetheless painful. But David the young officer is resigned to his loss which is aptly expressed by his senior 'Well, they're strange here, these people. Yes, they won't transplant easily....' (Dai, op cit., 106). For the next five years after David left his station at Pigo, Nenem pines for him, alone and unwilling to show her sadness. Nature becomes her only refuge, as Beauvoir said 'it is among plants and animals she is

a human being; she is freed at once from her family and from the males – a subject, a free being.' (Beauvoir, 1949:386). Among 'The green of living' (Dai, op cit., 112), she breaths afresh until she met Kao, her future husband.

Nature is as alive as its inhabitants. She / He is both benevolent and malevolent. Unlike the Western concept Nature does not represent the opposite of what human being is. She/he is not subdued or passive; an object vulnerable to exploitation. Infact intrinsic human values are nurtured under the benevolence of Nature, but sometimes also under trying circumstances, enhanced by a ravaging Nature. For instance in the story of the Biribik, the water serpent 'No one, for generations now, remembered the name of the first person who had seen it, but the event was fixed in their collective memory.' (ibid., 9). If anyone could interpret the signs like the villagers could do, its appearance was considered ominous that led to unnatural happenings in the villages. Unnatural because rationality in certain circumstances was a word bereft of meaning. For example in the case of Adela, even science with all its rationality was strained for reasons that left the parents more baffled and perplexed. Whereas, Hoxo with his wisdom and age, and an even greater faith in the existence of a power; greater and solemn, puts it in very simple words, that sometimes people are carried by the spirits into a world of silence and the best that one can do is to wait and hope that they will return one day.

The Adis practise an animistic faith that is woven around forest ecology and co-existence with the natural world. Land is ingrained into their consciousness not as a part but rather as the source of their life. As she writes, 'When you look at the land you forget your aches and pain.' (ibid., 2006). The autobiographical narrative of Dai is not only replete with the events in her life and their significance, but it also concerns itself with the impact of globalisation on the tribal way of life, and specifically on the forest ecology. Jules who comes from the city, represents the outsider's perspective, which sees the traditional society as resilient and hostile to changes and modernity. He speaks about grass root strategies and forest managements, about the myth of innocent guileless forest dwellers, about money power and deforestation. But what is of concern is that any grass root strategies for forest management and other similar policies do not take into considerations the overall welfare of the community. Apart from serious laws and bye-laws these policies should also include the aesthetic sense, sense of community as well as the dependence of the tribal's on the ecology around them, rather than impose alien methods of biodiversity management.

The first white men had made an entry into the land around 1800s. The locals

called them '*migluns*'. 'The *migluns* were terrifying in their energy and determination.' (ibid.,39). The great Stillwell road, the workmanship of the *migluns* tore through the mountains and hills, razing them barren. The road also was tagged along by its inevitable paraphernalia. 'The village had moved to its own quite rhythm for centuries, with old certainties and beliefs, but the road was changing all that.' (ibid.,148). Development that the government advocated was a paranym.

Schools were established, vehicles began to run on the roads and the landscape altered with the appearance of tall electric poles sans electricity. The villagers were overwhelmed by these developments. They hope for a future where their children will learn about the new world, and their homes will lighten up in the darkness of the night. But every day the sights and the scenes change. New faces appear in multitudes, daily scrapping the river beds for sand and rocks. New shacks spring all over the hillsides with children roaming naked, women bathing in the outside and men leering and drunk. Amongst all these flutter of activities what caught the villagers off guard was something they never witnessed before; their granaries were broken and all the valuables stolen! 'Never in their living memory had anyone tampered with these houses. The granary was sacred property and it was taboo to enter without the consent of its owner.' (ibid.,147,148). Larik, son of Togla voices the collective concern of the villagers when he says that the road had brought for them only 'outsiders, thieves and disease'. 'The old days of war and valour had vanished. They had surrendered ancestral lands to the government and now the road and the things that came with it seemed to be strangling them and threatening to steal their identity like a thief creeping into their villages and fields.' (ibid.,157). But the paradox was that the road was also the bridge of development for the villages. The villagers attempted to negotiate new ways of life under the government, education and modernisation. Dai's optimism as well as reformist attitude is evident in this evocative narrative. Her gestures are aimed not only at mere survival of the community in the face of multifarious challenges, but towards a holistic consciousness that reveres the interconnectedness of beings, Nature and the entire cosmos. Like a clairvoyant her visions project a future based on a shared past and experience by the community along with their stories, myths, beliefs and songs.

Rosemary Radford Ruether wrote in *New Woman/New Earth* in 1975 that women 'must unite the demands of the women's movement with those of the ecological movements to envision a radical reshaping of the basic socioeconomic relations and the underlying values of this society.' For centuries humans

have dominated Nature, feminists have affiliated this with the domination of men over women. It is perceptible in many societies that the degradation of land and natural resources leads to degradation of women. Taking these observations into considerations, society at large will do very well to bring about changes no matter how subtle they could be.

Walker and Dai are separated not only by seas and continents. They belong to a different race of people, each with their own unique and rich culture and tradition; yet they portray in their writing an unmistakable similarity in their vision for a world, especially where women and her sensitiveness to the ecology around her are realised, to envision as well as provoke the consciousness of fellow people towards self-determination and empowerment. Walker found her creative spark in her mother's garden, and Dai found it in her land and people. This journey which is immensely fruitful, gives them insights that revitalises their very soul and also the life of fellow women. Also history and stories in the form of narrative are significantly used by them to unite their people under a common heritage and also acting as an impetus, striking against blind assimilation and acculturation, which are the inevitable aftermaths of globalisation. The formative role of environment towards a positive change in the lives of men and women is central to their work, they propagate a kind of spiritualism in Nature, a kind of 'eco-spiritualism', as a way of diffusing and solving serious environmental and social concerns .They propagate an equilibrium where life in all its form can be fostered and nurtured i.e. a life in *Pensam*.

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Rajiv Gandhi University Research Journal
(January-July, 2012), Vol.11, No.1: 79-92
ISSN 2250-2866

Historiography of Northeast India: Dimensions and Perspectives of Numismatic Source

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(Received on 12-05-2012 Accepted on 04-06-2012)

Abstract

Indian Numismatics has been the subject of research by foreign and Indian scholars for a long time now. In writing of Northeast Indian history, numismatic constitute one of the chief original sources. During the last century quite a large number of dynastic coins like those of Assam, Tripura, Koch Behar, Kachar, Jayantipur have been discovered in various parts of Northeast India and for a correct appraisal of Northeast Indian socio-economic-political and cultural history particularly for the period between 9th century to 18th century A.D., these coins have been proved to be important sources of information. Though the coins were originally struck for certain purposes but the information available from them go far beyond their face value. In this paper an attempt has been made to show the various dimensions and perspectives of numismatic source in reconstruction of Northeast Indian history as well as to establish the relative importance of numismatic source in Northeast Indian historiography.

Keywords: *Histography, Numismatic, Dynasty, Coins, Social History, Economic History, Religio-Cultural History*

Ancient coins surviving into the present age are living commentaries on the dead past. So coins of a given period and area constitute an important source of information about its history and culture. (Crowther,1955:4). The importance of coins as a source of ancient history of India can hardly be undermined in a

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country like India where genuine historical chronicles comparable to those of the west is not only rare bur almost unavailable. (Sharma, 2005:18). In this backdrop coins, a very important component of archaeological objects can help us to reconstruct the ancient past based on the true parameters set by both western and Indian historians. It is a common belief that coins don't adequately compete with literary sources in revealing the complexity of intentions and shifting sands of allegiance. It is also thought that numismatics merely confirm history but seldom modifies or amplifies it. However, they can shed ample light upon the political, social, economic, religious, administrative and also on the historical geography of a certain region. (Bhandarkar, 1921:1-36). From a close study of the symbolic significance of the varied emblems found on early Indian coins across different dynasties, we can know about various important events of royal history and thus can draw a general picture of the contemporary life. Here, a critical examination of the scope of numismatics in shaping of Northeast Indian historiography is being discussed.

On account of its geographical situation Northeast India has been out of the central focus of Indian history and the developments in other areas have only occasionally touched the course of events in this part. The territory is linguistically and to a great extent culturally a fairly homogenous unit. Though intersected by rivers its kingdoms were linked in ancient and medieval times politically, culturally and commercially. Hence the territory concerned can be considered as a unit for study. Tribal people belonging to Mongoloid and other stock predominantly inhabited the whole geographical area in the past. (Vasu, 1990).

As already stated, in writing of Northeast Indian history numismatics form one of the chief original sources. Over the last two centuries quite a large number of dynastic coins like those of Assam, Tripura, Koch Behar, Kachar, Jayantipur and Manipur have been discovered in various parts of Northeast India and for a correct appraisal of Northeast Indian socio-economic and political history particularly for the period between c. 900 and 1800 A.D, these coins have proved to be important sources of information. Numismatic issues of these dynasties provide the grounds for a study not only of the political changes through which these kingdoms have passed but allow a glimpse into the art endeavours of the contemporary people through the ages. Though the coins were originally struck for certain purposes but the information available from them could go far beyond what is written on them.

The Essence of Numismatic Data

- Coins bearing the name and year provide us systematic information regarding the chronology and succession of the rulers of a particular dynasty, and in Northeast Indian perspective this short of information is very useful as because of lack of literary evidence.

- From double struck coins we can know about political invasion as the conquering ruler used to grab the coins of conquered ruler, and use as his own coin by putting his own image or royal emblem on the coin. In Northeast India we can find many specimens of double struck coins as intruders repeatedly attacked the concerned territory.
- A monetised economy is very different in nature from a non-monetised economy, so it is important to know whether or not coins existed.
- Legend on the coins - this often includes the name of the king or queen, sometimes coupled with a date, religious invocations, commemoration of victory and occasionally other information. At certain times, the name of the mint was also highlighted on the coin.
- Letter forms - the exact form of the letters on the coins can be compared with on the other contemporary written documents and inscriptions. Thus coins can serve as corroborative and clear evidence on the gradual development of the script in a particular language.
- The pictorial representation present on the coins shows the artistic treatment. The iconography and the origin of the image can be compared with images in other media.
- The method and technical competence of manufacture can be compared with that of other metal objects or images manufactured at the same time.
- The metal content can speak of the minter's knowledge of metallic composition and source of metal considered. If the metal not mined locally then the metal must have been acquired as a result of trade and thus provide us information regarding trade relations.
- Denomination speaks off about the scale of transaction. A low value coin was useful for small scale purchases in local market. A high value coin was only useful as store of value. Such coin was certainly suitable for high value transaction or for large scale purchases.
- Volumes issued - a large scale coinage must have had a major effect on the economy, whereas a small scale coinage will have little effect and may only have been issued as a political statement.

- Control mechanisms - in consistence of style and weight, secret control made on the dies, and a lack of contemporary forgeries found in circulation, all point to a well controlled coinage. If coinage was well controlled other aspects of government may have been handled competently.
- Hoard evidence - it is always interesting and instructive to determine the composition burial time and location of hoards. Hoards are often buried during a time of political unrest, and a concentration of single finds of small denomination coins may indicate the location of a market place.

History of Numismatic Research in Northeast India

The importance of numismatic evidence for proper historical investigation of medieval Northeast India began to be understood as early as 1828. Shortly after the cession of Assam to the British in accordance with the Yandaboo Treaty, Captain Neutville collected a good number of coins and presented them to the Countess of Amherst. Dr. Horace Hyman Wilson was then the secretary of the Asiatic Society of Bengal. He was asked to write a short note on the History of Assam and the coins collected by Captain Neuville, Dr. Wilson accordingly did it in 1828. (Barua, 1936: 128-29). In connection with scheme for prosecuting ethnographical enquiries in different parts of India a suggestion was made by E.A.Gait that the Assam enquiries might at the same time be made into the ancient history of the province. (Gait, 1991:1). The suggestion was accepted and by Sir William Ward and action proposed to be taken in respect of the collection of coins of Northeast India. The Assam provincial cabinet of coins came into existence in 1904 and it was accommodated in the public library, Shillong. H. Corkery the then Assistant Secretary to the Chief Commissioner of Assam made a suggestion for setting up a coin cabinet in Shillong which was approved by B.Fuller and steps were accordingly taken to collect coins. (Stapleton, 1911: 1). Apart from the local collection, a good number of duplicate coins were brought from the Asiatic Society of Bengal in 1909. These included the coins collected from various parts of India to the different dynasties right from punched marked coins to Muslim coins. To meet the needs of the scholars a systematic catalogue was prepared by Maulavi Aftabuddin Ahmed, Curator of the coin cabinet under the supervision of H.E. Stapleton in 1911. (Stapleton, 1911: 2). In this catalogue only 600 coins were included. A supplement to this catalogue was prepared under the supervision of R.Friel with more number of coins. Since a good number of coins were collected within a couple of years it became again necessary to bring out an enlarge version of the catalogue of coins. Again in 1930 A.W. Botham published a new edition; more than

4000 coins were included in third edition. In 1948 The Assam coin cabinet was transferred in Assam State Museum, Guwahati. Since then it is attached to the state Museum. Besides this institution the study of coins also attracted the attention of Kamarupa Anusandhan Samiti (1912), Numismatic Society of India (1910), Varendra Research Society (1910) and so many other research institutions across Northeast India and India in general.

Beginning of Coinage in Northeast India

Before entering into the core issue it is important to know from when and how a regularized currency system came into existence in Northeast India. The territory included in Northeast India known as Pragjyotish Kamarupa (Barpujari, 1990: 59-78) in the early centuries of this millennium. This part of India was never included totally by the mainstream ruling dynasties of India before the advent of Muslims. Before the advent of the Ahoms in thirteenth century the territory was ruled by various small dynasties like Naraka, Varmana, Salastambha and Bhouma-Naraka dynasties. (ibid: 94-99). These dynasties were small and till now no numismatic specimen is yet found belongs to these dynasties. Though the Mahasthangarh inscription (Sircar, 1965: 79-80) seems to suggest that the ancient kingdom of Pragjyotish-Kamarupa was a part of the Maurya Empire but one cannot ignore the significant fact that we have not discovered in Assam any punched marked coin, which was the regular silver and copper currency of the Mauryas, although such coins have been found in considerable numbers in Bengal. Surprisingly it is the fact that we have not found in Assam any of the abundant issues of the Gupta even though we know that the province of Pundrovardhana or North Bengal formed a part of the Gupta empire from the fourth to sixth century A.D., and the ancient Assam or the Pragjyotish-Kamrupa country was separated from the Pundrovardhana territory in the west only by the river Karatoya. (Sircar, 1971: 159). In the same context we have to remember that Pushyavarman of Assam and his successor appear to have had political relation with the Gupta emperor. In the first half of the seventh century A.D., the great king Bhaskaravarman had considerable political dominance over the region but still we have not discovered even a single coin of Bhaskaravarmana to our satisfaction. However, evidence of use of cowries as currency can be noticed in the Tezpur rock inscription of Harjaravarman dated Gupta era 510 (829-30 A.D) wherein the imposition of a fine of 100 *vuttikas* has been mentioned for violating royal order with regard to plying of the fishing boats on the river Brahmaputra. (Sharma, 1978: 82-88). In this backdrop, it was very recently assumed that metallic coinage was introduced in

Assam only in the seventeenth century. But a series of hoards discovered in various parts of Darrang, Sonitpur, Kamarupa and Nagaon districts have conclusively proved that copper coinage was introduced in Pragjyotisha-Kamarupa kingdom in the 9th century. (Bhattacharyya, 1977; Sircar, 1978; also refer Rhodes & Bose, 2003).

Prior to the Muslim invasion of the early thirteen century coinage on North-east India or more specifically the coinage of the Hindu rulers which formed the majority of the numismatic issues of medieval and late medieval North-east India was conspicuous by its absence. But in thirteenth century the situation changed in Bengal when Mohammad Bakhtiyar (1198 A.D.) invaded and occupied political power. The sultans of Bengal were the first who introduced the metallic currency (gold, silver and copper) in eastern India and also brought a drastic change in the transaction process. (Rhodes, 1994:3).

Another very important political development of fourteenth and fifteenth century was that side by side of Muslim intervention in eastern India the Brahmins of the Gangetic valley and also from Bengal were feeling threatened and some of them started migrating eastward. A process of Hindu state formation commenced in the eastern India when one or more Brahmins or Brahmin groups convinced a local tribal leader to embrace Hinduism and to establish their new kingdom. Thus in this way some new state namely Tripura, Cooch Behar, Assam, Kachar, Jayantipur came into existence. All this medieval and late medieval Hindu states of Northeast India had their own system of coinage and they derived their inspiration from the silver coinage of the Sultans of Bengal. (Hussain, 2003).

A basic summary of the relevant coinage is set out below:

Tripura: Coinage of Tripura started by Ratna Manikya in A.D 1464 and continued until 1931. Mainly silver coins were minted but a few gold coins in minor denominations were also available. (Rhodes, 1994:8).

Cooch/Koch Behar: Coinage started by Nara Narayana in A.D. 1555 and continued until 1922. Silver coins were issued. Large volumes of silver coins issued until 1789. (Rhodes & Bose, 1999: 1-29).

Kachar: Coinage commenced in AD 1502 and or 1520 and continued until 1819. The first coin is a rare *tanka* in the name of Viravijayanarayana. (ibid, 2006).

Jauyantiapur: Coinage probably started in AD 1560 and continued until 1800 AD. Silver was the main metal for coining money. (Rhodes & Bose, 2010).

Ahom Kingdom: First coin issued AD 1648 and continued until 1821. Silver and gold coins are available (an exception being two types of copper coins issued by one of the rulers). (Mitra, 2001; Rhodes & Bose, 2004).

Manipur: Starting from early eighteenth century coinage continued until 1891.

All these coinage have common features. Apart from Manipur most of the coins are silver of about the weight of the Bengal Sultan *tanka* and the Moghul rupee, standards clearly taken from India. Almost all coins have legends in Assamese Bengali script and have invocations to Hindu deities. Most of the coins are dated in the Saka era that began around AD 78. Many of them were struck in relatively small numbers, so commerce was certainly not always the motivating factor.

It is useful to consider the different ways that numismatic data can be used in Northeast Indian Historiographic context. They are as follows:

Political History from Coins

Coins have to be an invaluable source of information for the reconstruction of the political history of Northeast India. They do have several advantages for the history like, First, in periods of autocracy they generally presents the official line and hence provide an important supplement to an often merge body of surviving official literature and monuments. Secondly, while literary sources may illuminate brilliantly short periods or episodes, coins offer a much more continuous chronological and geographical coverage. Thirdly, for many periods we may be confident that we have comparatively comparable knowledge of the typology of the coins in sharp construct to the low and uneven survival rate of literary sources. Finally, as coins is a strictly contemporary source it lacking the disadvantages of the element of retrospective characteristics.

So far historians have used the coinages as dated historical documents that give life to the traditional chronicles. They provide a firm chronology, and often give interesting insights into the political history of the various kingdoms of North-east-India. For example In Tripura, without the coins it would not have been possible to give an accurate chronology. In particular without the evidence of the coins, Ratna Manikya was dated to the thirteenth century, instead of to the fifteenth century. Also certain kings, such as Virabhadra Manikya (1599 AD) and Dharma Manikya (1601), find no mention in the Rajamala, but the coins show that the latter was a vassal of Selim Shah of Arakan. (Rhodes & Bose, 2002: 7-13).

Numismatics illuminates the exercise of the political power. There is a close relation in between imperialism or more specifically speaking Empire building and coinage. The spread of use of an imperial coinage or of symbols relating to imperial control on local coinage may mirror the expansion of political sovereignty. (Howgego, 1995:39). For instance the Koches established their political sovereignty over a considerable portion of Northeast of India from about 1550A.D. to about 1600 A.D. (Amanatullah, 1936: 101-135). The ruling power imposed its own coinage, own weight standard and system of denominations over the regional kingdoms of Northeast India to claim imperial control. There is however, another aspect of the coinage, which has received less attention from historians. The first coins struck by each state coincide with the time when each of these previously tribal regions came under the influence of Brahmanical Hinduism[1]. This process of conversion to what is now commonly known as Hinduism, at different times in different places and throughout the Northeast the introduction of coins became a part of this Hindu state formation process. The Muslim rulers of Bengal had been striking silver coins since the thirteenth century, so the issue of coins could perhaps be seen as part of a process of 'Civilization', instigated by the king of each kingdom, at the behest of the new immigrants from Bengal or Mithila and in particular new Hindu immigrants[2].

Although the initial motivation behind the introduction of coins may have been political, rather than economic, their existence often had other important effects. For example, Pathan and Portuguese mercenaries were paid in coins by the Tripura Kings in the sixteenth century, enabling Tripura to become a regional military power. This would not have been possible had the Tripura rulers not had silver coins.

Economic History from Coins

Likewise the writing the political history of Northeast India coins is also very significant in visualizing the economic environment of The Northeast. By assaying the coins of different dynasties of Northeast conclusions can be drawn about the prevailing economic condition. Pure gold or pure silver coins signify the soundness of the economy of the period, while their mixtures and the proportion

1 For example Tripura first issued coins in AD 1464, Cooch Behar in AD 1555, Jaintipur in c AD 1502, Kachar in AD 1566, the Ahom kingdom in AD 1648 and Manipur in AD 1724 or little earlier.

2 For a general discussion of the process of Hindu state formations see, *Social and Polity Formation in Pre-Colonial Northeast India*, by J.B.Bhattacharjee (1991) New Delhi, Vikas Publishing House.

of their alloy denote the proportionate economic bankruptcy of a ruler or a state. (Sharma, 2001: 89-127).

We can learn so many aspects of economic history from coins. As we have no specimen of state sponsored coinage before Nara Narayana (1555 AD) of Koch Kingdom in Northeast India, other than two specimens of the silver coin of Vira Vijaya Narayana of Kachar (1502-1520 AD), so it is easy to presume that transaction was depended on barter system. (Sircar, 1978: 1-6). But the moment coins came to replace the barter mode of transaction it changed the whole volume of trade as it eradicated the complexities of barter transactions. As a result trade and commerce flourished in this region and the self sufficient rural economy started to transform into a surplus economy and which ultimately increased the standers of living of common people and also helped a lot to develop the communication network. By taking inspiration from the Koch rulers the other princely kingdoms of Northeast India also started minting their own currencies and which popularized the acceptability of coins as a good mode of transaction which ultimately paved the way of economic development. Though we cannot get this short of information directly from coins but it compels us to think about the economic development and thus can be treated as valuable source for Northeast Indian economic history.

Another area of economic activity to which coins provide an insight is trading patterns. As there are no silver mines in Northeast, so the silver must have reached the states in the course of trade, probably from Bhutan, Tibet or China, either directly or via Bengal. (Chattopadhyay & Sengupta, 2011: 110-124). Cooch Behar coins provide an interesting case study, as the silver coinage was very plentiful at several periods. After 1562, it is recorded in the local chronicles that Cooch Behar acquired a lot of silver as tribute from various states conquered by Nara Narayana during his military expedition. Much of this booty was struck into coins by Nara Narayana. Later kings however did not acquire silver through conquest, and it is likely that these coins were struck from the profits earned from transit trade between Tibet and Bengal that passed through Bhutan and Cooch Behaer. (Deb, 1973: 80-88). The size of the coinage provides a crude measure of volumes of this trade. In particular, no coins were struck in Cooch Behar between 1683 and 1695, which probably indicates that the trade was disrupted during this decade.

Findspots of coins indicate trade flows, so the absence Manipuri coins outside Manipur may indicate the trade with Manipur was limited. On the other hand the fact that silver coins of Kachar are occasionally found in northern Bangladesh

indicates trade flows from Bengal to Kachar.

Social History from Coins

Many aspects of social history in a monetary society differ from those in a non-monetized society. For example rents for land can be paid in cash, and a market can develop on land. In a non-monetizes society land ownership will depend entirely on physical power or patronage from the king or the state. Labour taxes in a monetized society can be commuted into cash taxes, which mean that people with money can devote all their energies to working for their own benefit and generating more cash. New occupations can develop such as bankers and money changers. Opportunities in these are usually taken advantage of by immigrants from regions more used to using coins. For an example of how bankers can become as powerful as kings, one has to look no further than Jagat Seth in Bengal during the eighteenth century.

Looking at the subject of monetization the other way round, it is instructive to consider the Pala-Sena period in Bengal. No coins were issued by the Pala-Sena rulers, although they must have been fully aware of the concept of coins. It is probable therefore that coins were intentionally suppressed in order to limit the trading activity and hence the social mobility of the people. This would have helped the strong Brahmanical rulers to maintain social stability and hence their political control over their subjects. When Bengal was conquered by the Muslim invaders in the 13th century the introduction of coins would have helped increase the power and influence of the trading castes and consequent erosion of the power of the Brahmins so that the Muslims could more easily control the country at the political level. (Rhodes, 1994:3).

Besides the above mentioned social history from coins we can learn some other information like the role of women in administrative machinery. For example in some coins of Tripura the name of the chief queen has been inscribed along with the king's name. It reflects the queen's likely role in administrative matters. On the other way, by this, one can merely assume that the queen enjoyed a high status in the kingdom and which ultimately reflects the higher position of women in the society. During the period of Siva Simha of Ahom kingdom, names of the queens and kings appear on all denomination of coins. Not only that, Queen Phulesvari had struck a quarter *tanka* with no mention of king's name. (Rhodes & Bose, 2006: 18-19).

Religio-Cultural History from Coins

The coins of ancient India provide valuable information regarding beliefs and practices of the kings and the people in general. The religious inscriptions on the coins, together with the name of the king reinforced the religious identity of the monarch and of the state. Presence of name or some time picture of the Gods and Goddess on the coins helps us to determine the evolution of the religious sects in Northeast India. The study of varied types of coins of different ages exhibits an embodiment of Indian culture in the miniature form. An in-depth study of the coin symbol from the historical perspective can provide an idea to the solution of the problem emerging out of the diversity of races or ethnic groups professing divergent religious faith.

For example in Cooch Behar coins the term *'Sri Sri Siva Charana Kamala Madhukarasya'* is engraved in most of the coins Koch dynasty. The phrase inscribed on the reverse side of the coins to show the deep relationship of the Koch kings with Siva and also to establish the fact that the association of Siva with the people of the kingdom was very deep-rooted. Besides as the term Narayana was taken by the Koch rulers as their official dynastic name. As we all know that the Vaishnavism had a strong command over the Koch Empire, so it can be stated that the Koches took the name *Narayan* (Vishnu is also known as Narayan) as their dynastic name. As we find both the term Siva and Narayana on the Koch coins, so on the other way Koch coins signifies that the Koches were not rigid in their religious attitude. (Dutta, 2011: 83-88). In Tripura, there are sometimes pictorial images of the deities. An image showing the traditional attributes of the tribal mother goddess *Nowi*, took the role of Garuda as the *vahana* of Vishnu' (Singh, 1981) and Narayana is depicted as a human-faced dragon, which may have been recognized by the tribals as a deity. Apart from these direct information, coins provide us information relating patronization of religion. In those days monetary donations to temples and to the Brahmins was mad by the state or private individuals. This economic assistance would have increased the economic power of the religious institution and thus arts could flourish.

Besides the above mention significance a few other interesting facts connected with administrative history can be found in coins. Coins can reveal several interesting administrative details which otherwise would have remained in darkness. By a close study of the mint marks on the coins we can know about the grade of the metal workers and if there any deviation of the quality of the coin found, then the mint mark determine who was responsible for the fault, it reflects a strict

administrative control over the royal mints in Northeast India.[3] Another interesting area on which coins can shad light is technology. If coins can be made, for example by casting, then the same artisans should be capable of casting other metal objects such as religious image.

Thus from the above study we can come into the conclusion that numismatic source can be treated as a valuable source material for the reconstruction of Northeast Indian history. As a primary source and important component of archaeological objects coins serves the basic requirement of writing history. It is true that coins were produced for particular purpose, but if a historian can figure out why coins were manufactured, why particular designs were chosen, why a particular metal content and weight standard were chosen, and what the coins were used for, then it will possible to understand much more about the culture of Northeast India. A true scale of objectivity can be maintained if coins are treated as corroborative evidence. We often find that the literary sources are composed mostly under royal patronage, so there is chance of falsification of the true event. But if we consider coin as a source material then this kind of misinterpretation can be overcome. For example in many cases coins serves the only source in determining the chronological order of different dynasties. But unfortunately as the coins are very valuable, so whenever discoveries are made there is a trend to sell the coins for their materialistic benefit. In such a situation the prospect of getting details of the coin hoard almost always became impossible. But in spite of difficulty of getting information of coins some significant coin hoard has been discovered from various places of Northeast India and by analyzing these coins a good deal of Northeast Indian History has been reconstructed. We have to work harder at producing proper corpuses of the coinage that exist, and must use the raw data gleaned from the numismatic source. So, lastly it is right to be stated that we can have a deeper understanding of the history and culture of Northeast India if we use numismatic data side by side of other sources of history and numismatic evidence can be used in the most effective way of telling of many untold story of this fascinating region of India.

3 Presidential Address by Nicholas Rhodes in *NEIHA*, (2004) p.7, Shillong.

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Rajiv Gandhi University Research Journal
(January-July, 2012), Vol.11, No.1: 93-111
ISSN 2250-2866

Buddhist Monuments in Arunachal Pradesh: A Study on Tawang, Lhagyala and Talung Monasteries of West Kameng and Tawang District

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(Received on 24-10-2011 Accepted on 28-07-2012)

Abstract

It is evident that some of the major tribes of Arunachal Pradesh are practising Buddhism and the essence of their Buddhism is reflected by the presence of large number of monasteries spread over bordering districts. The present paper is an attempt to bring out a comparative understanding of the three oldest Monasteries of Mahayana sect of Buddhism located in West Kameng and Tawang districts of the state.

Backdrop

Arunachal Pradesh, the erstwhile NEFA, is the home land of large number of tribal population who reflect a great cultural diversity embedded within syncretic religious traditions. Out of multiple religious strands, Buddhism is one of the prime important dominant frames which is practised by many tribes like the Monpas, the Sherdukpens, the Membas and the Khambas of West Kameng, Tawang, Upper Siang who belong to *Mahayana* sect or may be designated as Tibetan form of Buddhism and the Khamptis as well as the Singphos of Lohit and Changlang district who represent *Hinayana* or *Theravada* sect which came through Burma. Buddhism has a long history in this frontier state which has given

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birth to great monastic tradition with the presence of innumerable monasteries some of which are quiet old and some are comparatively new, while many are in the process of making in villages or towns wherever these Buddhist tribes are located. The present paper is an attempt to deal with three oldest Monasteries, one in Tawang which is the biggest one, having a pan-Indian familiarity as the most favored tourist spot but the other two are hardly known yet historically older than Tawang Monastery. This paper intends to delineate comparative historical and ethnographic location on the three prime Buddhist monuments as well as implications of these monasteries in the life of the Buddhist tribes to provide visual understanding of these monuments as Buddhist cultural heritage.

Tawang Ganden Namgyel Lhatse Monastery

Historical Background

Tawang monastery serves as a medium through which one could understand the spread of Buddhism in the *Monyul*[1] area. According to the local legend, more than four hundred years ago, a great monk named *Lodre Gyatso* or *Merak Lama*, who was born in the household[2] of *Poudun* (*Pou* means intelligent and valiant; *dun* means seven) or a household having seven intelligent and valiant sons (Sarkar, 1981;3). On knowing about the danger created by the *Drukpas* of Bhutan by destroying the religious establishments in the area, *Merak* Lama did not know what to do and so went to meet the 5th Dalai Lama (*Nawang Lobsang Gyatso*, 1617-1682) in Lhasa to seek his advice. He was then advised to establish a new monastery at the centre of the *Gelukpa* area in order to have a strong uphold in the area. So, with the blessings of Dalai Lama, he came to the *Choktsum*[3] (Tawang) and stayed in the *Sanglamphe Gompa*. During his stay he visited many places in Tawang but was not able to find a suitable place to construct the monastery. He therefore went back to Lhasa disappointed and reported his failure to the 5th Dalai Lama and sought for his help. (Sarkar, 1980:.7-8).

The Dalai Lama issued a mandate to all the villagers of the *Choktsum* area to help *Merak* lama in his project of finding a suitable place. He gave him a ball of yarn and instructed him that the outer boundary of the monastery should be the

1 *Monyul*- it is a combination of two words *mon*- the Monpa people; *yul*- area or the area of the Monpa people.

2 Tashi Khandu (81 years old and he was the fist MLA from Tawang District) is the present owner of the household

3 *Choktsum*- it includes Lhou, Sher and Ser.

same length as the yarn of the ball. *Merak* lama thus came after many sites but was not satisfied with them and was very worried about the right choice of the site. So one day he went to a hill called as the *Bramdungchung*, three miles north of Tawang, in order to seek the divine light. He went inside a cave leaving his horse outside the cave which was different from his usual behaviour. When he came out of the cave after meditating he did not find his horse. This was an unusual behaviour as the horse never left its master. He therefore went in search of his horse following its hoofmarks and found his horse in a place called as *Tana Mandekhang*, where once stood the palace of one of the famous Tawang king called *Gyalpo Kala Wangpo*. This incident was perceived by him as a help provided by the divine and so the site chosen by the horse was finalised for the construction of the monastery. In recognition by the part played by the horse in finalising the site, the place was called as *Ta* which meant horse and *Wang* which meant chosen or the place chosen by the horse. (ibid., 8).

The people of Tawang gradually gathered round *Merak* lama and were ready to help him in the construction of the monastery. The area of the monastery was measured with the ball of yarn as ordered by Dalai Lama. Each and every village participated in the construction of the monastery; each of them constructed the outer wall of the monastery. Even today they maintain their own parts. Thus, slowly but with the help from each and every member of the community, the monastery was built around 1643 or 1647 (there is no accurate data regarding the construction of the monastery.). (Sarkar, 1981: 8). The monastery was named as *Tawang Galden Namgyel Lhatse* (Tawang-site chosen by the horse, *Galden*-paradise, *Namgyel*-celestial, *Lhatse*-divine) or the celestial paradise of the divine site chosen by horse.

Significance of Tawang Monastery to the Monpas

The significance of the monastery to the people of the Mon area can be seen right from the time of the construction of the monastery. When *Merak* Lama was assigned the job of constructing a new monastery he was helped by each and every member of the society. The villagers from different villages voluntarily constructed different parts of the monastery buildings including the residential quarters for the lamas in the monastery and the outer wall. Even today the respective villages are responsible for the maintenance of their part of the monastery. Similarly the villages constructed a building each for the resident lamas and each still maintains that building it built. The villages of Tawang and Lumla areas constructed the lower part of the building housing the *dukhang* and are responsible for its maintenance. The part above this was constructed by the *Pangchen*-

Dingdruk or the North West Tawang and *Lebuchosie* areas. The people of the area cannot come for its maintenance as they are now in Tibet. (Sarkar. 1980: 9).

As per the tradition of the Monpa families with three sons or more, the second son, called *butcha burma*[4], has to be admitted in the monastery as a lama. There is no fixed age at which the lama can join the monastery. (Biswal, 2006: 51). The child after admitted in the monastery becomes the sole responsibility of the monastery. The child is looked after by the senior lamas of the monastery, he is educated, fed and is given shelter in the monastery. Apart from the religious education he is also trained in modern education in order to help him cope up with the present world outside the monastery.

After the establishment of Tawang monastery, *Merak* lama introduced the system of *Tsong Drem* and *Ma Benda*, which is mainly a barter trade system where the ceremonial scarf, *Tibetan* silver coins were exchanged under *Tsong Drem* and *Ma Benda* systems respectively from monastery side with cereals from the side of the devotees. The collection of contributions of the above mentioned barter system depends much on the personal relationship between *Kungyur*[5] lamas and concerned villagers. So the collection per year is not fixed. The monastery also collects Yak butter as rent from the monastery grazing grounds which the yak grazers use for grazing. The agricultural offerings are the main source of income of the monastery. For collection purposes, the whole Mon area is divided into three parts: *Dakpaneng*[6] area, *Pangchin* area and *Choktsum* area. The offerings and the agricultural levy (*Khrai)* is collected from these areas in the form of millets and yak butter. The *Khrei* system has continued since the time of *Merak Lama*. The monastery spends on ration for the *lamas* and *anis*, hiring charges to persons engaged in rearing of yaks, procurement of salt, fodder and other items for the yaks, expenditure on the collectors of the *Khrei*. Apart from that, the *Kongyur* lamas arrange Pujas in the main prayer hall, arrange food during Torgya, arrange tea etc. (ibid., 58-59).

Tawang monastery organises several festivals in which all monks and villagers participate vigorously. The *Abbot* also called the *Rimpochea*[7] gives his blessings during the major festivals. During the blessing giving rituals, the Abbot is seated on a dais below the library and the villagers come to him one by one with bent heads and folded hands. The *Rimpochea* then touches the head of the

4 *Butcha*-child, *Burma*-middle

5 Kungyur lamas- the in charge of the main prayer hall or the caretaker.

6 Dakpanengpa- it includes Dakpa Cho Gea

7 Rimpoche- It is an honorific word used in Tibetian Buddhism. It literally means 'precious one.'

villagers and casts a sacred thread around his or her neck. (ibid., 59-60).

The Monpas arrange the recitation of the sacred texts in their house annually, in the holy days for the well-being of their families and to forestall any calamity in store. The lamas recite the sacred volumes of *Bum* or *Nyithi*[8] and other texts. (ibid., 61).

Structural Aspects

The main monastery building is three storied and the complex has residential buildings for the lamas, *chorten*, school, kitchen, and the library with lanes and by-lanes. It has a capacity for housing more than five hundred lamas, though the actual number of resident lamas at present is around three hundred fifty. The road to the monastery from the *Shyo Basti* passes through the grove of old tall trees, the rehearsal ground. The *Dungyur* mane is placed outside the monastery gate, just opposite to the rehearsal ground for twirling of prayer wheels by the devotees. A big water *Mane* operated by the spring water is situated adjacent to it where the water from a spring is made to fall from a height on the spokes of the two manes keeping those under constant rotation. Further ahead, a monastery entrance gate, called *Kakaling* which is a gate like structure with its two lateral walls made of stone masonry, stands elegantly with religious symbols. The inner walls of the *Kakaling* are painted with murals of divinities and saints of Buddhist pantheon, and the outer wall is painted in white and maroon colours. A narrow black topped path runs all along the outer side of the eastern wall of the monastery connecting the southern part. Also, a covered path runs from the main gate towards the rear of the monastery building crossing the gates, the residential quarters and the monastery schools. The entire eastern half of the monastery complex houses the residential quarters called *Sha* for the senior lamas and their students. These residential quarters of the lamas have been constructed and maintained by the villagers of the different *Monyul* areas as per the prevailing tradition. The building where once *Merak* Lama resided is situated near the gate at the south-eastern part of the monastery and has been transformed into a mausoleum. After the death of *Merak* Lama his corpse was cremated, but the eyes, tongue and heart did not burn. These three unburnt parts and the ashes are covered in a small gilded *chorten*[9] inside the mausoleum.

8 Bum or Nyithi- It is religious scriptures which consists the preachings of Lord Buddha.

9 *Chorten*- The most typical shrine is the stupa called *chorten*. It contains the personal earthly remains of the departed soul called as *dungten*. It is built with the hope that the departed soul may get a good rebirth. But most of the *chortens* contain only the sacred images and religious texts. It is considered to be an act of religious merit in constructing a *chorten*.

(ibid., 48-49).

The *Parkhang* or the library stands on the western side of the court in front of the main monastery and the books are kept in the first floor. The sacred books are kept in the pigeon-holed racks on both sides of the altar as well as on the northern and the southern sides of the hall. The library has a collection of the 400 years old *Kangyur*[10] which consists of 101 volumes with 400-500 pages in each bundle. Other large collections include the *Sutras*, *Tangyur*, *Sungbum*, old books and other manuscripts, both hand written and printed, many of them in gold. The collection has a total of 850 bundles. The monastery also has a small printing press. (ibid., 49-50).

Dukhang (*du*-to assemble, *khang*-building) is the most impressive structure of the monastery. It is three storied and stands on the northern side of the court. It has an 8.3 metre high golden Buddha and the *Labrang*[11], the establishment of the Abbot. The entry to the monastery is through a wide entrance from the court, the walls of which are painted with beautifully designed coloured murals. The wheel of life showing the six realms of life in which man can be reborn is painted on the eastern wall and on the western wall the Buddhist universe is painted in detail. Inside the prayer hall, the highest seat is kept reserved for the Dalai Lama, the supreme spiritual leader of the Gelukpa. Inside the hall two rows of seats are placed where the lamas seat together during any religious performance between two rows of pillars. The seating arrangement is made as per the seniority of the lama in the monastic order with the senior most sitting closest to the altar and the junior most taking the farthest seat. The Abbot of the monastery occupies the prime seat and sits closest to the altar. The seats of the *Lama Lopon*[12] and *Umdze*[13] are placed next to the Abbot. There is one seat reserved for the visiting senior lama which is placed after the *Umdze*. The walls of the main prayer hall are decorated with bright coloured wall paintings and in the middle, between the pillars; cotton and silken clothes in bright colours are hung. On the northern side of the hall the altar is located on which the magnificent statue of the Buddha

10 *Kangyur*- it is the religious scriptures which consists each and every detail related to man and universe.

11 *Labrang*-it is the most important religious office consisting of the Abbot, the *Changsey* (secretary) and few other assistants.

12 Lama Lopon- it is a rank of the lamas.

13 Umdze- it is also a rank of the monks attained after many years of hardship and experience. He organizes religious services in the assembly hall and leads the intoning of the hymns.

is kept, in front of which butter lamps and ritual offerings are kept. In another wooden case a silver casket, with a copper tube inside, wrapped in silk and said to bear the stamp of *Merak* lama, is kept. The monastery also has a common kitchen for the lamas and the kitchen is looked after by the lamas themselves. We also find a museum in the monastery which displays some rare and very old artifacts, for the tourist and for the locals too. (ibid., 50-51).

Taklung Monastery or Taklung Dzong

Location

Taklung Monastery is situated on a small hillock of Taklung valley. The hillock is located to the south of village Sanglem. Geographically the site lies in 90° 70c East longitude and 26° 98c North latitude[14]. Elevation of the hill is about 2040 meters above the MSL. The area is under Kalaktang administrative Circle of the West Kameng District of Arunachal Pradesh. The District Headquarter Bomdila is located about 80 kms. North-east and Circle HQ, Kalaktang is situated about 20 kms South-West. The monument is encircle by the *Nyingt-Sang* stream in the north and east, the stream *Zomla* and the old Morshing-Kalaktang foot-tract pass in the south, the western direction is delimited by low-hill ranges of *Nying Sang* hill ranges. The distance between the village Sanglem and monastery is about 500mtrs. The Morshing-Rupa all weathered motorable road is two and half kilometers away from monument. The surrounding area of monument is covered with thin deciduous forest. The climate of the area is cool and surrounding hills are still prosperous in flora and fauna.

Mythology

Like other holy shrines of the Monpas, the name of *'Taklung'* was also derived from divine miracle. While Lama *Tanpei Dronme* along with his associate Buddhist missionary arrived at the northern-hills or at the top of the hill of present Lhagyala gompa to search a suitable place for construction of a gompa, they took rest for a while enjoying the beautiful scenery of flora and fauna on the lofty mountains and the beautiful river valley below. In the middle of this, they could locate a Leopard on the other smaller hill. They move towards the leopard but when they reached there, they found that the leopard had turned into a huge stone at the spot. They instead of being surprised could realize that it was a good omen towards the success of their attempts. They named the spot as *Taklung*[15].

14 "*Taklung Dzong West Kameng District Arunachal Pradesh*" Published by: Directorate of Research (Archaeological Section) Government of Arunachal Pradesh.

Historical background

The Taklung Gompa, one of the oldest and medieval fourteen century Buddhist miniatures founded by the great Buddhist missionary, Lama Tanpei Dronme, the then contemporary of second Dalai Lama, Gedun Gyatso (1475-1543) is situated on a beautiful snake shaped hill, Taklung- *zor* (hillock) near the village, Sanglem in the south-western part of the district, West Kameng in Arunachal Pradesh. (Sarkar, 1980).

The history of Taklung Monastery is closely associated with the biography of Lama Tanpei Dronme, a pioneer towards establishment of Buddhism in Monpa and the Sherdukpen of West Kameng District. (Sarkar, 1981).

There is a Monpa hamlet known as Brekhar near Kraling in the Kitpi area of Tawang District. Brekhar Targe was a household of this hamlet. Lama Tanpei Dronme was the second son among his seven brothers. His father's name was Brekhar Targe. He had seven sons born to him and as they were intelligent and valiant, his household became popularly known as '*Poudun' or* the household having seven intelligent and valiant sons. Among them the second and the seventh were deputed to the Tashilhunpo Monastery in Tibet for religious training. They were admitted under the guidance of Changton Hrolpei. During that time Hrolpei was a famous Buddhist monk and disciple of the first Dalai Lama. After persistent exercise, both the sons of Targe successfully completed their study. Tanpei Dronme again went to the Sera Monastery for further training, after which he met the second Dalai Lama, Gedun Gyatso (1475-1543) and it was he who shaved his head, ordained him as the *gelong*[16] or monk and gave his religious name of Tanpei Dronme. During his training in Sera Monastery he has completed *Do* or *Sutra* section of *Kanjur and Tanjur* scriptures[17]. He then went to Gi-Dratsang Monastery at Lhasa for Training in the *ngak* or mode of rituals. The second Dalai Lama asked him to take his fellow disciple and brother, Lopsang Khechun, with

15 In Monpa language *Tak* means leopard and *lung* indicates forecast, the place forecasted by the leopard. Still, the huge stone are respected by the local people as symbol of divine power. It is also said that under the huge stone some colour full snakes exist even today and one can see these on auspicious day. The people of locality refer these snakes of *Lhu*, meaning Nag-Raj, the king of snakes.

16 One can become the *gelong* only after the certain course.

17 The scriptures are classified in to two groups, Kanjur and Tanjur. The Kanjur is the basic rule or principal containing the translation f the Buddha's percept and the Tanjur contains the commentaries.

him and proceed to *Lho-mon*[18] or the lower country in the south. (ibid., 1981).

Tanpei Dronme built temple and monasteries and established Gelugpa[19] sect there. Tanpei Dronme came back with his brother to the Monpa area and built many *Gelugpa* temples such as *Brekhar Gompa, Sanglemphe Gompa, Tadung Gompa, Surchung Gompa*, in the Tawang area and Taklung Gompa at the Monpa village of Sanglem, Morshing and Domkho of Kalaktang Circle in the south-western part of West Kameng District of Arunachal Pradesh were built by him during his journey. Tanpei Dronme again went to eastern Bhutan and continued building activities[20]- the Dung sham Gompa and the Golden Telling Gompa in the village of Mera are two of his last. He died at the age of ninety-nine years in the Golden Telling Monastery.

The Gelugpa sect, thus introduced by Tanpei Dronme, sustained, consolidated, and extended in this area by series of his incarnations. His first incarnation was Lobsang Gyatsen. He was born in Tibet. Lobsang Tanpei Wezer was the second incarnation. He was a Monpa born in the village of Urgyeling about two miles south of Tawang.Lobsang Tanpei Gyatsen, the third incarnation, made his appearance in the village of Tsona Mondup, South of the Tsona Monastery in Southern Tibet.The fourth incarnation, Lodre Gyatso, was born in the household of "Poudun", already hallowed by Tanpei Dronme. Lodre Gyatso was the founder of Tawang Monastery. The full name of Tawang Monastery is "*Tawang Galdan Namgey Lhatse*". He built this Monastery under the care of the fifth Dalai Lama, Nawang Lopsang Gyatso (1617-1682) and sought his advice.

Though Lama Tanpei Dronme was a legendary figure in the history of the religious movement of Gelugpa in Southern Tawang, yet neither he himself nor his disciples preserved systematic chronological account regarding his religious movement in southern Tawang. However, Dronme was contemporary of second Dalai Lama, Gedun Gyatso (1475-1543). On the basis of Dalai Lama's regime, we may assess the period of foundation of Taklung Monastery as sixteenth century A.D. as Lama Tanpei Dronme might have reached at Sanglem, Domkho and Morshing Village in the middle of his age of his life, because first

18 *lho* means south; *Mon* means lowland.

19 During the development of Buddhism in Tibet, four sects-Nyingmapa, Sakyapa, Kargyupa and Gelugpa- arose with the passage of time. The Nyingmapa, Sakyapa and Kargyupa gave rise to various sub-sects under them.

20 Niranjan Sarkar (1981); and also in the Magazine *"The North-East Frontier Magazine", December, 2003*, the article *"The Taklung Gompa, Buddhist Temple of the Monpas of Indo-Bhutan Border Land"*, written by R. Dondrup.

part of his life was spent in spreading religion at southern Tawang and last part of his life was spent at the Monastery of Golden Telling of Eastern Bhutan.

Monastery construction

The Lama Tanpei Dronme with the help of local people constructed the two storied huge Gompa[21]. He painted the guardian deity, *Lhamo Ja Drima* and *Gewa Dorjee-Chang*, popularly known by *Taklung Meme Gombu Ka-Nyamdung Nyan* as the patron deity of his Gompa and preserved it into a copper tube which can be seen till this date. During his stay at the Gompa, he amended many ritual offerings and worship of super-natural beings of the locality.

According to information[22] given by the present Taklung Lama known as *Konyur Lama* and from the villagers of Domkho, legend goes that there was a huge lake on the nearby hill. One day at noon, the deity of the lake in the form of a huge snake appeared in front of the window of the Lama. The Lama could determine that this snake was none other than the deity of the lake, so with great respect, he shook its body, applied butter on its forehead as per the custom and appeased it. The deity was so pleased that henceforth it became one of the guardian deities to protect the Gompa. The Lama too has constructed a small pond to substitute the original lake on the road side of Morshing to Kalaktang, a main tract in the early days so that proper offerings could be conducted by the Lama as well as by those whoever passed by the site. He named the pond after its deity, *Gombu as Gombulatsang* and this process is followed till date in the locality.

Another legend[23] says that once there was a huge lake situated between the villages- Morshing and Sanglem. A divine couple frequently visited the lake. One day, the lama along with his associates was waiting beside the lake to hold them. The couple too knew the intention of the outsiders and tried to take flight to their destination. But the female could not do as her neck stuck in to the hole

21 The monument can be seen till today but not in the good condition. The villager's i.e., all the village from Kalaktang Circle are trying to preserve the monument with the help of Directorate of Research, Government of Arunachal Pradesh and recently the process were initiated.

22 The information was given by the Taklung Lama and the villagers from the three villages (Morshing, Sanglem and Domkho) during field work.

23 The legend explained by the villagers during field work and also referred from the article, "*The Taklung Gompa, Buddhist Temple of the Monpas of Indo-Bhutan Border Land*" by R. Dondrup, published in the Magazine, "*The North-East Frontier Magazine*", December, 2003.

of bamboo fence of nearby cultivation; however the male managed to escape. They caught her and took her into the Gompa to preserve as one of the divine Goddess. The replica of the goddess is well known after the name of Gewa Dorjee Chang and this antique can be seen slightly bent at the neck which is preserved in a silver cover. Later on the miniature, mane Dumba was constructed at the site to communicate the event, and one can still see this mane. The information about this legend is based on the monumental evidence available in the locality.

Thus after the construction of Gompa and installation of the chapel with the help of local people, the Lama introduced the worship of *Gewa Dorjee Chang* as well as *Lhamo-Ja-Drima* as guardian deities and other subsidiary deities of Gompa. Subsequently, the images of *Zambala, Chang-Chominande, Lopon Rimpoche* etc., were added at Taklung for reverence for deities.

Structural Part of Taklung Monastery

The area of Taklung Monastery is covered by the thin deciduous forest, but North and Southern area of Monastery is still covered by the deep jungle. After clearing the jungle by the *Mangma*[24] of the three villages i.e. Domkho, Morshing and Sanglem village, and collaboration with Directorate of Research; Itanagar, Arunachal Pradesh, the two storied monument has come to light.

The Taklung Monastery which was used as Gompa and then a Dzong and again as a Gompa is one of the oldest Monasteries in comparison to Tawang monastery and Taklung Monastery in terms of construction[25].

Taklung Monastery was a two storied mansion, made of stones and mud plastering in local craftsmanship, had three rooms in the ground floor, one for store, the other two rooms were used as lockups[26]. In the first floor, there was an apartment for Dzongpens, Kitchen and at the middle, a large room meant for altar and next to it, the room for Taklung Lama. It was a dignified[27] mansion rooted with the planks and painted with local artistic paintings. It was well known as an ancient gompa from the point of historical background which was built

24 Villagers, commonly known as Mangma.

25 Information given by the Konyur Lama of Taklung and Lhagyala Monastery during field work.

26 The villagers who disobey the rules and regulation are put in to the lock.

27 Information given by the present Taklung Lama and the references taken from the article, "*The Taklung Gompa-Buddhist Temple of the Monpas of Indo-Bhutan Border Land*" by R.Dondrup op.cit.

Figure 1. A view of long mane.

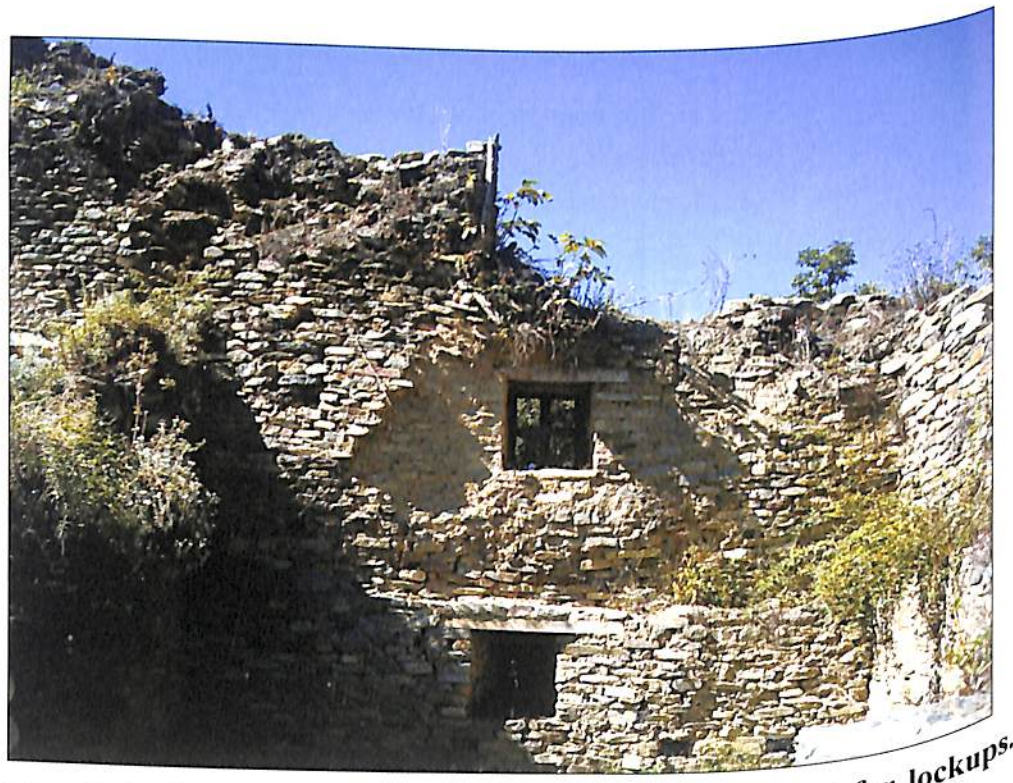

Figure 2. A view of northern part of the ground floor used for lockups.

much earlier than Tawang Monastery. The magnificent gompa was demolished by the terrible earthquake of 1950[28] and it is no more but the small gompa stands in its replacement to store the artifacts. Presently, the Directorate of Research, Government of Arunachal Pradesh, Itanagar, came to know the significance of the gompa and made a tour to visit the Taklung Monastery and decided to protect the monuments from further deterioration. So, they initiated the construction of new gompa within the same area with the help of local people of the three villages in traditional way. There is a local model house annexed to it used as a bed room as well as kitchen for the caretaker. But till date the local people do not hesitate to render any kind of service that the gompa deserves. The people of Kalaktang area still refer to the traditional system that was enforced by the Dzongpen while disposing any kind of verdict and they follow these either as ritual or trades and in their agro-economic life till this date.

There exists a long mane to the west of the monument. The *mane* is located on the left bank of Zomla Stream and the old Morshig-Kalaktang foot-tract. It measures 90.00 mtrs. x 2.00 mtrs. x 1.80 mtrs[29].According to the information given by the Taklung Lama, the Mane of Taklung Dzong may be the longest Mane in Arunachal Pradesh till discovered. Many people from Nepal, Bhutan, and Tibet also visited the Gompa to see the Mane and declared it as the longest Mane according to the source given by the Konyur lama of Taklung Lama.

Lhagyala Monastery

Location

Situated at the height of 800ft. above the sea level, the Monastery enjoys a dominion over an expansive area stretching to the Assam plains on the south and Bhutan ranges to the West-North, lofty snow covered mountains on the North and Sela on the North-East. Because of this lofty position, this Monastery in the Morshing is visible from long distance.

The *Lhgyala Gompa* is one of the largest Monasteries after the Tawang monasteries but comparatively older than the Tawang Monastery in the region which is located on the hill, shaped like a conch and sitting alike on the lap of the

28 Information was given by the Taklung Lama during field work and many villagers are aware about this incident.

29 Source taken from the Booklets, *"Taklung Dzong-West Kameng District, Arunachal Pradesh"* published by the Directorate of Research, Government of Arunachal Pradesh, Itanagar.

mother. Below it the valley of *Taklung river*[30] on which the Monpa villages of Sanglem, Morshing and Domkho are seen. The approach communication is the Mandalang – Domkho, the Shergaon – Domkho motorable road and the foot tract from Kalaktang – Morshing. The Motorable road to Lhagyala Monastery is under construction. The term '*Lhagyala*'[31] is derived from two words *Lha* and *Gyala*. *Lha* means God and *Gyala* means start for the win and smile. It has another meaning according to the villagers i.e. *Lha* means God and *Gyala* means repository of more than hundred icons/image of large size.

Presently the ninth reincarnation *Rimpoche* i.e. *Ven Thupten Jigme* of *Kachen Yeshi Gelek*[32] is the land of Monastery. *Rimpoche Jigme* is deeply religious *Rimpoche* and his compassionate preaching could attract the people from the snow covered Tawang area to the Bhutanese and other parts of the country. These people come to pray and perform rituals under the blessings of the *Rimpoche*. The people of Kalaktang Circle, especially from the Domkho, Morshing and Sanglem villagers believe that this is the birthplace of *Khandrowa Zangmo*, the miracle daughter of an old woman.

Mythical Background

Birth of Drowa Zangmo

The legend[33] runs that once there was a couple, namely *Yab* (husband) *Oranze Lowai* and *Yum* (wife) *Dram Zima*, who were engaged in life long meditation. The old lady happened to conceive, as it was a long requested wish. Nine month

30 Name given after the Taklung Monastery.

31 The term was explained by the villagers of Domkho, Morshing and Sanglem and also the monks of that Monastery during my course of fieldwork.

32 First incarnated Lama of Lhagyala Monastery.

33 To explain the legend about the establishment of Monastery, my reference was from the article, "*The Lhagyala Gompa*" written by R. Dondrup in the Magazine, "*The North-East Frontier Magazine*" January 2000 (P-33to34), and from the article, "*Tibetan Folk Opera, Drowa Zangmo*" which is a translation article from Tibetan Script to English by C.B.Josoyama (unpublished article), and also collected the views of the three villagers during fieldwork.

passed. It was during the tenth month (chupa)[34] on the good tenth day, that they believe, it is an autogenous conception, *Dram Zima* gave birth without pain to a daughter from the right side of her ribcage. Immediately after the child birth, in the heaven above appeared a tent of white clouds surrounded in rainbow rays. From within the clouds five groups of wisdom *Dakinis* called out the name 'Drowa Zangmo.' Numerous offerings were bestowed and prophecy was given[35]. By super natural power, she grew immediately and she too sat in meditation and began teaching dharma to her parents.

The King Goes Hunting

The contemporary King, *Gape Kale Wang of Yule Mandralgang* which is in present Tawang, was on hunting and his hunting dog – *Khim Chemogtra Abshe*, a mixed colour of black, white and red, took the lead. During the process of hunting, they killed thirty seven spotted Deer. It was evening just after the sun set, when the dog disappeared like a rainbow in the sky, into the unknown. The King with one of his nobles-*Lopon Trina Zen* followed the hoof of the dog and reached the hermitage of the couple. In the hermitage[36], they saw the beautiful lady – *Khandrowa Zangmo*, sitting in meditation. The King proposed for marriage and in due time, the King returned to Lhagyala and took her to *Yule Mandralgang*.

In course of their conjugal life, a daughter and a son were born, named *Lactic Kuntz Sago* and *Lease Gallop Kuntz Legal* respectively. The Queen *Dudmo Hashing*, the first wife of the King, who was in meditation nearby the *Yule Mandralgang*, came to know about the second wife and her two children. The Dakini *Khandrowa Zangmo* knew about the devilish character of the first wife. So she did not like to live further.

One day she led her two children to the father and she took flight to the place of Adkins that is *Yeshi Handsome Yule*. The first wife gave many troubles to the

34 The Monpas follow the calendar known as "*Litho*". It begins with the rise of the new moon in February and the first month corresponds roughly a period between February and March and the others follow serially. The twelve month according to the local calendar, are *Dawa Dangpo, Dawa Nypa, Dawa Sumpa, Dawa Jipa, Dawa Ngapa, Dawa Drukpa, Dawa Dunp, Dawa Gypa, Dawa Gupa, Dawa Chupa, Dawa Chuckchipa, and Dawa Chungnipa.*

35 The Prophecy (not included in the above text) was also narrated by one of the monks of Lhagyala Monastery during fieldwork and also referred to the translated unpublished article.

36 The place still exists where the meditation was done by the couple.

children and even tried to kill them. The children went out in search of shelters. During their prolonged struggles the son happened to reach *Yule Pemachen*[37], where there were searches for an honest ruler to rule them. The son was selected as the ruler. Later on the first queen Hashing was killed at Demo – Notching on the Indo – Bhutan Border.

A stupa that is *Chorten*[38] was built on the chest of the deceased queen and the humble inhabitants were saved from the disaster caused by the Doudmo Hashing. The Rimpoche[39] is believed to be the incarnation of *Se-Kuntz Lankan* who did well to the people.

The Establishment of the Lhagyala Gompa[40]

Once, Pangchen Lama of Tsang Monastery in Tibet had performed the ritual. During the ceremony, he advised his disciples to see the omens of their dreams and in the morning, all of them would have to convey them.

The Kachen Lama, Yeshi Gelek, the first incarnated remote of Lhagyala was one of them who went to the master along with the others and elaborated his dream. He narrated that he dreamt about the Devil, on whose lap he was sitting with a cup of milk. In the milk there was a drop of blood. Likewise, other disciples too narrated their dreams. The master directed them to go in different directions in accordance with their dreams to propagate the Dharma. All of them set out on the advice of their master.

The Kachen Lama came towards the Mon-Yul[41] and reached near the Lhagyala Monastery. He was upset and tried looking for the site of the Gompa to be constructed. Meanwhile a white bird reached there and snatched away his cap. He was looking at the bird and the bird left his cap on the top of a hill which looked like a mother sitting. He considered it as the most suitable site for his Gompa. Thus Kachen Lama constructed the Gompa. He established the monastery for about thirty to forty monks and was named after him as *Dachin Tseling*. Later on the visitors of the Gompa named it as Lhagyala which has two meanings as already mentioned. The Gompa was functioning in the monasterial form and once the outsiders came to know about the Gompa, they planned for an attack on this. The surrounding deities however got scared of the destructive policy of the individuals. They guarded it the whole night, by making different noises of animals to drive away the individuals. In this way, they saved the Gompa by transforming into different shapes of animals into stone.

37 Presently it is in the Bhutan, the land where no body can be happy.

38 The most typical shrine is the *stupa* called Chorten usually standing near the path.

39 The incarnated lama occupies the highest rank in the Lamest hierarchy. They get reborn again and again in this world of suffering to teach the Dharma and help and guide other beings on the way to salvation.

40 During field work, data collected from one of the senior monks of Lhagyala Monastery and also from the article published by R. Dondrup and the book from, *"The Monpas of Tawang a Profile"* (1999) by Tashi Lama.

41 Man of lower country. Man of lower region is a broad term, includes all the people that are living in the low land.

Structural Aspects

The main Monastery consists of the dormitory for the lamas, rimpoche, pilgrims, visitors, altar room with various Buddhist statues, kitchen for the Monastery and community kitchen. From the aesthetic point of view, the beauty of the Monastery is maintained by the sacred grove above where the *Thrinley Gepu Zukung* (small temple) is located in the centre of the forest. Some 500m below towards the North-East, there are formation on rocks of statues which look like boy, dog, cock, and frog etc. The story[42] behind such formation is that at certain stages some thieves belonging to non-Buddhist tribes, tried to steal the property of the Monastery. The surrounding deity of the Monastery got scent of the destructive policy of the invaders, so they protected the Monastery by giving different sounds of animal. By hearing the frog croak, the cock craw, and the dog bark and considering that it was morning, the attackers left the place. Thus, the things were petrified into rocks. At another 300m below stands Kakaling for winning the minds of the common people.

The Main Gompa

The repository of ancient antiquities, the Lhagyala Gompa is a two-storied building constructed in the traditional architectural design associated with Tibetan Buddhism. It consists of three rooms in the ground floor. These are *Namdhar*[43] *Dukhang*[44] and *Nyertsang*[45].

It is believed that it was constructed under the guidance, supervision and blessings of *Lha (God) Zopa Vishwa Karma.* The interior of the Drukhang is aes-

42 Information given by the Konyur Lama of Lhagyala Monastery and the villagers of Domkho.

43 Records keeping room of the history related to the Monastery.

44 Assembly hall or Prayer hall.

45 Store room

thetically decorated with fine art on the pillar, sculpture religious engraving and others. It was primarily made up of wooden carvings on the doors and windows. The original roof was also made of wooden sheets laid one over another. Later on the sheets were replaced with C.G.I. sheets. There is not a single mural painting in the first floor. All the walls have been painted by lime. In the ground floor also, there is only a single mural (photograph) in the entrance of the *Nyertsang* (store room).

In the first floor, there are five rooms. These are *shar-zim-chung* (east bed room), *lho-zim-chung* (south bed room), *kangyur lhahgang* (library hall), *nup-zim-chung* (west bed room) and *jang-zim-chung* (north bed room).

There is small building in the Northern side of the Monastery, which is the residence of the present rimpoche, i.e. Rev Thupten Jigme. In the eastern side of the Monastery there is separate room for guest house and kitchen.In the Western side of the Monastery there is kitchen for the visitors, guest house and the residence for the monks. Besides, there is a hut for keeping fire wood and water tank. The Monastery is maintenaned by the people of Kalaktang area right from Domkho to Balemu village. In total there are eighteen villages in the Kalaktang Circle. As we know that Lhagyala Monastery is the repository of ancient antiquities, it has more than a hundred images of god and goddesses.

Conclusions

All the above three gompas are very important in relation to the Buddhist cultural heritage in the context of Arunachal Pradesh and more specifically, for the Monpas and Sherdukpens. Though both the monastery are older than the Tawang monastery but being the second largest monastery in Asia and because of its historical importance, Tawang monastery is much more exposed and obviously the prime tourist destination for those who care for Buddhist cultural heritage. More importantly, for the Monpas, this is the central icon of Mahayana Buddhism and has a great influence on their religious life. Even this has a tremendous influence on the Anis, the large number of nuns of the Monpa society, who reside in six Ani Gonpas. (Bam:2006:21-22). Almost the twelve monasteries of different villages are under the control of Tawang monastery. Besides sacred life, the lamas had to play important role in their mundane life of the Monpas though with the introduction of the Panchayat system and electoral politics the lamas remained more confined to religious activities of the Monpas as well as the monasteries. Being located in unfavourable geographical and climatic circumstances, Tawang Ganden Namgyal Lhatse monastery has been renovated

at least five times since its construction though not in a scientific way. Still, this gompa has preserved many old paintings, various clay and metal icons, old structures, traditional dances, rituals, which make it one of the finest Buddhist monasteries not only of India but also of Asia. (Dutta and Tripathy, 2008:211).

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Rajiv Gandhi University Research Journal
(January-July, 2012), Vol.11, No.1: 112-121
ISSN 2250-2866

Down Stream Hydraulic Geometry of Sank River Basin, Chotanagpur Plateau, India

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(Received on 15-05-2012 Accepted on 02-07-2012)

Abstract

River basins form a natural hydrological unit with a definite boundary and geomorphological system. River system is a function with input parameters like geographic area, lithology and rainfall. Channel geometric parameters adjust to these input variables to accommodate river discharge. For Chotanagpur plateau, Sankh River system has been taken to test these assumptions and validate the same. It is found from the field data when processed with appropriate statistical analysis that there is a strong relationship between width of channel and area drained; width of channel influences cross-section area and channel gradient slope decreases on increase of width.

Keywords: *River basin, Geomorphology, Hydrological cycle, Channel, Catchment.*

River catchment provides a clearly definable land unit on earth surface. Each catchment is delineated by a topographic divide, which isolates it from adjacent catchment. Climate provides energy and water for the channel to maintain a network of its own and to work as a denuding agent. Rivers are a part of the hydrological cycle and it is the stochastic nature of the runoff processes, which gives the river its dynamic characteristics. A river system also functions as a process-response system where the channel characteristics are the best indica-

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tor of geomorphic sensitivity within that system. The delicate and dynamic balance of the river system is maintained by the continuous adjustment of the channel characteristics in response to ever fluctuating river discharge. The physical study of large tropical rivers has gained enormous importance during the last two decades including fluvial geomorphology and hydrology (Kale et al., 1994; Sinha and Friend, 1994; Sinha and Jain, 1998; Kale, 1999, 2002; Dettinger and Diaz, 2000; Gupta, 2002; Thorne, 2002)

The study of stable channels in terms of its cross sectional geometry, slope and channel pattern has been a subject of considerable research during second half of last century. Channel is understood to have three degree of freedom to adjust its cross section for a given flow condition. These three degrees of freedom are width, depth and slope that form the dependent variable in the channel hydraulic studies. As the channel flows further downstream from its origin numerous tributaries join it and contribute to its runoff. As the basin area increases progressively starting from the origin to mouth, it induces changes in the physical variables within the river system. These three variables have been used quantitatively by Leopold and Maddock (1953) to explain channel morphology as a power function of discharge in two ways; (i) at-a-station relationship and (ii) downstream variations. Since this classic work studies on hydraulic geometry have been voluminous and applied all over the world. The focus is however, on the following main issues: (1) the basis of hydraulic geometry relations, (2) the tendency of equilibrium state, (3) limitations of the equilibrium assumption, (4) the validity of power relations, (5) the stability of exponents in power relations, (6) the variability of exponents, (7) the effect of river channel patterns, (8) the variation of channel width with discharge, (9) the effect of stream size, (10) the variation in channel velocity, (11) the dependence of exponents on climatic, environmental factors and land use, (12) an extension of power relations to drainage basins, and (13) boundary conditions. (Singh, 2003). Dodov and Foufoula-Georgiou (2004a) have showed that these relationships might deviate from simple power laws with constant exponents as initially proposed. More specifically, they showed that the exponents of the at-site hydraulic geometry (HG) systematically depend on upstream contributing area.

Channel attributes including cross-section form, channel slope, and plan form change were evaluated to learn how each river's morphology changed over many years in response to natural and anthropogenic disturbances. Changes in channel geometry over a conspicuous period of time can reduce channel conveyance and thus stream flow. At-a-station hydraulic geometry changes accord-

ing to the changes in channel flow pattern. Especially the riverbed and depth are more responsive to the flow velocities and quantum of discharge by which the competence and capacity of the stream flow is affected. The frequency of flow, which creates and maintains at-a-station channel geometry, is highly restricted to changes in the riverbed and depth. But the width of the channel along with other characteristics is governed by the bank full discharge of mean annual discharge.

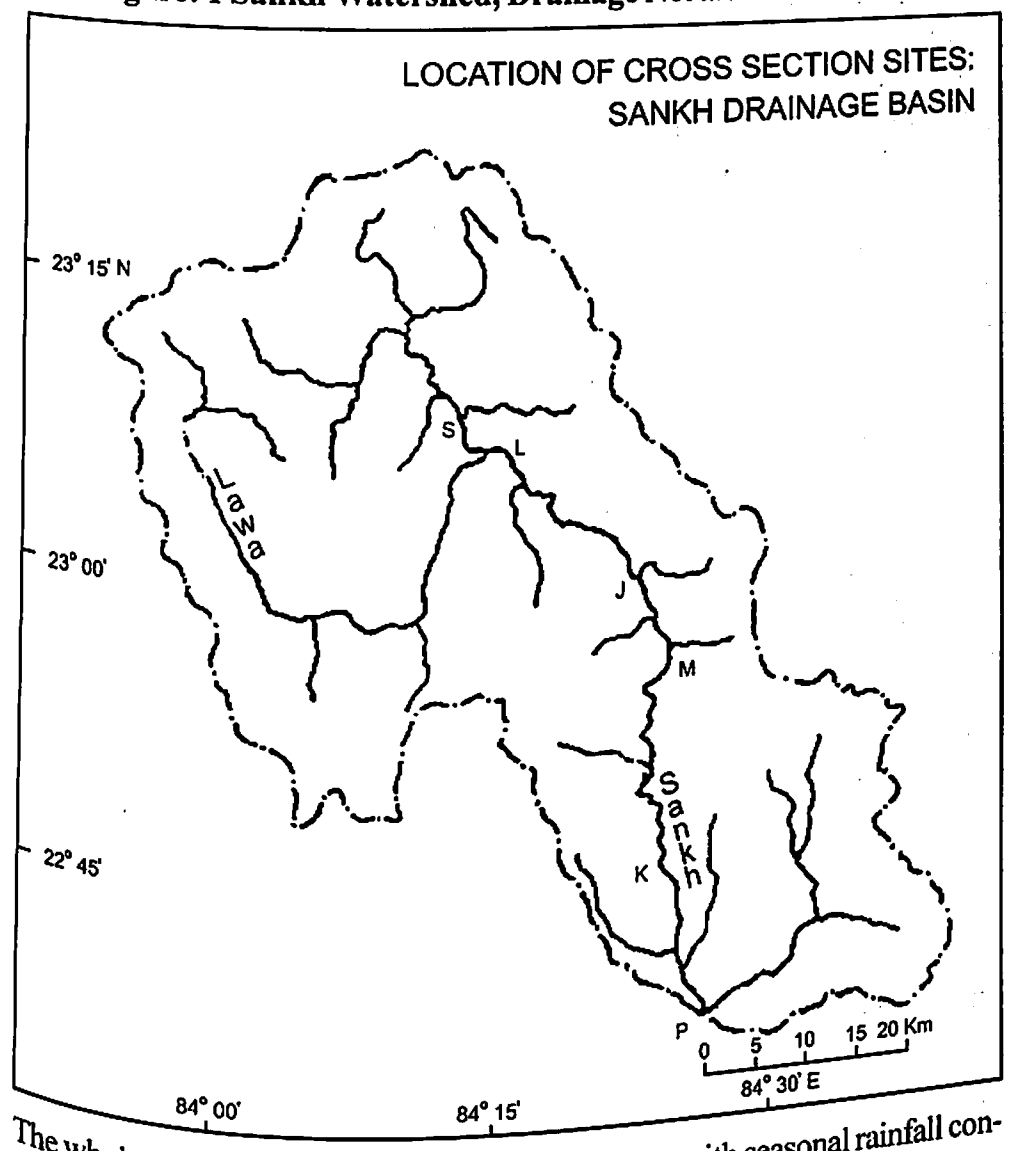
River discharge is a function of catchment area and its characteristics, which are definite in nature and the prevailing climatic condition of the watershed. It is impractical to obtain river discharge data for any point on a drainage system. Theoretically, drainage lines are continuous where as gauge stations will be discrete in nature. Thornton et.al. (2007) while assessing river condition of Kangaroo River catchment, NSW have observed from previously reported exponents for width and depth indicate that there is no apparent difficulty in using catchment area as a surrogate for discharge. The power law dependencies between channel morphology and river flows, known as at-station hydraulic geometry (HG), have been recently shown to have exponents that systematically vary with scale (contributing area) Dodov and Foufoula-Georgiou (2004b). In the present study catchment area above stream tributary junctions are taken as surrogate for river discharge for finding out relation of hydraulic geometry.

Study area and site description

To study these responsive channel characteristics six downstream sections of Sank river of Chhotanagpur Physiographic Region has been selected. Chhotanagpur physiographic region is the north eastern extension of the Indian Peninsula. The physiographic exclusiveness with highly dissected flat topped mesas, locally called 'pat', is conspicuous with the presence of several pats viz. Netrahat pat, Jamira pat, Pundra pat, Main pat, Jashpur pat, Lahsun pat, etc. All these pats were continuous prior to tertiary period but are dissected by North Koel, Sankh, Kanhar, Mand, Rehar, Hasod rivers after the tertiary upliftment. The river flowing through the pat regions have stepped longitudinal profiles in conformity with the different levels of erosion surfaces. The phase successive Himalayan upliftments during Eocene, Miocene and Pleistocene have produced three different surfaces of Chhotanagpur region as side effects. Steep slopes on granite and gneiss mark the discontinuities of level surfaces. Rivers flowing through these scarps have very narrow and deep rocky beds and are lithologically controlled. But the continuous vertical cutting of riverbed has made the channel as pothole country .The rest of the channels flowing through different erosional surfaces are mostly hydraulic controlled. The process response

hypothesis can be the established with high degree of confidence.

Figure: 1 Sankh Watershed, Drainage Net and Site Location



The whole basin is under monsoon climatic regime with seasonal rainfall concentration during mid July to September. The northern part of the basin has a cool and pleasant climatic condition owing to its general elevation of more than 700m. The southern country with the lower altitude of less than 300m is comparatively hot with mean maximum temperature of around 36°C. The southwest monsoon sets in by mid June and continues up to first week of October with its maximum effect during July and August. During this period mean monthly rainfall is 423mm and contributes 90% of the total annual rainfall. Withdrawal of monsoon begins by the first week of October but few numbers of thunderstorms

continue to occur. Rainfall hardly crosses 20mm mark during November. This seasonality of rainfall causes high concentration of runoff during monsoon period. Seasonal analysis for Tilga hydrological station at Sankh and Palamara confluence shows a mean monsoon (June-October) discharge of 18833.6 cumec-day, which accounts for 94% of total mean annual runoff. Mean monthly discharges from the site do not vary greatly for July, August and September and amounts to 5717, 5282, 5283 cumec-day respectively. The sediment load also varies according to discharge. Monsoon period carries bulk of sediment (2473997 metric tonnes) and accounts for 99% of the mean annual sediment load. Further downstream at Bolani near Sankh and South Koel confluence mean monsoon discharge exceeds 94% of mean annual discharge. Mean monthly discharge during August is 33069 cumec-day, which is also highest during the year. Sediment load is also highest during August with a mean annual value of 10192512 metric tonnes (Patnaik, 1988). Lithology is one of the strongest determining factors in the shaping up of the channel characteristics. Lithologically resistant crystalline rock along a river course immensely restricts erosional activities of streams. They are essentially topographically controlled with a high topographic Sinuosity Index (TSI). Sankh River passing through Chotanagpur Plateau has narrow and deep cross sections owing to crystalline bed rock. These stretches of channel course have not been included in the present study. All the sites selected have similar lithological conditions on the Chotanagpur erosional surface. Sites taken for observations are located downstream channel junction of i) Saphi, (S) ii) Lawa, (L) iii) Barhi Nala, near Jokaritoli (J), iv) Milmili nala near Manjhitoli (M). v) near Keshalpur (K), vi) Palamara and Sankh confluence (P). These sites are taken at 50, 54, 80, 93, 139 and 151 km from the origin of the river respectively (fig. 1).

Data generation

To assess the morphologic character of the river channel at each of the six study sites, cross-section surveys were taken at five meter spacing from one bank to the other. From these surveys the plan length has been derived using the euclidean distance and respective slope. Bankfull width (W in meter) of channel has been measured as the distance between lower bank height and the corresponding bank level of the other side. This level is also used to calculate the channel cross section area (Ac in meter^2) using trapezium method. Channel slope (Sl) is calculated using two adjacent contours along the upstream and downstream side of the selected sites. Other hydraulic parameters viz mean depth at bankfull (d in meter) and width depth ratio (W/d) were calculated using the field measurement taken on each site. Toposheets of 1:50000 are used to calculate drainage area (Ad in meter^2). Sinusity index (Si) has been calculated for short distance for each site along the longitudinal profile by measuring aerial length and valley length.

Results and discussion

Table No. 1 Hydraulic geometry parameters

At-a-Station site name	Ad	W	Ac	d	W/d	Sl	Si
S	852	146.07	483.1	3.14	46.49	0.0229	1.170
L	1669	151.49	359.7	2.29	66.02	0.0166	1.143
J	2078	227.57	978.1	4.22	53.92	0.0125	1.163
M	2244	169.92	787.7	4.50	37.74	0.0546	1.212
K	2335	188.22	332.2	1.70	110.76	0.0273	1.053
P	3076	246.23	798.3	3.20	76.92	0.0193	1.370

Source: Field data

Channel characteristics are exponentially related (Leopold, et al. 1964). The data generated (Table 1) are analysed for correlation and regression analysis is done for six sets of variables namely, Area drained upstream from the at-a-station site (Ad) with Width (W), Width depth ratio (W/d). Cross Section area (Ac), Depth (d) and Slope (Sl); and Slope (Sl) with Sinuosity Index (Si).

Table No. 2 Bivariate correlation of hydraulic geometry parameters

	Ad	W	Ac	d	W/d	Sl	Si
Ad	1.0000	0.8007	0.4102	0.0677	0.4259	0.1059	0.4914
W		1.0000	0.6708	0.2372	0.2787		0.5385
Ac			1.0000	0.8748		0.0630	0.5761
D				1.0000		0.3697	0.4432
W/d			-0.4935	-0.8140	1.0000		
Sl		-0.3126			-0.3032	1.0000	0.0135
Si					-0.2984		1.0000

Source: Field data

Successive downstream sites have higher drainage area and also proportionately higher discharge rates. The varying quantum of river discharge conversely the drainage area strongly acts as a controlling factor in maintaining comprehensive balance of different at-a-station channel geometric characteristics, which can be expressed as power function of drainage area. The relationships among different characteristics are shown with the correlation analysis (Table 2). The cross section profile for the six sites have been plotted with midpoint of channel width for horizontal alignment and bankfull level for vertical alignment (Fig.2).

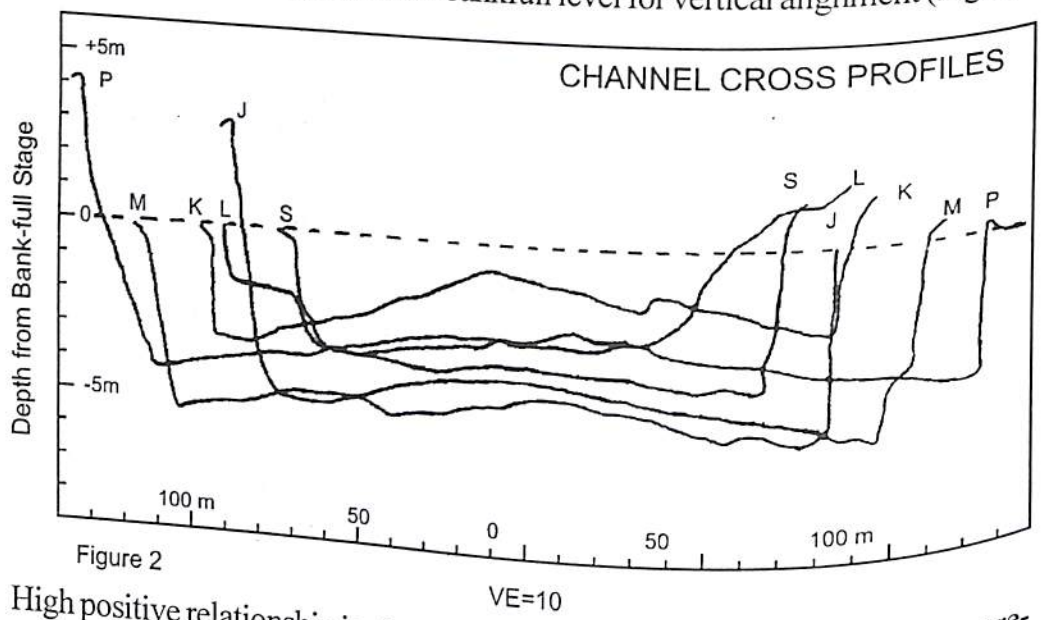


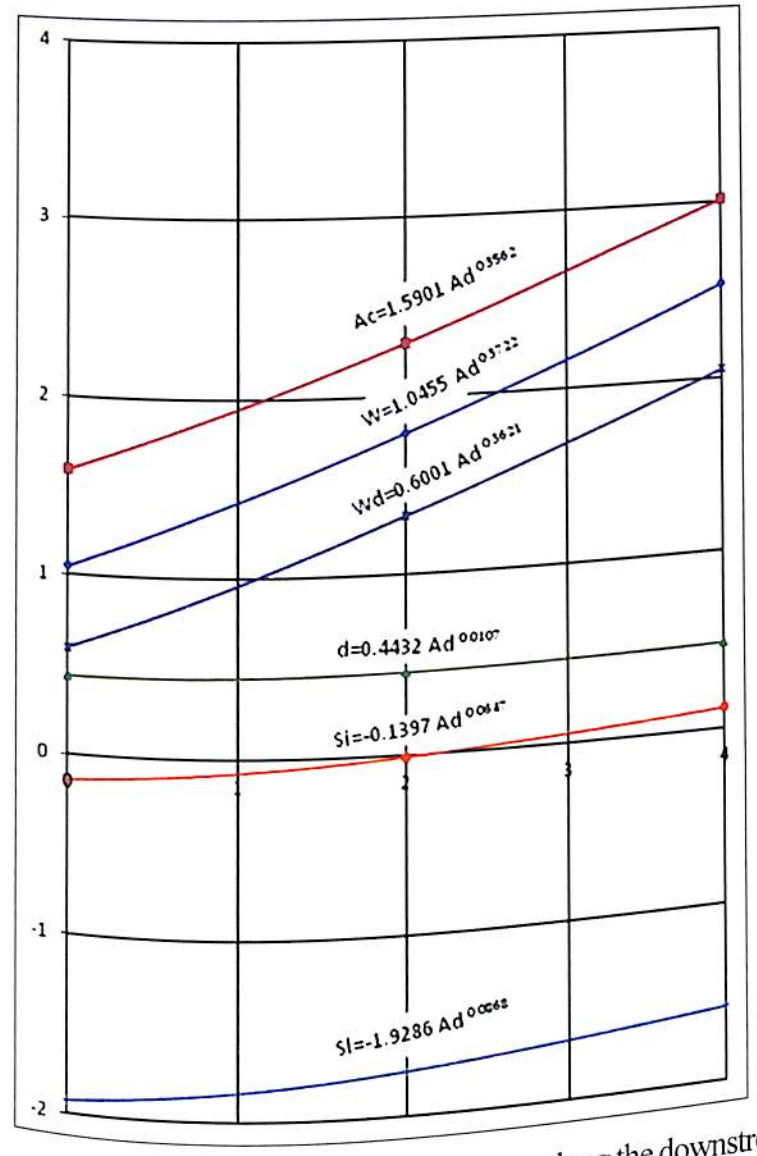
Figure 2

High positive relationship is observed between Ac and d, Ad and W with correlation coefficients of 0.87 and 0.80, moderate positive relationship is observed between Ac and W, Ac and Si, W and Si, with correlation coefficient of 0.67, 0.57 and 0.53 respectively. On the other hand strong negative relationship is observed between W/d and d (-0.81).

Exponential regression analysis exponential (Log_{10} X Log_{10} in Fig. 3) that have done for the six sets of data shows high intercept values for Ad and Ac, Ad and W, Ad and W/d with positive slope because of the high values of second variables (Table 2). But the intercept value for Ad and d is lower in accordance to the lower depth value and has gentle slope. On the other hand owing to negative relationship between channel slope and sinuosity, the regression line is negative with a slope of less than 1°.

The analyses of the hydraulic parameters of Sankh River indicate that the exponent for width (0.37) is larger than that for depth (0.01), suggesting that width is increasing at a greater rate along the downstream than depth at bankfull dis-

Figure: 3 Exponential trend lines of hydraulic geometry parameters



charge. To accommodate higher quantum discharge along the downstream channel cross section area has adjusted itself according to increase in drainage basin area. This is substantiated with the progressive and rapid increase of downstream channel width viz. 46m at Saphi (S) to 188m at Jokaritoli (J) and 246m at Palamara (P) to reduce the channel flow velocity.

Adjustment of channel cross section area is dependent on depth and width; however Sankh River has undergone more of channel bank erosion than the channel bed cutting. This also suggests that channel adjustment to downstream changes in discharge is primarily via channel width, compared to depth and velocity. As the

sites are located at the downstream side of tributary junction there is sudden increase in area vis-à-vis discharge. This has not resulted with high velocity of flow and corresponding bed cutting rather channel and these results suggest that channel form is controlled by valley widening processes downstream.

Sinuosity of channel increases by lengthening its course to accommodate more river discharge when channel cross section area remains same. In Sankh River channel sinuosity is increasing at a very little exponential rate of 0.06 along downstream. This explains that changes in channel characteristics are allowing the incremental quantum of river discharge along downstream without any obstruction or due to incompetency. The increase in channel cross area is increasing by increase in channel width. Even if there is significant relief is available for bed erosion with an altitude of 380m AMSL at Sankh River confluence with South Koel River forming Brahmani, the channel course has maintained a very low longitudinal profile slope except the *pat* scarps. Channel slope is decreased with an increase in drainage area. At site Manjhitoli (M) and site Palamara (P) slope values are 3° and 1° 9' respectively and are conspicuous in supporting the normal channel behaviour.

On the basis of current analysis it is concluded that channel characteristics which are expressed as power function of drainage area; thus quantum of mean annual discharge has role in shaping the configuration of channel geometry limited to valley widening rather than valley deepening in Sankh River basin. In southern Chhotanagpur region the erosional surfaces and scarps are common feature with granite and gneiss as parent material exposed as scarps. As lithology and climatic conditions are more or less homogeneous it can be concluded that a similar relationship of channel hydraulic geometry exists among different rivers within the region.

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Rajiv Gandhi University Research Journal
(January-July, 2012), Vol.11, No.1: 122-134
ISSN 2250-2866

Effect of AM inoculation on growth of chili (*Capsicum frutescens* L.) plant in phosphorus amended soil

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(Received on 20-01-2012 Accepted on 31-03-2012)

Abstract

Arbuscular mycorrhizal (AMF) fungi form symbiotic relationship with plant and improve their health. Growth performance of Chili (Capsicum frutescens L.) inoculated with AMF in soil amended with different dosages of phosphorus was studied. The experiment was conducted in a randomized design with four levels of phosphorus (0, 50, 100 and 150%) and inoculation with five different AMF species (Acaulospora denticulata, Gigaspora albida, Glomus geosporum, Scutellospora corolloidea and S. scutata). Plants were harvested after 3 months from the date of planting. The inoculation with AMF at different levels of phosphorus showed significantly more shoot and root dry weight than the non-mycorrhizal plants. On the basis of performance of plants, 50% of P application was found to be the best dose for dry weight in both mycorrhizal and non-mycorrhizal plants. The MEI of AM plants ranged between 8 to 29% at different P dosages. G. geosporum showed the maximum MEI at zero and 50% P fertilization. Among different inoculants, G. geosporum yielded the highest and A. denticulata the lowest N and P content at all levels of P fertilization. Percent root infection by all AMF species significantly increased at 50% of P application.

Keywords: *Arbuscular mycorrhizal fungi, phosphorus, chili, symbiosis, growth.*

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Introduction

Phosphorus is important for young tissues in order to promote root growth, flowering, fruiting, and seed formation. Low concentrations of available phosphate in soil can be limiting for plant growth. AM fungal hyphae contribute to absorption and translocation of P from sites in soil that are not accessible to plant roots. Exploration of a large soil volume, faster movement of P into AM hyphae and solubilization of relatively immobile sources of P are reported as the mechanisms for increased P uptake in AM plants.

The colonization of AM fungi plant on roots can greatly increase the uptake of phosphorus by the plants. The contribution of AM hyphae to P uptake is variable ranging from 13–20% in *Zea mays* (Kothari *et al.*, 1990), more than 75% in *Trifolium repens* (Li *et al.*, 1991), and up to 100% in *Linum usitatissimum*, *Lycopersicon esculentum* and *Medicago truncatula.* (Smith *et al.*, 2003). The enhanced P nutrition of AM plants growing in phosphate-limited soils usually leads to higher plant growth rates than non-AM plants. (Sanders and Tinker, 1971; Bolan, 1991; Orcutt and Nilsen, 2000). Barea *et al.*, (1987) in their experiment on forage legume *Hedysarum coronarium* L. found that AM inoculation was more effective than the P treatment for improving dry matter yield and total N uptake.

Application of phosphate increases the supply of phosphate to the plant thereby enhancing growth but at the same time it suppresses mycorrhizal infection. (Khaliq and Sanders, 1997; Valentine *et al.*, 2001). The presence of high soil P contributes to the decreased colonization of roots by AM fungi due to reduced exploration of the soil and less contact with roots. (Nagahashi *et al.*, 1996). Furthermore, high phosphate availability has been shown to result in growth depression in host species apparently caused by AM fungi. (Mosse, 1973; Peng *et al.*, 1993).

Capsicum frutescens the chili plant was selected for the present work as it is grown commonly in Arunachal Pradesh as important horticultural crop. Preinoculation with AM improves growth and yield of chili transplanted in the field and subsidizes the application of phosphatic fertilizers. (Bagyaraj and Sreeramula, 1982). Hence, this study was undertaken to select efficient AM fungi as well as optimum doses of Phosphorus for better growth of chili.

Materials and methods

Soil Samples for pot experiments were collected up to a soil depth of 10-15 cm in sterilized polythene bags from Botanic garden of Rajiv Gandhi University, Rono Hills, Doimukh, Arunachal Pradesh. The texture (Hydrometer analysis),

bulk density (Blake and Hartage, 1986), water holding capacity, pH (pH meter), conductivity (Jackson, 1958), organic carbon (Walkley and Black, 1934), total nitrogen (Microkjeldhal method), available P (digestion method) and available K of soil were obtained.

Dry weight of shoot was measured after oven drying at 80° C for 48 hours. The dried shoot parts were kept in paper bag covered with aluminium foil and stored for nitrogen and phosphorus estimation in shoot following the method as described for the soil nutrient analysis. 50 mg of oven dried properly ground plant samples were used for this purpose. The plants grown in a green house under controlled environment conditions received approximately 30-35° C day and 25° C night temperatures and 12 hours fluorescent illumination with 8000 lux light intensity. Plants were irrigated manually with distilled water according to the field capacity. Spores were isolated by wet-sieving and decanting method. (Gerdemann and Nicolson, 1963; Daniels and Skipper, 1982).

Roots were washed in tap water and placed in a test tube containing 2.5% KOH solution (w/v) and then heated at 90° C in a water bath for 30 min. (Koske and Gemma, 1989). The cooled root samples were washed several times with tap water and were acidified in 1% HCl solution for 30 minutes and stained in 0.05% tryphan blue (Phillips and Hayman, 1970) within acidic glycerol solution (500 ml H_2O, 50 ml 1 % HCl).

The experiment was designed in a two-way factorial combination of four levels of phosphorus (0, 50, 100 and 150% P) in the soil and five AM fungal inoculations. Each treatment had five surviving replicates. Uninoculated plants at zero P addition to the soil were termed as absolute control whereas inoculated plants at the same P dose was termed as inoculated relative control. Uninoculated plants at other dosages of P addition were termed as uninoculated relative control (URC). The recommended dosage of phosphorus for chili is 60 kg ha^{-1}. Phosphorus was applied in the form of Di-Calcium Phosphate (32% P_2O_5) at the time of sowing. The amounts of Di-Calcium Phosphate applied in the pots @ half, full and one and half doses were 42, 84 and 126 mg kg^{-1} soil respectively.

The collected data were analyzed by one-or two ways ANOVA using Microsoft excel. The values for percent infection in roots by AM fungi were Arcsin transformed.

Results

Physico-chemical properties of the experimental soil

The physico-chemical analyses of soil samples revealed that soil texture of the

experimental site was sandy loam with an average of 80.77% sand, 4.85% silt and 14.45% clay. The soil was slightly acidic with pH 5.8. The soil was deficient in available P (3.88 ìg g-1) and the organic carbon content was 1.54%. (Dai *et al.*, 2011).

Effect of different AM fungi and P fertilization on growth of Chili plant

Phosphate fertilization and inoculation with different AMF species significantly increased the shoot dry weight (SDW) and root dry weight (RDW) of Chili plants but there was no interactive effect of these two factors.

The mycorrhizal plants were better in SDW than non mycorrhizal plants at all the levels of applied P (Fig.1). There was a significant increase in the SDW up to 50% of P application and thereafter it either remained unchanged or decreased significantly or non-significantly both in control and AMF inoculated plants respectively. It remained constant in case of *S. scutata*, *G. albida* and *G. geosporum* inoculated plants but decreased in other inoculants. There was a significant increase in SDW of inoculated plants over URC plants at 50% of P application ($P<0.01$). *G. geosporum*, *S. scutata* and *A. denticulata* were better inoculants ($P<0.05$), however, overall difference in the efficiency of these inoculants was not very large. The SDW significantly decreased ($P<0.05$) at 100% P application in case of *A. denticulata* and *S. coralloidea* but in case of other inoculants it remained unchanged. At this level of P, *S. scutata* and *G. geosporum* were the best inoculants. At 150% of P application, the SDW of control plants and plants inoculated with *G. albida* and *G. geosporum* was similar to the SDW of plants at zero application of P ($P>0.05$). However, *A. denticulata*, *S. scutata* and *S. coralloidea* inoculated plants were better SDW than their respective inoculated control plants ($P<0.01$).

The root dry weight increased due to both P application and AMF inoculation ($P<0.01$). The trend of RDW production was almost similar in both inoculated and uninoculated plants; the maximum increase being at 50% of P application that subsequently declined only in case of some of the inoculated treatments at 100% P level. There was a further decrease at 150% P level in comparison to 100% P level in both inoculated and uninoculated plants. Nevertheless, RDW in inoculated plants were more than the uninoculated plants at all levels of applied P (Fig. 2).

There was a significant variation in the efficiency of AM species both at zero and 50% levels of applied P. In the former case, *G. geosporum* followed by *S. coralloidea* and *G. albida* yielding more RDW in inoculated plants whereas in

Fig. 1. Shoot dry weight of non-mycorrhizal Chili seedlings at different levels of P fertilization

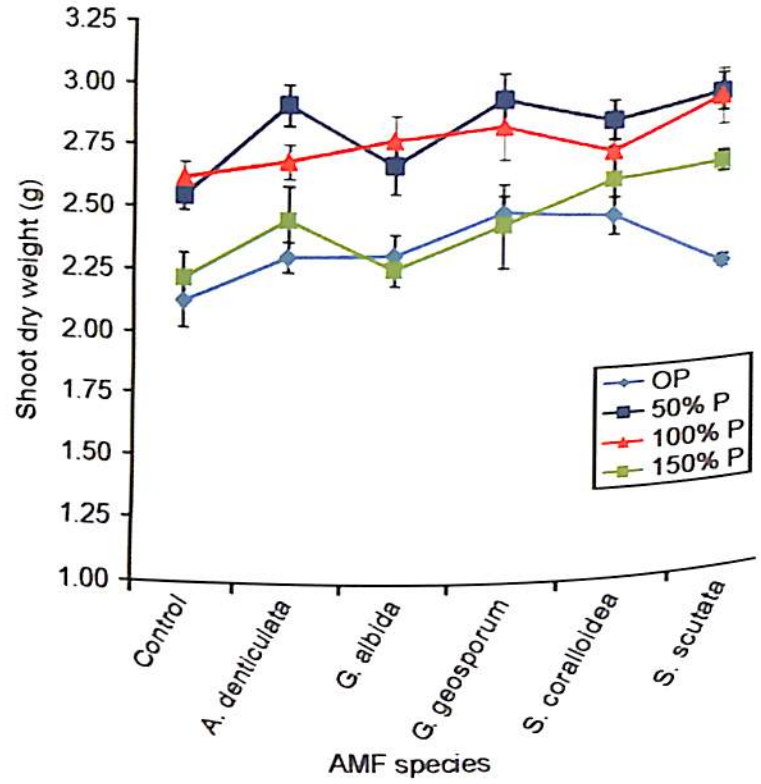
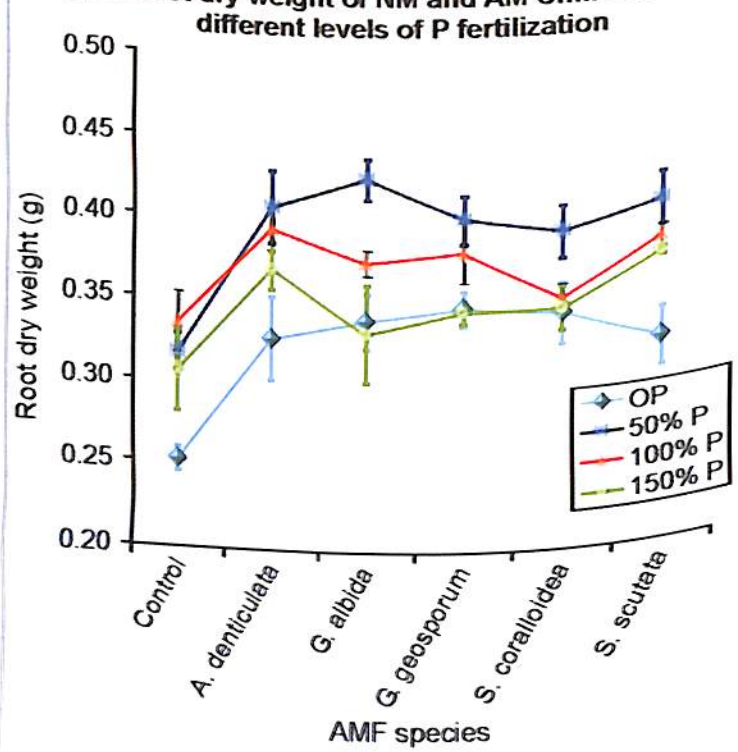


Fig. 2. Root dry weight of NM and AM Chili seedlings at different levels of P fertilization



the later case it was *G. albida*, *A. denticulata* and *S. scutata* producing more RDW. Further, at 100% of applied P, except *S. coralloidea* which produced RDW equal to that of respective control plant, all other inoculants produced almost more RDW and there was no variation among them. At 100% P application, the trend of RDW production was different from other P dosages. The production of RDW in inoculated plants was lesser than that at 50% of applied P. Nevertheless, it was significantly more when compared to the respective URC ($P<0.01$) except in case of *S. coralloidea*. No significant difference was found between *A. denticulata*, *S. scutata*, *G. albida* and *G. geosporum* whereas *S. coralloidea* resulted in significantly less root production than these AMF species ($P<0.05$). At 150% of P application, *A. denticulata* & *S. scutata* recorded the highest production of RDW. Both the species showed a significant difference from *S. coralloidea*, *G. albida* & *G. geosporum* and there was no significant difference between these three AMF species.

Nitrogen content in shoot was significantly higher in AM inoculated plants than the uninoculated *C. frutescens* plants ($P<0.05$). A trend of decreasing N content in shoot was recorded with increasing dosages of P fertilizer (Table 1). The maximum and minimum N content was recorded at zero and 150% P addition respectively in both inoculated and uninoculated plants. Among different inoculants, *G. geosporum* enhanced the N content in shoot maximally at all levels of P fertilization. *S. coralloidea* recorded the second highest N content that was significantly more than *A. denticulata*, *G. albida* and *S. scutata* ($P<0.05$). Similarly, the increase in N content by *S. scutata* was more than the *G. albida*. The lowest N content was recorded for *A. denticulata* and it was always significantly less than the rest of the inoculants. Moreover, at 50 and 100% P fertilization, the N content in shoot of *A. denticulata* inoculated plant was equal to that of URC plants.

Inoculation with different AMF species and application of different rates of phosphorus fertilizer had significant effect on P uptake by *C. frutescens* (Table 1). Moreover, there was a significant increase in P content in shoot with addition of P fertilizer from zero to 150% ($P<0.01$) in both inoculated and uninoculated plants. Except for *A. denticulata*, all other AM inoculated plants had significantly higher P content at all levels of P fertilization in comparison to the URC plants ($P<0.01$). The P content in *G. geosporum* & *S. coralloidea* and *G. albida* & *S. scutata* inoculated plants was almost similar at all levels of P fertilization.

The maximum MEI was attributed at zero P fertilization to *G. geosporum* (16%)

followed by *S. coralloidea* (15%), *A. denticulata* and *G. albida* (10% each) and minimum to *S. scutata* (08%). The MEI of inoculated plants in general at different P dosages ranged between 8 to 29% (Table 1). The highest MEI was found at 50% P application except in case of *G. albida* followed by 100% P fertilization and the lowest was recorded at 150% although the MEI value was higher than the inoculated relative control plants at zero P application. Symbiotic efficiency of the five AMF species inoculated to Chili plants at different P levels when expressed in MEI (%) ranged from 14 to 29.

Effect of P fertilization on AM fungi

Phosphorus fertilization had a significant effect on percent root infection by AMF species (Fig. 3). Uninoculated control plants at all dosages of P showed no AMF infection which ensured that experimental soil was completely sterilized. Percent root infection by all AMF species significantly increased at 50% of P application producing the maximum infection in comparison to any other P dosages. Thereafter, with further addition of P to 100% level, root infection by *G albida, S. coralloidea* and *S. scutata* declined significantly but remained unchanged for *G geosporum* and *A. denticulata*. The highest applied P dose severely reduced root infection of all AMF significantly. *G geosporum* produced the highest root infection (P<0.01).

A. denticulata produced least infection among all AMF and there was only a slight increase or decrease in the intensity of infection with increasing level of soil P whereas *S. scutata* showed moderate change in the magnitude of root infection. Up to 100% P fertilization, *G geosporum* scored the highest percent root infection followed by *S. coralloidea, G albida* and in both the cases the percent infection was fairly good. The percent infection by these three fungi at 50 and 100% P fertilization ranged from 40-50. Root infection by all AMF decreased at 150% P and was even less than that in unamended soil.

Discussion

Phosphorus is an essential element for plant nutrition and it can only be assimilated as soluble phosphate, however, P in soil is poorly soluble. AMF has been shown to solubilize fixed phosphate and retentive phosphate in soil and enhance plant growth and P uptake particularly in the soil with low to moderate P level. (Bolan, 1991).

Most of the plant growth parameters measured in this experiment (SDW, RDW and total biomass) improved up to 100% P fertilization though in most of the cases the increase over 50% P fertilization was non-significant. The non-signif-

Table 1 Effect of inoculation to C. frutescens L. with different AMF species on shoot N and P contents and MEI (%) at different levels of P fertilization

(Means with same letter in row and number in column are not significantly different at P<0.05)

Parameters	P Levels	Arbuscular Mycorrhizal Fungi					
		Control	*A. denticulata*	*G. albida*	*G. geosporum*	*S. coralloidea*	*S. scutata*
%N	0	2.6 ± 0.045 ^{a3}	2.7 ± 0.084 ^{b3}	2.8 ± 0.032 ^{c3}	3.2 ± 0.032 ^{e3}	3.2 ± 0.032 ^{e3}	3.0 ± 0.032 ^{d3}
	50	2.5 ± 0.114 ^{a2}	2.5 ± 0.110 ^{a1}	2.7 ± 0.100 ^{b2}	3.0 ± 0.063 ^{d1}	2.8 ± 0.071 ^{c1}	2.8 ± 0.114 ^{c2}
	100	2.4 ± 0.071 ^{a1}	2.6 ± 0.071 ^{b2}	2.7 ± 0.071 ^{c2}	3.1 ± 0.071 ^{f2}	2.9 ± 0.071 ^{e2}	2.8 ± 0.071 ^{d2}
	150	2.5 ± 0.055 ^{a2}	2.5 ± 0.032 ^{a1}	2.6 ± 0.032 ^{b1}	3.0 ± 0.032 ^{e1}	2.8 ± 0.032 ^{d1}	2.7 ± 0.032 ^{c1}
%P	0	0.15 ± 0.010 ^{a1}	0.16 ± 0.007 ^{ab1}	0.17 ± 0.007 ^{bc1}	0.19 ± 0.007 ^{d1}	0.18 ± 0.007 ^{cd1}	0.17 ± 0.007 ^{bc1}
	50	0.18 ± 0.009 ^{a2}	0.19 ± 0.009 ^{ab2}	0.20 ± 0.009 ^{bc2}	0.23 ± 0.009 ^{e2}	0.22 ± 0.009 ^{de2}	0.21 ± 0.009 ^{cd2}
	100	0.27 ± 0.010 ^{a3}	0.28 ± 0.010 ^{ab3}	0.29 ± 0.010 ^{bc3}	0.32 ± 0.010 ^{e3}	0.31 ± 0.010 ^{de3}	0.30 ± 0.010 ^{cd3}
	150	0.29 ± 0.003 ^{a4}	0.30 ± 0.003 ^{ab4}	0.31 ± 0.003 ^{bc4}	0.33 ± 0.008 ^{d4}	0.32 ± 0.004 ^{cd4}	0.31 ± 0.005 ^{bc4}
MEI (%)	0	-	10	10	16	15	08
	50	-	28	23	29	27	29
	100	-	23	25	26	23	28
	150	-	16	08	14	19	21

LSD		%N	%P	MEI (%)
AMF	5%	0.094	0.012	-
	1%	0.124	0.015	-
P Levels	5%	0.077	0.009	-
	1%	0.101	0.012	-

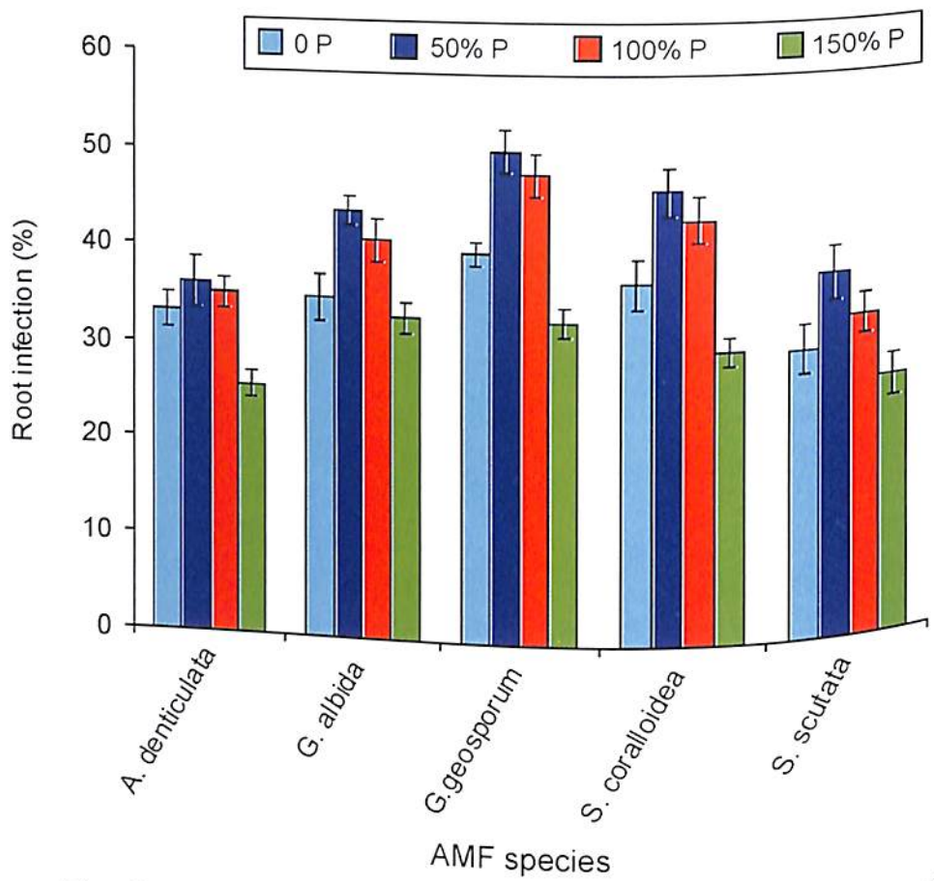


Fig. 3. Percent root infection in Chili at different levels of P fertilization

cant increase over 50% P fertilization might be due to the N limiting condition in the soil. Olsen *et al.*, (1996) in their study on the effect of different levels of P on efficiency of two AM fungi in promoting growth of chili found growth enhancement only at lower P concentrations. In a similar study undertaken to assess the effect of two AM fungi, *Glomus macrocarpum* and *Glomus fasciculatum* inoculated to chili at four different levels of P, Sreenivasa *et al.*, (1993) and Sreenivasa (1994) found that that *G. macrocarpum* inoculated plants had maximum growth at 50% of recommended dose of superphosphate. In this study also, the plant growth promoting efficiency of AM fungi varied significantly at different levels of P fertilization. In general, the MEI of AM plants ranged between 8 to 29% at different P dosages. *G. geosporum* showed the maximum MEI at zero and 50% P fertilization.

Dry weights of shoot and total biomass at zero P addition increased maximally due to inoculation with *G. geosporum* and *S. coralloidea* whereas at 50% P application these two AMF along with *S. scutata* and *A. denticulata* were found to be equally efficient. Further application of P @ 100% decreased the efficiency of other AMF except *G. geosporum* and *S. scutata*. The percent P in shoot also varied due to inoculation with different AMF. Except *A. denticulata*, all other AMF inoculated plants had more shoot P than uninoculated control at all levels of P fertilization. The highest shoot P was found in *G. geosporum* and *S. coralloidea* inoculated plants followed by *S. scutata*. These results indicate that growth promoting efficiency as well as P uptake capacity of different AMF varies at different soil P level. The difference in efficiency of AM species seems to be large at low P level as well as at high P level in the soil but not at moderate P level at which their efficiency is more or less similar to each other.

G. geosporum, *S. scutata* and *G. albida* inoculated plants produced more roots at zero P fertilization whereas at 50% P level, except *S. scutata*, all other inoculated plants produced equal amount of roots. The initial increase in length of infected root with increased P supply is probably a reflection of an increased length of root available for the fungus to colonize. These results agrees with the reports that the weight of mycorrhizal root in clover (Abbott and Robson, 1977, Abbott *et al.*, 1984), and length of mycorrhizal root in onion (Schubert and Hayman, 1986), were increased initially by addition of P to P deficient soil. Higher RDW can be attributed to mycorrhizal symbiosis as AM fungi can modify root function. Mycorrhizal colonization may induce formation of lateral roots or increase root branching, further increasing the volume of soil explored. (Citernesi *et al.*, 1998; Schelleenbaum *et al.*, 1991). Many researchers have reported that the root systems of plants with AMF are often more finely divided and thus have more absorptive surface area. (Allen *et al.*, 1981; Busse and Ellis, 1985; Ellis *et al.*, 1985; Huang *et al.*, 1985; Sharma and Srivastava, 1991; Osonubi *et al.*, 1994).

Fertilization of P @ 50% stimulated root infection by all AMF whereas the same @ 100% was found to be inhibitory in case of *G. albida*, *S. coralloidea* and *S. scutata* but not in case of *G. geosporum* and *A. denticulata* which infected roots maximally at both P levels. The findings made in this study is also consistent with the result of Liu *et al.*, (2003) that increased soil P had an inhibitory effect on development of external hyphae and AMF species decrease their abilities of infecting plants roots with increasing phosphate application. Nevertheless, some species can tolerate and show high activity even in high phosphate condition. (Marschner and Dell, 1994).

Acknowledgements

The authors sincerely acknowledge Department of Botany, Rajiv Gandhi University, Itanagar for all kinds of facilities including laboratory and equipments. We are also thankful to the University Grants Commission (UGC), New Delhi for extending financial help in the form of Research Fellowship in Science for Meritorious Students (RFSMS).

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Rajiv Gandhi University Research Journal
(January-July, 2012), Vol.11, No.1: 135-149
ISSN 2250-2866

Commercialization of Oyster Mushroom Production in Arunachal Pradesh: Prospects and Challenges

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(Received on 24-05-2012 Accepted on 15-06-2012)

Abstract

Cultivation of oyster mushrooms is one of the most promising economically viable biotechnological options for converting various lignocellulosic agro-forest wastes and their by-products into value-added nutritionally rich products. The paper discusses the prospects of oyster mushroom cultivation in Arunachal Pradesh, a North-Eastern Indian state, in the light of various constraints responsible for slow growth of mushroom farming practices in the state and suggests suitable measures to tackle them. Two new wild grasses namely Saccharum spontaneum and Neyraudia reynaudiana have been identified for the first time as potential lignocellulosic substrates for oyster mushroom cultivation. The former gives a Biological Efficiency of 95-105%, much higher than the conventional substrate, paddy straw, whereas the latter with BE of 65-70% in the experimental trial using two species of oyster mushroom, viz. Pleurotus sajor-caju and Pleurotus citrinopileatus. A region specific model cropping calendar has also been proposed for various places of the state on the basis of the nature of species of Pleurotus, and their temperature requirement.

Keywords: *Oyster mushrooms, Prospects, Arunachal Pradesh, Lignocellulosic substrate, Saccharum, Neyraudia, Cultivation cycle*

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Introduction

Edible mushrooms are a group of fleshy macroscopic fungi belonging to order Agaricales of the class Basidiomycetes. Out of around 2,000 species of the edible mushrooms reported in the literature so far (Kaul, 1997), many are saprophytic, few parasitic and facultative, and some even mycorrhizal in habit. About 35 mushroom species have been cultivated commercially, and of these, around 20 are cultivated on an industrial scale. (Sanchez, 2004). The most cultivated mushrooms worldwide are button mushroom (*Agaricus bisporus*) followed by shiitake (*Lentinus edodes*), oyster mushrooms (*Pleurotus* spp.), straw mushroom (*Volvariella volvacea*), milky mushrooms (*Calocybe indica*), winter mushroom (*Flamulina velutipes*), and wood ear mushroom (*Auricularia auricula*). (Chang 1999).

The total world production of mushrooms is estimated around 3.5 million tonnes per annum (FAO 2009) out of which about 46% is contributed by China, 10.5% by USA and 28.7% by countries of the European Union. However, Chinese Association of Edible Fungi estimates world production over 25 million tonnes (Qi and Hui, 2010). During last three decades, the mushroom production has achieved a growth rate of about 10%. Mushroom cultivation is regarded as China's sixth largest industry and has grown as a venture for community based technology for artificial cultivation of the edible mushrooms and the medicinal mushrooms at a low cost, creating an avenue for self-employment to about 30 million Chinese rural populations. The European Union and USA are the biggest markets for mushrooms.

Oyster mushrooms (*Pleurotus* spp.), commonly known as *Dhingri* in India, is the third largest commercially cultivated mushroom in the world after button mushrooms and shiitake mushrooms and accounts for about 14% of the total world production of edible mushrooms. (Chang, 1999; Kues and Liu, 2000). China is the leading producer of oyster mushrooms, contributing about 88% of the total world production, followed by South Korea, Japan, Italy, Taiwan, Thailand and Philippines. The growing trend in the consumption of oyster mushrooms is largely due to its taste, medicinal and nutritional properties (Garcha et al., 1993). Oyster mushrooms are as good as any other edible mushrooms in nutritional values. They contains fairly good amount of protein which is higher than those of vegetables and fruits of superior quality and are also regarded as a suitable substitute for meat and eggs. They possess 3% protein, 4% carbohydrates, 0.1% fats, 1% minerals and vitamins – Vit. B complex and Vit. C. (Tewari, 1986).

Mushroom production in India started during the 1960's and a significant increase in the production came up during the 1990's due to implementation of Hi-tech Projects from abroad. The country produces approximately 1.0 lakh tonnes of mushrooms annually with the major share of 89% being contributed by button mushrooms and 5.6% by oyster mushrooms. The main market for Indian mushrooms is the United States of America. The commercial cultivation of the oyster mushrooms in India is known to be of recent origin. (Prakash and Tejeswini, 1991). At present, the country produces only small quantities of oyster mushrooms (6400 tonnes) from the states of Tamil Nadu, Punjab, Orissa, Kerala, Andhra Pradesh, Himachal Pradesh, A&N Islands, Tripura, Assam, Bihar, Nagaland, West Bengal, Chattishgarh, Mizoram and Delhi. Among North-Eastern states, Tripura and Assam produce 100 tonnes each whereas Nagaland and Mizoram produce 75 and 50 tonnes respectively. The share of Arunachal Pradesh is estimated to be merely approximately 5 tonnes per annum.(Wakchaure, 2011).

Nature of Oyster Mushrooms and its Productivity

The members of the genus *Pleurotus* are saprophytic, wood degrading primary rot fungi, with their fruiting bodies called 'basidiocarps' or 'sporophores' distinctly shell, fan, spatula or oyster shaped with different shades of white, cream, grey, yellow, pink or light brown, depending upon the nature of species. They grow naturally in the tropical, sub-tropical as well as temperate forests exclusively on substrates rich in lignin, cellulose and hemicellulose such as dead and decaying logs, wood stumps, tree trunks in those regions where a moderate annual rainfall occurs throughout the year, providing a high relative humidity (>90%) followed by a moderate range of temperature between 10-30°C. (Zadrazil, 1976; Balas and Szabo, 1979; Sohi and Upadhyay, 1999).

Being saprophytic, they are usually grown commercially on a wide range of lignocellulosic materials including agricultural wastes and various grasses (Poppe, 2000) that are generally not required to be composted prior to mushroom inoculation as in case of button mushroom thereby cutting the amount of capital investment, minimizing the production time (45-60 days as compared to 80-100 days for button mushroom) and associated risk of poor productivity or crop failure. Some commonly used substrates in different parts of India for oyster mushroom cultivation are paddy straw (*Oryza sativa*), wheat straw (*Triticum aestivum*), corn (*Zea mays*) cobs, sugarcane (*Saccharum officinarum*) baggase, sugarcane leaves, coir pith, coconut (*Cocos nucifera*) refuges and pea nut (*Arachis hypogea*) hull. (Jandaik and Kapoor 1974; Chang et al, 1981;

Rajarathnam and Banu, 1987; Cangy and Peerally, 1995; Ragunathan et al., 1996). The biological efficiency of *Pleurotus* on various substrates varies between 60 – 125% (mushroom yield/100g substrate) and the variation in yield is basically attributed to the nutrient composition of the substrate, C: N ratio, and the nature of the ligno-cellulosic complex, the most important being the chemical composition of the substrate. (Manu-Tawiah and Martin, 1986). Other region specific substrates include Goat weed (*Ageratum conyzoides*), Pearl millet (*Pennisetum typhoides*), Banana (*Musa* spp.) pseudostem, Citronella (*Cymbopogon* spp.) bagasse, Coffee (*Coffea arabica*) pulp, Cotton (*Gossypium hirsutum*) stalk, Flax (*Linum* sp.) shive, *Lantana camara*, leaf-stalk and bunch waste of Coconut palm (*Cocos nucifera*), Maize (*Zea mays*), Rice bran, Rice hulls, Pea (*Pisum sativum*) shells, Ragi (*Elucine coracana*), *Sorghum* sp., Soybean (*Glycine max*) straw, Sawdust, Torpedo grass (*Panicum repens*), Elephant grass (*Pennisetum purpureum*), Umbrella plant (*Cyperus* spp.) and even Water hyacinth (*Eichornia crassipes*).

Besides, a variety of substrate available for cultivation of oyster mushrooms, its productivity per unit time is also very high as compared to all other cultivated mushrooms. It gives approximately 700 to 1000 kg of fresh mushrooms from one tonne dry weight of paddy straw in 45-60 days, while with the same quantity of straw only about 500 kg of white button mushrooms are obtained in 80-100 days. The yield can further be increased by supplementing the substrate with suitable nitrogen sources viz., urea, ammonium nitrate and various agricultural by products such as soybean and cottonseed meal. (Upadhyay, 2011a). As a result, oyster mushroom cultivation has emerged as one of the most promising, less expensive, easily manageable, minimum space requiring, short duration agri-based technologies. Furthermore, unlike the other mushrooms, they exhibits a much diversified adaptation to the varying agro-climatic conditions (Zadrazil and Dube, 1992) and their cultivation can be practiced both in indoor mushroom house and outdoor mushroom huts/sheds depending upon the type of species to be cultivated and the prevailing environmental conditions. While describing a low-cost oyster mushroom cultivation technology, Upadhayay (2011b) calculated an ensured profit of Rs. 85 thousand and Rs. 190 thousand per annum to small scale producer out of an investment of Rs. 80 thousand in poly house and mud house based mushroom production unit with a production capacity of 3.5 – 4.0 tonnes and 7.0 - 7.5 tonnes respectively from six crops in a year. Large scale cultivators are expected to reap a profit of Rs. 24.7 lakhs from an investment of approx. Rs. 44 lakhs from a production unit with annual capacity of 95 - 100 tonnes. The profit from large scale cultivation is likely to

increase in subsequent years substantially as refurbishment cost is lesser in comparison to small scale cultivation units.

Moreover, the spent substrate materials after the harvest of mushroom can be directly used as farm yard manure and as soil conditioner for growing other crop plants and vegetables (Bano et al., 1993; Brenneman and Guttman, 1994) and can potentially be used as cattle feed supplements (Xiujin et al., 2000) that enables a profitable utilization of such bio-degradable wastes in an eco-friendly, productive agri-business farming. (Cohen et al., 2002; Sanchez et al., 2002).

Cultivation Technology of Oyster mushroom

Cultivation technology of oyster mushrooms is very simple. A pure culture of a particular species in the form of vegetative mycelia is used for the preparation of spawn (mushroom seeds) on whole wheat grains or some other suitable materials in polypropylene bags or glass bottles. Substrate for oyster mushroom cultivation (dried paddy straw is commonly used in India), is cut into small pieces and then is either steam pasteurized at 60 – 70°C for 6 - 8 hours or chemically sterilized by soaking overnight in a solution mixture of formalin-bavistin. The later method requires less energy and labour and is also suitable for large scale mushroom cultivation. (Upadhayay, 2011a). Thereafter, the excess moisture is drained out by spreading the sterilized substrates on a tarpaulin sheet under the shade for 2 hours keeping the moisture content of the substrate approximately at 65-70%.

Substrates are then filled in polythene bags and inoculated with freshly prepared, two weeks old grain spawn @ 3%. Tightly closed inoculated substrate bags are kept in complete darkness inside a mushroom house allowing the mushroom mycelia present on the grain spawn to properly colonize the substrate. This stage is called 'spawn running' and takes 15-20 days' time. An ambient temperature of 15-25°C and a relative humidity inside the mushroom house between 80-90% is required during spawn running depending upon the species of *Pleurotus* being cultivated. Thereafter, fully colonized bags are peeled open or cut with small longitudinal incisors and arranged on bamboo shelves at a distance of about 30 cm apart for fruiting. Three to four days after opening of the bags, mushroom primordia called 'pinheads' begin to appear, and in subsequent 2-3 days, mature mushrooms become ready for harvesting. Daily watering is needed to maintain adequate relative humidity and temperature in the bed as well as mushroom house during the cropping period. Natural or artificial light is required for 3 hours daily to the colonized bags for proper cropping. Mature fruit body are harvested from each bag either daily or at an interval of 3-5 days. The total yield of mushroom per 100 g dry

weight of substrate represents the Biological efficiency (BE) and a BE value of 70% is considered good and prcfitable.

Prospect of Oyster Mushroom Cultivation in Arunachal Pradesh

Low cost, simple production technology, direct use of agro-forest wastes as substrates, suitability of climate ranging from sub-tropical to temperate are some of the most important advantages that may develop oyster mushroom cultivation based enterprise in entire North-East India (Roy, 1976; Saikia, 1986; Kalita et al., 1997; Singh and Borah,1998) in general and Arunachal Pradesh in particular. Thereby it holds the potential for providing additional economic resource besides producing quality food for household based consumption especially in rural areas with adequate scope for employment generation for unemployed youths, women and small farmers.

Arunachal Pradesh, the largest state of the North-East India having total geographical area of 83,743 Km^2 with a wide variation in altitude (70 to 7090 m), topography and climatic conditions is endowed with heavy rainfall (164 to 5600 mm), a moderate temperature range (15-30°C), high humidity (70-80%) prevailing throughout the year (Table 2). The prevailing climatic conditions supports diverse forest types producing huge amount of various ligno-cellulosic forest products including wild grasses that may be used as substrate for oyster mushroom cultivation by virtue of being inexpensive and ready availability. Favourable agro-climatic condition throughout the year together with availability of suitable raw materials might promote mushroom cultivation as an economically viable proposition in the state. Moreover, the tribal population of the state is largely agrarian and depends mainly on shifting agriculture and forests resources for their livelihood. Furthermore, people in the rural areas remain engaged in their agricultural activity only for a shorter duration in a year and have ample leisure time to take up mushroom cultivation as a homestead or cottage level project. A large population of unemployed educated youth and womenfolk in rural areas can engage themselves in this profitable enterprise for availing full time self-employment. The tribal people of different ethnic group inhabiting the region are also great mushroom lovers and have their own unique way of correct identification and skillful tapping of various wild edible mushrooms from their surrounding forests for their daily household consumption and to sell the surplus collection in nearby local markets to a vast domestic consumer. A major proportion of the collected wild mushrooms from different parts of Arunachal Pradesh comprise of various species of *Pleurotus* viz. *P. cornucopiae*, *P. platypus*, *P. flablellatus*, *P. sajor-caju*, *P. eryngii*, *P. ostreatus*, *P. pulmonarius*,

P. fossulatus and *P. squarrosulus* growing abundantly in forests (Adhikary et al., 1999; Mishra, 2003; Pakam and Singh, 2004).

Availability of potential substrates is another essential component required for sustaining low-cost of mushroom production. The region is very rich in that respect and generates a variety of surplus agricultural wastes that can be used as potential substrate for oyster mushroom cultivation. A large amount of agricultural wastes is generated from the staple food crops such as paddy, maize, millet (foxtail and finger millet), wheat and pulses, and horticultural crops like banana, citrus, papaya, potatoes, sugarcane, pine apple etc. that are grown on a large scale in different parts of the state (Table 1). Besides, agricultural wastes, diverse type of forests found in the state support a huge quantity of several varieties of lignocellulosic wild plants that can be used as alternative substrate material for oyster mushroom cultivation.

Table 1: Area of cultivable land, Major Crops and amount of agricultural waste in Arunachal Pradesh

Crop	Area (ha)	Grain Production (x100 kg)	Agricultural waste (x100 kg)
Paddy	121570	233992	700000
Wheat	3699	5872	22000
Maize	45061	64714	300000
Millet	21661	20038	55000
Pulses	8552	9056	1050
Total	**200543**	**333672**	**1078050**

Source: Arunachal Pradesh Statistical data (Year 2011)

Constraints of Large Scale Mushroom Cultivation and Remedies

Despite of all the favourable conditions, oyster mushroom farming has not gained momentum in Arunachal Pradesh. The first concerted effort of popularizing mushroom cultivation started during the late 1990s with the establishment of a mushroom training cum research centre by the state government. However, the centre could succeed only to encourage limited number of people to undertake small scale cultivation. In recent years, other centres such as Rajiv Gandhi University, KVK (ICAR), Basar and College of Horticulture & Forestry, CAU, Pasighat have initiated training programmes in oyster mushroom cultivation. Few

NGOs, particularly the Mushroom Development Foundation, Guwahati, have also taken initiatives in this direction by adopting a cluster based approach involving a group of farmers with at least one in every group becoming the supplier of mushroom spawn to others. However, all these Government agencies and NGOs are still unable to address a large population of prospective cultivators.

The important factors responsible for impeding the growth of Oyster mushroom farming in the state are:

1. Lack of awareness about Oyster mushroom cultivation and associated benefits
2. Lack of technical know-how and post-harvest management strategies
3. Non-availability of paddy straw in sufficient amount within the state
4. Inadequacy and non-availability of quality mushroom spawn (mushroom seeds) for growers
5. Absence of organized marketing strategies for selling the produce and
6. Lack of awareness regarding on-going centrally sponsored schemes and existing financial supports from banks and other government agencies.

A major constraint in mushroom production is non-availability of quality spawns at low costs. Spawn production technology needs moderate investment for establishing a laboratory, with basic equipments and accessories. One spawn laboratory with total production capacity of 50 kg per day can satisfy the demand for 1000 kg mushroom production per day and earn a profit of about Rs. 30,000 per month. The Central Government has launched various schemes to engage unemployed agricultural graduates in different ventures in agriculture sector including setting up of mushroom spawn production laboratories. This effort will not only accelerate the mushroom production with the dissemination of latest technical know-how to the farmers but also provide employment opportunities to quite a large number of unemployed youths. With such ventures, they may open agri-business centers providing expert services and advice to farmers on cropping practices, technology dissemination, crop protection from pests and diseases and market trends. Besides spawn supply to large number of mushroom growers, they may engage themselves directly in mushroom production which is also necessary to check the quality of laboratory produced spawn.

Non-availability of adequate quantity of paddy straw in the open market is an-

other bottleneck. Though paddy is a major crop in the region, yet there is a shortage of straw as substrate, because a large quantity of it is left unused or burnt in the field itself after harvest due to lack of its prospective use in agricultural, horticultural or dairy related activities in the region. This large volume of agricultural wastes rich in lignin, cellulose and hemicellulose can be judiciously used for production of mushrooms at low cost as procurement of paddy straw from the neighbouring state Assam escalates the production cost. As paddy is not grown on a large scale in some high altitude areas of the state, therefore, area specific potential substrates are to be identified. Some of the potential lignocellulosic materials like tall wild grasses, wild banana plants and wild species of bamboo are available in the countryside. The prominent grasses available throughout the state in abundance along road sides, in river beds and degraded forests include *Saccharum spontaneum*, *Neyraudia reynaudiana*, and *Imperata cylindrica*. Besides, saw mills also generate huge quantity of saw dusts and wood shavings from hardwood and softwoods trees.

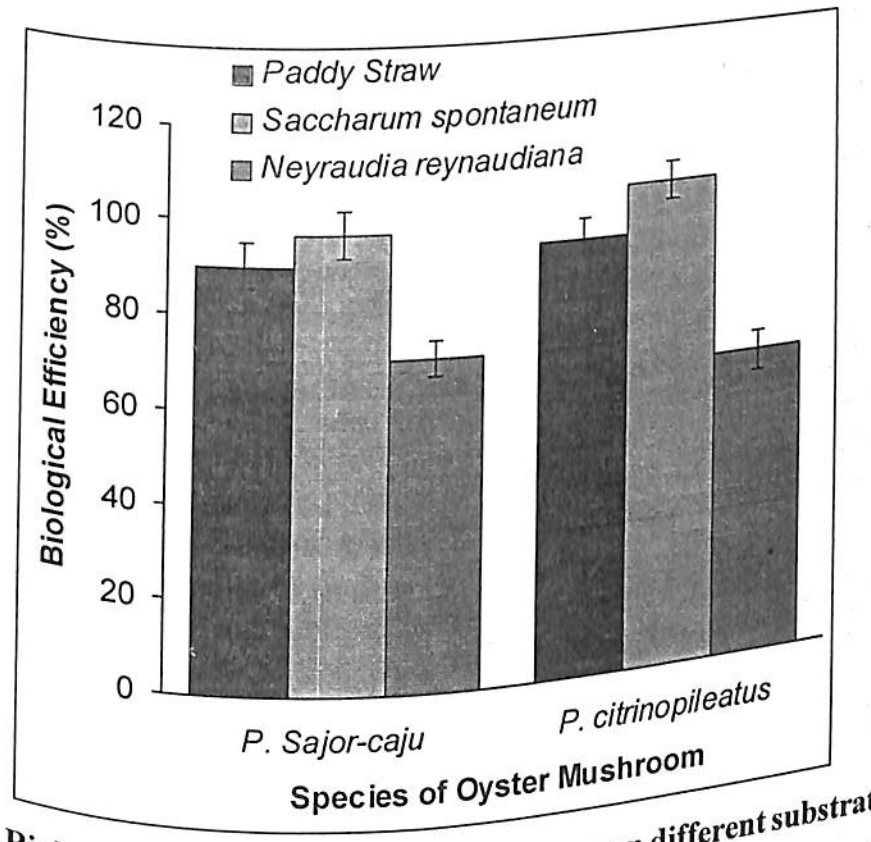

Fig.1: Biological efficiency of oyster mushrooms on different substrates

As the above mentioned wild grasses were not enlisted as potential substrate for

mushroom cultivation in literature so far, therefore, suitability of *S. spontaneum* and *N. reynaudiana* for cultivation of two summer species of oyster mushrooms, namely *P. sajor-caju* and *P. citrinopileatus* was investigated with an objective to find out cheap, alternative substrates for developing a low cost, region specific easy farm practice for the rural farmers. The experimental results (Fig. 1) proved *S. spontaneum* as a very promising substrate for cultivation of both species of oyster mushrooms providing 97 - 104% biological efficiency that was much higher in comparison to paddy straw (90 - 93.7%). *N. reynaudiana* also gave a decent biological efficiency between 65% and 70%.

A region specific model cropping calendar based on the nature of *Pleurotus* spp., and their temperature requirement for optimum growth and yield in various parts of the state is also a necessity for promoting round the year cultivation of oyster mushroom. One such cultivation cycle is being proposed (Table 2) on the basis of prevailing climatic conditions at various temperate and sub-tropical regions across the entire state. Oyster mushroom cultivation, whether on small or large scale at the places given in the table 2 as well as adjoining places having similar climate would certainly offer a fairly good return which may further be increased by shortening the average two months mushroom production cycle by constructing separate rooms for spawn run and cultivation with little more investment. It is worth mentioning that the areas suitable for growing button mushrooms are equally suitable for the oyster mushrooms though the production in some areas may decrease during peak periods of winter. Taking a clue from China, commercial cultivation of oyster mushrooms may be promoted all the year round either as seasonal growing in simple mushroom huts or state-of-the-art cropping rooms with controlled environment in the units.

Some of the constraints enlisted above, particularly relating to technical know-how and post-harvest management strategies, organized marketing strategies, and financial support are matter of great concern for horticulturists and mushroom scientists and government agencies, and addressing these problems by finding proper ways and means is an urgent necessity for making the state a major player in mushroom cultivation. Presently, several ICAR institutes including Directorate of Mushroom Research and Training (Solan, H.P.), CSIR institutes, State department of Horticulture & Agriculture, Agricultural and General Universities and various reputed NGOs are working on various aspects of mushroom cultivation and its adoption in different regions of India.

Some of the above mentioned constraints may be easily handled by the department of horticulture under on-going centrally sponsored scheme "National

Table 2: A model crop cycle for cultivation of Pleurotus at various places in Arunachal Pradesh

Place	Altitude (msl)	Period	Rainfall* (mm)	Temp.† (°C)		Species suitable for cultivation	Temp. (?C) required for		No. of crops
				Min.	Max.		mycelial run	fruiting	
Aalo	300	Oct. to Mar.	119	-	32	*P. ostreatus*	25-30	20-22	3
Basar	578		61	8	30	*P. florida*	25-30	18-22	
Changlang	580		64	-	26	*P. cornucopiae*	25-30	18-22	
Daporijo	500		61	-	-	*P. fossulatus*	18-22	16-20	
Itanagar	459		78	7	29	*P. eryngii*	18-22	14-18	
Pasighat	155		98	-	-				
Roing	390		111	-	-				
Seppa	363		52	-	-				
Tezu	210		76	-	25				
Yingkiong	500		69	-	-				
Aalo	300	Apr. to Sept.	308	-	38	*P. sajor-caju*	25-30	22-26	3
Basar	578		319	17	32	*P. sapidus*	25-30	22-26	
Changlang	580		272	-	35	*P. flabellatus*	25-30	22-26	
Daporijo	500		211	-	-	*P. citrinopileatus*	25-30	24-28	
Itanagar	459		479	16	32	*P. eous*	25-30	22-26	
Pasighat	155		647	-	-	*P. membraneceus*	25-30	25-29	
Roing	390		494	-	-				
Seppa	363		326	-	-				
Tezu	210		375	-	36				
Yingkiong	500		318	-	-				
Bomdila	2700	May to Oct.	317	9	24	*P. ostreatus*	25-30	20-22	2-3
Tawang	3025		215	-	-	*P. florida*	25-30	18-22	
Ziro	1572		113	-	-	*P. cornucopiae*	25-30	18-22	
						P. fossulatus	18-22	16-20	
						P. eryngii	18-22	14-18	

* Monthly rainfall average (year 2004-08) during the period; † Minimum & Maximum Temperature during the period in last 5 years; Average RH during the period at all the places is >70 - 80% during November to April and between ³80 - 90% during May to October (Source Data, Arunachal Pradesh Statistical Report and data from ICAR Centre, Basar)

Horticulture Mission" for giving a boost to mushroom cultivation by extending support to the prospective entrepreneurs. NABARD has also enlisted oyster mushroom cultivation as one of the model bankable Projects that should be supported by various banks with 85 – 90% loan to entrepreneurs @ 12% interest.

The domestic market in Arunachal Pradesh also has a good demand where mushrooms can be marketed either fresh or after dehydration. Besides, there is good overseas market for mushrooms with huge demand for dried and canned mushrooms. The processing of surplus production can be dried or canned for exports with the technical and financial support available from the Ministry of Food Processing Industries of the Government of India which is the main central agency responsible for developing a strong and vibrant food processing sector including high protein food with a economic and social responsibility to create increased job opportunities in rural community. Processed mushrooms provide a better return to the large scale commercial farmers.

Conclusion

Mushroom cultivation offers prospects for converting lignocellulosic residues from agricultural fields and forests into protein rich biomass. Cultivation of oyster mushroom fits in very well with sustainable farming and has several advantages over button mushroom cultivation. The prospect of cultivating oyster mushroom in the state is coming up as a profitable venture and its scope stands very high due to conducive agro-climatic conditions and availability of a variety of substrate materials generated from agriculture and forestry sectors. These include some potent candidate substrates like wild banana and saw dusts, and tall wild grasses, *Saccharum spontaneum* and *Neyraudia reynaudiana*. Moreover, there is the availability of abundant semi-unemployed labour force in the agrarian tribal society.

The major constraints responsible for impeding the growth of mushroom farming are lack of technical know-how about mushroom cultivation, poor technical support, inadequate supply of mushroom spawn, high cost of production due to unavailability of paddy straw in the local market, poor marketing strategies, and lack of awareness regarding ongoing centrally sponsored schemes and existing financial supports from banks and other government agencies. These constraints need to be addressed by horticulturists, mushroom scientists and government agencies. A model crop cycle involving several species of oyster mushrooms on the basis of prevailing agro-climatic conditions in various parts of Arunachal Pradesh may be adopted for round the year mushroom production for satisfying

the demand of the domestic market. A successful adoption of oyster mushroom cultivation technology in the state would be able to generate avenues for self-employment and a noble path of livelihood management thus contributing towards rural development in the entire state.

Acknowledgement: The author thanks UGC, New Delhi for financial support in the form of Rajiv Gandhi National Fellowship (SC/ST) for doctoral research.

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Rajiv Gandhi University Research Journal
(January-July, 2012), Vol.11, No.1: 150-160
ISSN 2250-2866

Analysis of Micro-watershed approach and agro-forestry interventions in farming system of Meghalaya in North Eastern region of India

Rima Taipodia*, L.C. De & S.K. Sarangi*****

(Received on 20-01-2012 Accepted on 07-07-2012)

Abstract

This paper is based on an investigation undertaken on eight experimental Microwatersheds which were established on 30-40 per cent hill slopes under land capability class VIIe at Barapani in Meghalaya. Micro watershed approach and Agro forestry technologies will play a major role in the synthesis of sustainable farming systems and hill slope management in North East Hill (NEH) region for economic prosperity of tribal living in north eastern hills. The practice of agro forestry and watershed management based farming system is the sustainable system highly pertinent to the region. Besides sustaining the ecology and environment, this system also increases the productivity of land.

Keywords: *Micro watershed, Agro pastoral System, Agrihortisilvipasture system, Silvipasture system*

Introduction

Shifting cultivation (*jhumming*) is a widely practised farming system in the hills of North-East India. The farming system is believed to have originated in

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the Neolithic period around 7000 BC. This is most earlier form of agriculture which is still common amongst the tribal people in various pockets. With more than 225 tribal and indigenous communities in Northeast, this exercise is being carried out in 8 states (Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura) and 4 sub-state sites (West Garo Hills in Meghalaya, Chedema in Nagaland, Karbi Anglong in Assam and Rathong Chu valley in Sikkim).The practice of shifting cultivation was good at the time when it emerged. Least disturbance to soil, natural fertility build-up of soil, mixed cropping on slopes under purely rain fed conditions and dependence on local resources were some of its merits. Today, this system has been hazardous due to the progressive degradation of the production base. The prevalence of shifting cultivation is so extensive in the region that it would not be possible to tackle the problem within a short period of time whatever large the efforts may be. It will, thus, be necessary to approach the problem so that alternative system of farming can be introduced in areas where the cycle of rotation has been greatly reduced. Therefore, a long term development approach for these areas must have an eye on conservation measures to keep intact or improve land and water resource base for sustained land and biological productivity. Simulations of natural ecosystem based on mixed plant association of trees with other annuals and perennials including livestock will provide continuous and permanent vegetative cover on the hill slopes. In this context, Microwatershed approach and agroforestry provides a convenient framework of topographically delineated area comprising land, water, vegetation and other natural environmental resources in a hydrological unit to meet them over a period.

Material and Methods

During the monsoon season of year 2003-2004, an investigation was undertaken on eight experimental micro-watersheds which were established on 30-40 per cent hill slopes under land capability class VIIe at Barapani in Meghalaya. Each of the microwatersheds was put to Agro-pastoral systems, Agri-horti-silvipastoral system, dairy farming and silvipastoral system. A self generated pine forest was created for protection from biotic pressure of a deforested micro-watershed. A combination of physical[1] and biological con-

[1] Complete terracing under agro-pastoral, bottom portion terracing in agri-horti-silvi pastoral and dairy farming systems, half moon terracing for fruit trees).

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1 Complete terracing under agro-pastoral, bottom portion terracing in agri-horti-silvi pastoral and dairy farming systems, half moon terracing for fruit trees).

servation measures[2] were followed as per need of the different land use systems. A typical design of two systems of hedge row entailed the construction of hill side ditches. In one system vegetative barrier was made by planting of a leguminous hedge (*Erythrina indica*), and in another system a strong tuffed broom grass (*Thysanolaena maxima*) was raised on the bund (rise) of the ditches which followed contour line of the hill side to create natural terraces through a soil redeposition process. The bunds were created on the slopes. Hedge row plants were planted on the bunds to stabilize it. Contour bunds were formed. For a comparison, level bench terraces with shoulder bund and system of contour bunds without hedge row plant were included. The vertical intervals of the bench terraces and contour bunds were decided as 1m. Terrace risers of cut and fill method were stabilized by planting congosignal grass (*Brachiaria mutica)* on the bottom terraces and broom grass on the upside terraces of the hill. Maize (a row crop) was sown for four years along the direction of hill slope to accelerate soil erosion between the two hedge row and its redeposition downside within the same two contour hedge rows. In fifth year, ginger and turmeric crops were grown under the four systems of terracing.

Thus, the present investigation was undertaken with the following objectives:

1. Development of alternatives to shifting cultivation;
2. Improvement in traditional homestead agroforestry; and
3. Rehabilitation of degraded hill slopes and biodiversity.

Results and Discussion

Agro pastoral System

Inclusion of a dairy cow had set a positive link on sustainability by generating cash income, improving family nutrition and recycling crop residues into feed and livestock refuse in-turn was converted into a valuable nutrient source for crops. This resulted into reduced dependence on purchased external inputs. Moreover, application of organic manure alongwith fertilizers provided a better nutrition to crops and improved soil health for a long period (Table 1& 2). Built up of available phosphorus and exchangeable potassium were more on terraced land than the terrace riser. Growing forage grasses on terrace risers and suitable cropping systems on terraced lands arrested soil erosion and improved hydro-

2 Growing guinea grass and broom grass on terrace risers, growing rice bean and guinea grass in the basin of the fruit trees.

Table-1: Surface soil characteristics of terrace risers and terraced land under agropastoral, model land use and dairy farming systems on the hill slope

Soil Properties	Agropastoral system				Model land use		Dairy farming	
	Bottom terrace		Upper terrace		Bottom terrace		Bottom terrace	
	T.riser	T.land	T.riser	T.land	T.riser	T.land	T.riser	T.land
Soil pH								
Initial		4.9			4.9			4.9
Final	4.8	4.4	5.6	5.0	5.7	5.0	5.2	4.6
Organic Carbon (per cent)								
Initial		1.59			1.82			1.71
Final	1.96	1.92	2.01	1.86	2.30	2.15	1.86	1.88
Available P (ppm)								
Initial		4.70			2.90			2.12
Final	4.49	7.17	4.78	9.22	3.10	2.89	4.94	6.58
Erch K (ppm)								
Initial		59			74			56
Final	129	169	123	131	151	191	130	230

T.riser: Terrace riser, T.land: Terraced land, Initial & final-soil fertility status of the hill slope & terrace riser/land.

Source: K.A. Singh(2002)

logical behaviour of the slopes (Table 3 & 4). Greater portion of the annual rainfall could be retained in the Microwatershed. This improved soil moisture and enabled growing of short-duration rabi crops.

Production

Crop diversity and cropping system

Terracing and better management of rainfall enabled growing of short duration (100 days) mustard and radish crops in rabi. *In situ* augmentation of organic manure from livestock refuse, weed biomass and non-edible crop biomass composting were applied to reduce dependency on external fertilizers.

Table-2: Changes in soil fertility under different micro watershed based land use systems on the hill slope

Land use system	Period after land Use imposed	Soil pH	Organic Carbon (per cent)	Avail.P. (mg/kg)	Erch.K (mg/kg)
Agropastoral system (LUS 1)	Initial	4.9	1.59	4.70	59
	14 years	5.2	2.02	8.37	138
Agrihortisilvipasture (LUS 2)	Initial	4.9	1.82	2.90	74
	14 years	5	2.6	2.9	156
Dairy farming (LUS 3)	Initial	4.9	1.71	2.12	71
	14 years	5	2.2	5	154
Silvihorti system (LUS 4)	Initial	4.9	1.8	1.91	77
	14 years	4.9	1.76	9.2	167
Silvipasture (LUS 5)	Initial	5.1	1.79	1.43	80
	14 years	4.9	2.34	5.2	171
Fuel wood forest (LUS 6)	Initial	4.9	1.62	3.5	70
	14 years	4.7	2.4	2.1	138
Timber farming(LUS 7)	Initial	5.2	1.7	1.47	69
	14 years	4.8	2.37	6.4	60
Self regenerating (LUS 8)	Initial	5.2	1.58	1.91	83
	14 years	4.9	1.76	3.6	148

Source: K.A. Singh (2002)

Agropastoral System established on a 0.58 ha Microwatershed had provided adequate food, cash income and nutritional care to a family (according to a typical rice-based non-vegetarian diet) in the region (Table 5). The Farm produce (FP) & Family food requirement (FFQ) of Mustard & Soyabean are same i.e. 108kg & 50kg each but FP of ginger (725kg), turmeric (727kg) & milk (2453kg) are greater than their FFQ of 25kg,50kg & 550kg. Therefore, a deficit of 30 per cent in food requirement could be purchased from the income generated out of the sale of the milk, ginger and turmeric. The economics of Agropastoral system showed a net return of Rs. 30,809/ha (Table 6).

Table-3: Mean water yield, peak flow and soil loss from different land use systems

Microwatershed	Total water Yield (mm)	Base flow (mm)	Surface (flow) (mm)	Peak flow (mm/hour)
Dairy farming	10.8	2.59	8.2	39.1
Fuelwood Forestry	421.2	352.2	69	19.9
Silvipasture	240.1	195.2	44.8	12.9
Agropastoral system	20.2	0.4	19.8	31.9
Agrihortisilvipasture	29.4	6.8	22.6	10.5
Silvihorti system	106.9	56.4	50.5	11.4
Self regenerated forest	15.1	0.1	15	13.7
Timber farming	101.9	0	101.9	86.1

Source: K.A. Singh (2002)

Table-4: Soil moisture (per cent) as affected under different micro-watersheds.

Microwatershed	0-15cm depth		15-30cm depth		30-45 cm depth	
	Top	Bottom	Top	Bottom	Top	Bottom
Dairy farming	15.71	23.53	17.65	26.67	21.79	24.07
Fuel forestry	17.83	21.90	22.06	23.15	22.73	24.00
Silvipasture	16.67	25.30	18.82	29.30	20.00	24.76
Agropastoral system	20.83	24.70	23.08	27.73	24.10	24.27
Agrihortisilvipasture	16.44	24.44	19.18	27.78	24.10	27.27
Silvihorti system	14.70	22.23	16.18	26.51	22.58	23.68
Self regenerated forest	17.95	21.00	20.14	21.50	22.89	4.07

Source: K.A. Singh (2002)

Table-5: Balance sheet of farm produce (FP) and family food requirement(FFQ) under agropastoral system

Items		FP (kg)	FFQ (kg)	Balance
Cereal	Rice	154	967	-813 (84 per cent)
XX	Soybean	259RE (148)		
XX	Groundnut	421RE (183)		
	Maize	456	156	300
Oil seed	Mustard	108	108	nil
Pulses	Soybean	50	50	nil
Cash crops	Ginger (F)	725	25	700
	Turmeric (F)	727	5	677
	Milk (L)	2453	550	1903
Meat & fish Purchased/1-2pigs rearing by feeding maize/radish surpluses and kitchen wastes.				
Vegetables	Radish	2683	100	2583
Sugar		25		Purchased

XX Rice crop substituted by soybean & Ground nut in same area. RE: Rice equivalent yields.

Source: K.A. Singh (2002)

Table 6: Economics(Indian Rupees) of microwatershed based land use systems (1990-96)

Land uses	Input (Rs)	Output (Rs)	Profit (Rs)	Ratio
Dairy farming	34,107	65,688	31,581	1.93
Agropastoral system	33,938	64,787	30,809	1.91
Agri-horti-silvipasture	11,005	22,706	11,701	2.06
Silvi-horti system	5,115	6,196	1,080	1.21

Source: K.A.Singh (2002)

Changes in slope and cost effectiveness

During the five years of study, the original slope reduced from 27.2 per cent to 7.3 per cent under Bioterracing I, 28.2 per cent to 8.03 per cent under

Table-7: Changes in slope, mandays required crop productivity under bioterracing

Systems of Terracing	Original slope (%)	Slope in fifth year	Mandays required/ha (cost in Rs./ha)	Crop productivity (q/ha) Maize	Ginger	Turmeric
Cut and fill Methods of terracing	38.2	-	497 (24,850)	26.55	81.17	98.32
Bioterra-cing-I	27.2	7.3	75 (3,750)	26.74	89.11	76.29
Bioterra-cing-II	28.2	8.03	85 (4,250)	22.50	38.69	26.95
Contour bund Without hedge	28.6	8.41	42 (2,100)	16.10	60.58	54.48

Rate per mandays: Rs.50/-

Source: K.A. Singh (2002)

Bioterracing II and 28.6 per cent to 8.41 per cent under contour bunds without hedge (Table 7). Thus, a hill slope of 28 to 38 per cent can be terraced within 5-7 years through the application of hedge row technology. The Bioterracing is advantageous over cut and fill method of terracing in terms of cost effectiveness. Bioterracing I & II required 75 & 85 mandays repectively as against 497 mandays under cut and fill method. Contour hedge row technology provides an option for farming on the hill slopes on a sustainable basis. Under Bioterracing I, yield of maize & ginger increased progressively due to balanced application of NPK. The productivity of ginger & turmeric was comparable to cut & fill method of terracing. However, due to intense competition for nutrients by broom grass, the yield of ginger & turmeric, a heavy nutrient feeder crop, reduced drastically.

Dairy farming

In this watershed 0.94 ha on 32 per cent hill slope was put to dairy farming suited particularly to farmers living nearby cities who had assured market for milk. Out of this, top two third portion of the hill slope was put to perennial forage grasses (guinea grass and broom grass) interplanted with *Ficus roxburghii* and bottom portion was terraced for growing protein rich ricebean/soybean

and oat in *rabi*. The forage resources obtained from this watershed have sustained 3 dairy livestock unit. The profit obtained from this watershed over a period of five years was Rs 31,581/ha (Table 6). There was significant built up in soil fertility (Table 2). Soil pH and organic carbon improved. The available phosphorous and exchangeable potassium doubled in the soil over 14 years period (Table 2). The built in fertility differed between terrace riser and terraced land. The available phosphorous and exchangeable potassium built up was more on terraced land but increase in soil pH was more on terrace riser (Table 1). Hydrological behavior over 14 years showed lowest total water yield and surface flow (Table 4).

Agri-horti-silvipasture system

The diverse agro activities helped in producing most of the produce that a remotely located farmers would like to grow for their self sufficiency. Market economies based on input and output was the lowest as compared to dairy farming and Agripastoral system but livelihood security economies was the strongest in the sense that with lowest investment farmers were able to produce fuel wood to food (Table 6). Soil fertility built up was noticed. Organic carbon and exchangeable potassium increased on terraced land (Table 1 & 2). On terrace riser soil pH, soil organic matter and exchangeable potassium increased. Hydrological behaviour was similar to Agripastoral system except base flow (Table 3 & 4).

Fuelwood Forestry

Acacia auriculiformis had the highest increment in growth followed by *Alnus nepalensis*, *Eucalyptus grandis*, *Symingtonia populnea and Michelia oblonga*. The build up in organic carbon and exchangeable potassium was observed during a period of 14 years (Table 2). However, there was slight change in soil pH (reduced from 4.9 to 4.7) and available phosphorous (reduced from 3.50 to 2.10) in the soil (Table 2). Hydrological behaviour showed the highest total water yield due to maximum base flow among the eight land use systems developed (Table 3 & 4). Peak flow was next to timber farming and Agripastoral systems. This enabled emergence of spring water flow at the bottom of the watershed.

Silvihorti system

The watershed suffered a misjudgment of allocation of fruit trees on the site having less than one metre soil depth. Hence, fruit trees could not produce optimally. Only vegetables (beans, pea, radish etc.) could be grown successfully on the bottom terraced land having rich soil. Due to poor growth of fruit trees, 60 per cent top area was interplanted with *Alnus nepalensis* in 1994. Due to poor biomass productivity, built up in soil fertility was low (Table 2). There was no build up in organic matter and improvement in soil pH. Due to poor growth of plant, available phosphorous and exchangeable potassium built up. Due to sufficient plant canopy, surface runoff was comparatively less but base flow and total water yield was higher than most of the microwatersheds except fuelwood forestry (Table 3 & 4).

Timber farming

Forestry for timber and fuelwood production is gaining importance in farm sector. Therefore, *Michelia champaca was* planted in a Microwatershed of 0.50 ha. Cost of establishment was about Rs. 17,000/ha at the tree density of 2,500 trees /ha, a high density to be thinned in a phased manner to obtain 400 - 500 trees/ha for timber production (Table 8). High density helped to get return from thinning as a fuelwood. On the plain of Assam in sample plots of *Michelia champaca*, the growth of 9.9m^3 per annum had been observed. (FRI, 1976). The land was under experimental shifting cultivation since 1983 for 9 years. In 10th year, *Michelia champaca* was established. Hence, build up in soil fertility showed slight drop in soil pH from 5.2 to 4.8 (Table 2), but there was build up in organic matter and significant increase in available phosphorous and exchangeable potassium (Table 2). Hydrological behavior showed an increase in mean total water yield in last six years only, similar to silvi horti system (biologically poor system) with the highest rate of surface flow (Table 3 & 4). It is expected that with growth of tree canopy in due course, will cause the surface flow to reduce and infiltration rate to increase.

Silvipasture system

The soil fertility status over 14 years indicated slight change in soil pH(reduced from5.1 to 4.9) but organic carbon, available phosphorous, exchangeable potassium and calcium increased (Table 2). Thus, soil fertility improved over the years under silvipasture system. Hydrological behaviour revealed that total water yield and peak flow from the Microwatershed reduced indicating greater utilization of rain water within the Microwatershed by improved grasses of high productivity (Table 3 & 4). As a result, surface flow (run off) diminished and soil erosion became negligible.

Table-8: Cost of establishment and survival of Michelia champaca plantation on hill slope in 1992.

(A) Cost of establishment the plantation	
(a) Site preparation, layout and digging of pits	Rs. 5,900.00
(b) FYM and fertilizer cost and application	Rs. 2,964.00
(c) Cost of seedlings and the transport charge	Rs. 5,162.00
(d) Carrying seedlings on plantation site and the cost of planting	Rs. 13,500.00
(e) Clearing basin around tree(weeding and and basin making)	Rs. 1,600.00
	Rs. 16,977.50

Note-Labour cost was 51.4 per cent of the total cost.
Source:K.A.Singh(2002)

Self Regenerated Forest

Over 14th year, there was significant increase in soil organic carbon, particularly top and middle portion (1.58 to1.76 per cent), available phosphorous (1.91 to 3.60 ppm) and exchangeable potassium (83 to148 ppm) as compared to initial soil status (Table 2). There was slight drop in soil pH from 5.2 to 4.9 (Table 2). Hydrological behavior showed reduction in runoff and peak flow, indicating maximum utilization of rainfall within the micro-watershed (Table 3 & 4).

Fish production

On an average 180 to 250 kg fish was produced from mixed culture of common carp, silver carp and rohu during a growing period of five months. Alternatively, it can also be utilised for high value vegetable or floriculture or nursery raising.

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Rajiv Gandhi University Research Journal
(January-July, 2012), Vol.11, No.1: 161-174
ISSN 2250-2866

Curriculum Based Approach to Information Literacy Education

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(Received on 3-10-11 Accepted on 25-04-2012)

Abstract

Information literacy, though not new, has assumed greater significance in recent academic and research pursuits. It is because present society is the information society in which the information and information literacy plays a very crucial role in our day to day life to perform the task of decision making. This area of education, needless to say, was neglected so far because of many false notions about it. The present paper focuses on these false notions, deals with the concept of information literacy and its needs.

Keywords: *Information Literacy, Information Literacy competencies, Information Literacy programmes.*

Introduction

The information consumer of the web 2.0 world has evolved into a new dimension ranging from internet to social media, and teaching information literacy (IL) to this new section of the consumer is a big challenge with the vast amount of information explosion. Information literacy in an academia world may not be a new phenomenon, but to a chunk digital divide and the digital privilege still re-

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mains the big word. (See Badke, 2010). It is undoubtedly very important that students become information literate; it may be even more critical for those students planning to become teachers since they need to be able to model and teach information literacy skills effectively to their future students. (Carr, 1998; O'Hanlon, 1987; Witt & Dickinson, 2003). It is rather confusing for many that information literacy is ICT literacy or IT literacy which otherwise is much more subjective in nature.

Further, information goods have their own domain in economic environment which is complex in nature. Digital materials typically have the property that it is very costly to produce the first copy and very cheap, almost at zero marginal cost, to produce subsequent copies. Cost structures of this form pose special problems for pricing. (Varian, 1995). As a result of this, information is overloaded that puts us in the state of judging the relevance of information in today's online growth of social media. The need and responsibility then lies on both the educator and librarian to build in a strong sense on the need for information literacy programmes among the new breed of highly ICT savvy students.

What is Information Literacy?

The term information literacy is sometimes mistaken for the ICT literacy as Rockman (2004) sees information literacy as "truly a new instructional pedagogy and a change agent for learning". Earlier, however, Shapiro and Hughes (1996) considered information literacy to be an often-used but dangerously ambiguous concept. This may have been true at the time, and there are still many definitions and understandings of the term, but a consensus of a kind has emerged pertaining to *information and how it works*. It is about introducing students to the forms of information available to them, and then helping them determine what sort of information they need for any specific context, how to find it, how to evaluate it, and how to use it effectively and ethically. Emerging research shows that information literacy has various characteristics in different contexts (Lloyd and Williamson, 2008), and indicates people's need for information in order to achieve educational, social, occupational and economic goals. However, according to Martin and Rader (2002) information literacy includes: (i) library literacy; (ii) media literacy; (iii) computer literacy; (iv) internet literacy; (v) research literacy; and (vi) critical thinking skills. Kope (2006) argues that e-literacy must include more than information literacy and computer literacy, and explores the relationships between academic literacy, information literacy and computer literacy. Therefore, the need to integrate all the tools together will foster the students with the idea of accessing information and meeting their information needs.

Information Literacy Competency Standards for Higher Education

Information Literacy Competency Standards for Higher Education of the Association of College and Research Libraries (ACRL) was approved by the American Library Association (ALA) in 2000 and endorsed by the American Association of Higher Education (AAHE). According to ACRL, information literacy is a set of abilities requiring individuals to recognize when information is needed and to locate, evaluate, and effectively use the needed information. In addition, information literacy forms the basis for lifelong learning; it is common to all disciplines, to all learning environments, and to all levels of education. It enables learners to master content and extend their research, become more self-directed, and gain greater control over their own learning.

An information literate individual is able to:

- Determine the extent of information needed
- Access the needed information effectively and efficiently
- Evaluate information and its sources critically
- Incorporate selected information into his or her knowledge base
- Use information effectively to accomplish a specific purpose
- Understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally.

The amount and complexity of information with which students have to deal is growing by leaps and bounds. As a result, no course of study, especially in higher education, is adequate unless it helps to develop students' ability to deal with the rapidly increasing information in their fields.

ACRL believes that developing lifelong learners is central to the mission of higher education institutions. By ensuring that students have the intellectual abilities of reasoning and critical thinking, and by helping them construct a framework for learning how to learn, colleges and universities provide the foundation for continued growth throughout their careers, as well as in their roles as informed citizens and members of communities.

According to Quarton (2003), the abilities to explore information resources efficiently and to critically evaluate the results are basic information skills. They are best developed through regular exposure to assignments that are process oriented and that require critical thinking. Students who know how to use information resources and who recognize the essential characteristics and purposes of published materials have a critical advantage when adding to their knowledge

base in any discipline; they also have a firm foundation for future course work. Further, because information literacy skills are transferable to other disciplines and to everyday life, students' future learning— both in and out of the classroom—is positively impacted.

Information Literacy Competency Standards for Higher Education provides a framework for assessing the information literate students. It also extends the work of the American Association of School Librarians (AASL) Task Force on Information Literacy Standards, thereby providing higher education an opportunity to articulate its information literacy competencies with those of K–12 so that a continuum of expectations develops for students at all levels. Students will also find the competencies useful because they provide a framework for gaining control over interactions with information in their environment.

Information Literacy Competency Standards for Higher Education consists of 5 standards,

22 performance indicators and a wide range of outcomes for assessing student progress toward information literacy.

Information Literacy Competency Standards for Student Learning

Standard 1: The information literate student determines the nature and extent of the information needed.

Standard 2: The information literate student accesses needed information effectively and efficiently.

Standard 3: The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.

Standard 4: The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.

Standard 5: The information literate student understands many of the ethical, legal, and socio-economic issues surrounding the use of information and accesses and uses information ethically and legally. (ACRL 2000, p. x).

Misconception of Information Literacy and Information Technology

There is a mix reaction on the academia world as Oblinger and Hawkins (2006) pointed out a reality that has long been observed by librarians: "Whereas colleges and universities often focus on technology skills, it is actually *information literacy* that should be the concern". (ibid.,12). Information literacy does not

simply confine to knowing how to open a Web browser and type a search term into Google. It is quite amazing, in fact, to read the numerous studies, reports, and educational plans built around "harnessing technology for education," and then to observe how few of these publications ever mention information literacy or even describe its components. (ibi.d). The myth that technological ability equals information and research ability seems to have convinced the best minds in educational thinking today. (Jenson, 2004).

As large numbers of studies have demonstrated, however, today's highly technological students continue to fail miserably in handling most aspects of sophisticated information This problem, in fact, may be both deeper and subtle than simply constituting a false mythology. The fact is that much technology used by *professors* in today's higher education environment is sporadic and decidedly "old school" in a world in which Wikipedia and text messaging are the technological landmarks of students and PowerPoint is a dark ages application. Academia's version of technology is often very much behind the times. Selwyn (2007) pointed out that the emphasis on making students technologically literate with academic tools they find anachronistic both limits their creative use of information technology and leads them to boycott or opt out of academic information technology entirely.

Haas and Neuwirth (1994) critique several misconceptions concerning the relation of literacy to technology: two are relevant in this context. The first is that literacy exists independent of technology and is, therefore, unaffected by it-that is technology is viewed merely as a tool making reading and writing more efficient but has no impact on the nature of literacy.

True and sad to say, many scholars and faculty in India lack the desired knowledge and skills to acquire the right information at the right interface. Google has made scholars and students so dependent on it that Wikipedia remains the savviour in their pursuit of knowledge. A few better ones in the research skill domain extend to using Google Scholar and accessing information which is a simplified format of search engine and the desire to learn how to use EBSCO and Web of Science database remains a challenge for the librarian. Google Scholar is indeed a simplified form of searching but the result can be a thousand hits.

Information Literacy Initiation in India

The importance of Information literacy in India has taken a great leap in its implications. The programmes are already in existence in narrower forms in various libraries and information centres in India, in the forms of user education,

bibliographic instruction, library instruction, library research, and so on. Many advocates of information literacy in India proposed to integrate information literacy programme with the academic curricula of educational systems of India, starting from the school level to the higher education, vocational education, professional education and research degree level. Many schools in India for instance have library hour for the students as a part of information literacy drive and universities in India have gone steps ahead in setting up information literacy centres and users' orientations. There is also a small contribution from Indian Library and Information Science Professionals in the realm of information literacy. C.R. Karisiddappa has discussed the concept and characteristic of information literacy. He has also deliberated upon the origin and growing importance of information literacy and has suggested that it should be included not only in library and information science curriculum but also in all curriculums from school education to higher education. He suggests that information literacy is a tool for capability building.

Programmes like *Sarva Shiksha Abhiyan* (SSA), District Primary Education Programme (DPEP), National Literacy Mission are some of the initiations taken by the government of India (GOI) for right to education but no efforts are shown in information literacy level but rather literacy as the agenda. Grassroot level of information literacy education as Kariddappa has endorsed would bring in a whole lot of changes in the development of the nation by building a strong information literate individual and a sensible consumer to the digital world.

States of India those passed Public Libraries Act

Library plays an important role in shaping the knowledge of an individual and imparting the knowledge of acquiring information. Some of the states in India that have taken initiation in implementing library legislation as shown in Table-1.

User awareness programmes are conducted by various university libraries in collaboration with (INFLIBNET) Centre and *publishers* that are based around users' willingness to participate in the workshop or the programme and as a result it is more participation based and doesn't promote information literacy to the desired position. INFLIBNET N-List awareness program was recently organized at Pondicherry University on 28th August and at North Eastern Hill University on 25-26 August, 2011. Such initiation are very productive in the process of informing the users on the electronic resources but the attendance and the responses are confined to a few participants and some of the researchers and the core users of these resources are never seen in the programme. The Academic Staff Colleges in Indian universities are one of the forces in driving

information literacy, but their roles are confined to participation based programmes and there is a higher need in addressing the chunk of Indian consumers.

Table 1: ***Library legislation act in India***

Tamil Nadu	1948
Andhra Pradesh	1960
Karnataka	1965
Maharashtra	1967
West Bengal	1979
Manipur	1988
Kerala	1989
Haryana	1989
Mizoram	1993
Goa	1993
Gujarat	2000
Orissa	2000
Rajasthan	2005
Uttar Pradesh	2005
Uttarakhand	2005
Pondicherry	2007/2008

Information Literacy Models

There are many models in use around the globe. Some tested and well-accepted models are:

1. SCONUL (Society of College, National and University Libraries)

SCONUL (Society of College, National and University Libraries) uses a seven pillar model to promote excellence in library services in higher education and national libraries across the United Kingdom and Ireland. The seven headline skills are the ability to

1. recognize a need for information;
2. distinguish ways in which the information 'gap' may be addressed;
3. construct strategies for locating information;
4. locate and access information;
5. compare and evaluate information obtained from different sources;
6. organize, apply and communicate information to others in ways appropriate to the situation; and

7. synthesize and build upon existing information, contributing to the creation of new knowledge.

2. The Big6[1] Skills Information Problem-Solving Approach to Information Skills

Instruction

It is an information and technology literacy model and curriculum, implemented in thousands of schools – through higher education. Some people call the Big6 an information problem-solving strategy because with the Big6, students are able to handle any problem, assignment, decision or task. This bases learning around the following six steps: (i) task definition; (ii) information seeking strategies; (iii) location and access; (iv) use of information; (v) synthesis; and (vi) evaluation. Further, in order to solve an information problem of answering a research question, a student follows a research process or research steps. The steps to be followed are: (i) preparing for research, (ii) accessing resources, (iii) processing information and (iv) to transferring learning. In first step brainstorm ideas and possible sources of information are collected; topic is narrowed to make it manageable; and action plan that is how to go with the plan of research is spelt out. In second step, sources of information are identified and information collected. The third step deals with the processing of information like deciding which information is important, taking notes, etc. Then in the last step information is organised to make sense and disseminated.

Librarian and Teachers as Facilitators for Information Literacy: *Sharing the Burden*

There is no doubt that the responsibility lies not only with the librarian alone but the system in general and the educators are in fact the facilitators for information literacy programme to the masses. But, teaching faculties do not generally see librarians as full academic colleagues and, thus, have little appreciation for librarians as instructors. (Saunders, 2009). This perception arises from the fact that librarians are non-teaching staff and have no knowledge on research activities and limited teaching experience. The wrong notion or stereotype of a librarian should be avoided so that faculty and librarian can collectively co-operate for information literacy. Since the needs of, say, a Physics student will be different from that of a social science student, information literacy programmes should

1 Big6 is a six-stage model to help anyone solve problems or make decisions by using information. Some also call it information literacy, information communication, or ICT skills, or a process.

be learner centred, and discipline and subject based. Similarly, the needs of a first year degree student will not be exactly the same as those of a PhD student. The aims and expected learning outcomes of the programmes should be explicitly spelt out, and should be specific and achievable.

Webber and Johnson (2006) in a British study of key stakeholders within universities found minimal understanding of information literacy among academic administrators. While there was some discussion about information skills, administrators confused information literacy with computer literacy and hence the need arises to educate the non-teaching IT professional and the administrative staff on the basic differences between them and came up with a common agenda. As the importance of information literacy as a skill for lifelong learning has grown, librarians and faculty are beginning to realize that they share a common goal in ensuring that students acquire the knowledge and skills necessary to be information literate. To deliver their information, it needs the collaborative effort in bridging the gap. The only barrier to collaborative effort is the belief that information literacy responsibility lies solely on the librarian and the responsibility is not confined to the departmental level but rather to the whole institution.

Classroom assignments are a good component in inculcating the searching skill in the students, but the responds sometime end up with static website citation and Wikipedia in the references. Quarton (2003) describes that teaching strategies, a faculty in any discipline can use to guide their undergraduate students through the basic library research, are necessary for writing a solid research paper.

A Curricular Approach to Improve Information Literacy

The old saying *strike the iron while it is hot* truly speaks on the need to inculcate the skills needed in seeking information through incorporation of information literacy tutorial at a grass root level and refining it at a later stage of life. As information literacy is a lifelong learning process and the World Summit on the Information Society (2003, para. 29) emphasized that 'each person should have the opportunity to acquire the necessary skills and knowledge in order to understand, participate actively in, and benefit fully from, the information society and the knowledge economy'. Educator plays an important role in shaping the student information literacy skill by introducing information literacy skill in their class rooms. Some argue that information literacy is the job of a librarian, which is partly right but it is complete only when the faculty takes time in imparting them in their classroom too. Raspa and Ward (2000) point out that neither librarians nor instructional faculty can adequately teach the research process in

isolation from each other. There should be a collective effort. Students in Indian scenario are too dependent on the teachers for their information that their desire to seek information goes haywire. The problem is with the system in general where the students are spoon-fed thereby making them dependent on the teachers. Introduction of Information literacy programme from school level will empower them and make them independent in their search for information.

In order to implement higher education information literacy among the students there is a need to incorporate information literacy programme in the academic curriculum, so that the skills can be applied to real problems. Thus, it would not be a burden on students and will provide them with knowledge which will aid them in their regular course of study. Outline of the proposal would be as follows:

Table-2: Understanding and Finding of Information, Year – I

What is information? ▪ Definition ▪ Concept ▪ Need for information ▪ Characteristics of information ▪ Types of information ▪ Role of information **Information providers** ▪ Libraries & Information Centers ▪ Documentation Centers ▪ Data Centers ▪ Referral Centers ▪ Clearing Houses **Library services** ▪ Circulation, Reference, Inter library loan, Current Awareness Services, Indexing and abstracting, Online reference service, Reservation of documents, Bulletin board services	**Library sources** ▪ General books, Text books, Periodicals, Reference sources (like dictionary, encyclopedia, directory, almanac, statistical sources, atlas and maps, gazetteer, etc), CD-ROMs (like databases, encyclopedia, etc), Online sources (like websites, portals, gateways, blogs, wikis, etc) **Information networks** DELNET, INFLIBNET, IFLA, etc. **Information technology** ▪ Definition ▪ Need and objectives of IT ▪ Computer hardware basics ▪ Input and output devices ▪ Data storage devices ▪ MS-Office package ▪ Creating email accounts ▪ Sending and receiving emails, basic internet browsing through search engines

Print sources

Searching information from various types of indexes (author index, subject index, etc.)

- From electronic sources: Searching techniques,
- CD-ROM searching, online searching,
- from free and subscribed databases & websites,
- downloading, copying and printing

Practice

Library Tours

- Working hours, membership, rules and regulations
- Introduction to the staff and staff assistance
- Library sources, their organization and techniques to locate them
- Introduction to basic library services such as use of OPAC, circulation, reference services, basic internet services and reprography.

This course will help the students develop skills required in using the library sources effectively and productively on the services provided by the library. This problem solving task will also help them in:

- identification of their individual information needs
- identifying and locating relevant information
- Selection of information from reliable sources

Year – II: Organizing, Processing and Presentation of Information

Evaluation of information • Determination of the authoritativeness, authenticity, contemporaneity and reliability of the information • Avoiding plagiarism • Recognition of interrelationships among concepts • Recognition of omissions and errors in the information (if any) • Comparison of information gathered	**Organization of information** • Summarization of the information with accuracy and clarity • Organization and analysis of information • Re-examining information (if required) • Drawing conclusions based on the information gathered and its interpretation

with the original problem and adjusting strategies accordingly • Revision and of the information collected	• Providing citations and bibliographies using various styles of references like MLA, APA, Chicago manual, Harvard, etc. **Presentation of information** Formats for presentation of information (like printed text, graphical, Power Point presentation, online hosting of information)

Conclusion

This article has looked at several reasons why information literacy remains invisible in higher academia and the need to address it. This issue may be summarized with one dangerously all-encompassing statement:

Information literacy is invisible because few people recognize that there is a problem to address.

It is the nature of higher education (as undoubtedly most educational system) to perpetuate its past successes, even when the world changes, and to fail to recognize looming threats to its future. The rise of information technology has created a new informational order which is dramatically different from the old ones. Earlier, one had to make hand copied manuscript from the printing materials and used the information. But today, the need for skills to link the right information to the right situation is recognized as it should be. Librarians can only hope that academia will take up the means to help students navigate the new information age. Both librarians and teacher education faculties have a responsibility to seek each other out to begin or enhance their collaborative efforts. Strategies to encourage collaboration may include the establishment of mentoring relationships between librarians and teacher educators, the joint development of model lesson plans that incorporate IL skills that teacher educators could use as examples with their students, the initiation or expansion of librarian-presented IL sessions for faculty, or simply inviting a colleague to lunch to talk about information literacy. While progress is being made in incorporating information literacy into teacher education programmes (Duke & Ward, 2009), much still needs to be done. As evidenced by many successful collaborations, both teacher educators

and academic librarians benefit from working together to prepare future educators to be information literate and to have the pedagogical knowledge needed to teach their future new breed of students their acquired skills as well.

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Rajiv Gandhi University Research Journal
(January-July, 2012), Vol.11, No.1: 175-189
ISSN 2250-2866

Beneficiaries' Transaction Costs under Self-Help Group Bank Linkage Programme in Jammu and Kashmir: Issues and Concerns

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(Received on 25-4-2012 Accepted on 15-06-2012)

Abstract

The paper attempts to analyze functioning of SHGs and their role in income generating activities (IGAs) through self help promotion institutions (SBLP) under Swaranjayanti Gram Swarozgar Yojana (SGSY), credit operations and transaction costs incurred for availing credit through SBLP for IGAs, and to suggest policy recommendations to minimize beneficiaries' transaction cost in availing credit.

Keywords: *Transaction costs, Self-help groups, Income generating activities, Jammu and Kashmir*

Introduction

Transaction costs were first discussed in the economic literature by Ronald Coase (1937). He defines transaction costs as the costs of using the price mechanism, which includes the costs of discovering relevant prices, and negotiating and concluding contracts. Arrow (1969) defines transaction costs as the costs of running the economic system. According to Wallis & North (1986), transaction costs are the costs of processing and conveying information, coordinating, purchasing, marketing, advertising, selling, handling legal matters, shipping, and managing and supervising. Williamson (1985) defines transaction costs to in-

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clude the *ex ante* costs of drafting, negotiating and safeguarding an agreement, and the *ex post* costs of haggling, costs of governance, bonding costs to secure commitments. Davis (1986) defines transaction costs as those costs associated with "greasing markets," including the costs of obtaining information, monitoring behaviour, compensating intermediaries, and enforcing contracts. Barzel (1989) defines transaction costs as those costs involved in transferring, capturing, and protecting rights.

According to Alchian & Woodward (1988), transaction costs are the sum of the costs associated with engaging in exchange and contracting activities. North (1990, 1997), Wallis & North (1986), and Williamson (1985) have all argued that transaction costs are embedded in layers of governance structures. Transaction costs arise from the coordination of exchange among actors. They include the costs of obtaining and processing information (Hayek, 1945; Alchian & Demsetz, 1972; Hoff & Stiglitz, 1990), negotiating contracts (Coase, 1937; Williamson, 1985), monitoring agents (Bardhan, 1989; Cheung, 1968; Eswaran & Kotwal, 1985), and enforcing contracts (North, 1989; Milgrom, North, &Weingast, 1990; Greif, 1993; Fafchamps, 1996).

Randall (1972) defines transaction costs to include the cost of obtaining information, establishing ones bargaining position, bargaining and arriving at a group decision and enforcing the decision made. Dahlman (1979) separates transaction costs into search and information costs, bargaining and decision costs, and policing and enforcement costs. Transaction costs involve the costs of information, search, negotiation, screening, monitoring, coordination, and enforcement. Transaction costs vary by individual, leading to heterogeneous market behaviour (Bardhan, 1989; Sadoulet & de Janvry, 1995). Transaction costs refer to the time, effort, and resources needed to search out, initiate, negotiate, and complete a deal (Lile, Powell, & Toman 1999). Stavins (1995) made three groupings: search and information (which included project development and marketing) costs; bargaining and decision costs; and monitoring and enforcement costs. Dudek & Wiener (1996) comprehensively divided transaction costs into six categories: search, negotiation, approval, monitoring, enforcement, and insurance. In broad terms, transaction costs have been defined in terms of establishment/development costs and on going/implementation costs.

With above backdrop, an attempt has been made to analyze the functioning of the SHGs and their role in income generating activities (IGAs) through SBLP under *Swaranjayanti Gram Swarozgar Yojana* (SGSY), the credit operations and the transaction costs incurred for availing credit through SBLP for (IGAs), and to suggest policy recommendations to minimize beneficiaries' transaction cost in availing credit through SBLP for IGAs.

Data and methodology

The study has been confined to two blocks viz. Jammu and Udhampur of Jammu and Kashmir State. The sample size has been restricted to 66 members of SHGs linked to banks under SGSY for operationalising IGAs like rural trade (8 and 13 respectively in Jammu and Udhampur), dairy (7 and 21 respectively in Jammu and Udhampur), and poultry (13 and 4 respectively in Jammu and Udhampur). Structured questionnaire survey, participatory rural appraisal (PRA) and focus group discussion (FGD) methods have been used to collect primary data and information. PRAs and FGDs have been conducted to examine the process involved in operationalising IGAs through SBLP under SGSY. A conventional economic analysis has been integrated into PRA to estimate transaction costs involved in operationalising micro enterprises through SBLP. The data and information collected has been analyzed using descriptive statistics. A participatory economic analysis approach has been applied to estimate transaction costs.

Analysis of results

SHGs and IGAs: Under the self-employment scheme of SGSY, the social mobilization of the rural poor has been given importance before providing them the assistance to initiate IGAs, for which SHGs have been formed. These groups promote savings among members and use the pooled resources to undertake IGAs. The block development functionaries are supposed to provide them all the necessary guidance to select the activity to be undertaken by the SHG and link them with bank credit and market. In order to evolve a mechanism for channelising credit to the rural poor to initiate IGAs on sustainable basis, the SBLP is emphasized. SHGs so formed are encouraged to borrow from the banks as a group. The default of the bank credit by one member is the responsibility of all the members. Before applying for the bank credit, the SHGs have accumulated savings from individual member's contribution. There is provision of revolving funds to be used on rotational basis by the members on pre-determined norms but without any rate of interest. In this way, SHGs are able to provide banking services to its members, which is cost-effective and flexible. Linking SHGs to banks helps in overcoming the problem of high transaction costs to banks in providing credit to the poor by transferring some banking

responsibilities to the poor members of the SHGs. The operation of IGAs through SHGs has significant advantages to its members, which needs to be maximized by promoting more and more SHGs based IGAs.

Nearly 64 per cent and 68 per cent of the SHG were formed after 2005 in blocks of Jammu and Udhampur respectively. Thus, the emergence of group lending under SGSY is a recent phenomenon. Earlier, more emphasis was paid on individual beneficiaries. However, even now the beneficiaries preferred more IGAs on individual basis than collective basis, whereas the project implementing agency is emphasizing more and more on group based IGAs. SHGs were formed not in isolation, but with active help and support of village headmen, block development office (BDO), NGO and others. In block Jammu, village headmen (46.42 per cent) followed by NGO (21.42 per cent), others (17.85 per cent) and BDO (14.28 per cent) have played their part in forming SHG to take up IGAs. However, in block Udhampur, NGO (31.57 per cent) followed by village headmen and BDO (28.94 per cent each) and others (10.53 per cent) have played their role in forming the group of beneficiaries. Thus, the role of BDO and related functionaries have been minimal in forming SHG, which needs to be strengthened to effectively implement the scheme for more employment and income generation in rural areas.

Majority of the leader of the SHG has been the female member of the group in both the blocks (more than 60 per cent and 81 per cent in Jammu and Udhampur respectively). This is very encouraging and needs to be promoted more and more so that women should play their part in livelihood enhancement very effectively and the dream of women empowerment should be realized through SBLP in rural context. In block Jammu, none of the member of SHG belongs to general caste, whereas in block Udhampur, none of the member of the group belongs to scheduled caste category. Actually, SHGs were promoted across the cohesive social groups with representation of one-third of the women. The ex-servicemen were also given their due share in the membership of SHGs.

SHGs were saving modestly up to more than Rs. 5000 per year. In block Jammu, one-half of them were saving in the range of Rs. 3000-4000 and one-tenth of them were saving more than Rs. 5000. One-fourth of them were also saving below Rs. 3000. In case of block Udhampur, none of the group was saving below Rs. 3000. Significantly, nearly three-fourth of them was saving to the tune of above 4000 and one-third of them were saving more than Rs. 5000. The frequency of savings with the SHG ranges from weekly duration to yearly. However, bi-annual saving is the dominant period of saving on the part of members of SHGs in both the blocks (35 per cent and 44 per cent respectively in Jammu and Udhampur). Thus, there is need to encourage monthly savings on the part of the members of SHGs, so that more savings could be realized. This may be used for welfare of its members and promoting the enterprises being undertaken by the beneficiaries under SGSY. Nearly 64 per cent and 60 per cent of the members of SHG were regular in their saving with the SHGs in blocks of Jammu and Udhampur respectively. Not only the periodicity but also the regularity in savings by SHG members is important in sustainability of the savings and its effective disbursal to the needy members. Thus, there is need to improve the regularity of savings by the members of the SHGs.

Main places of savings of SHGs were reportedly post office, nationalised banks, rural banks,leader of SHG and other sources. However, one-third and one-fifth of them were saving in rural banks respectively in blocks of Jammu and Udhampur. High incidence of savings with leader of SHG reflects higher confidence imposed in him or her by the members of the group. It also facilitates easy accessibility, deposits and withdrawals. However, sometimes it deprives them of the market rate of interest, as the accumulated funds are being used for inter-loaning on rotational basis among the members themselves. No single member of the SHG possesses the pass book of his/her savings, but it is possessed by group as a whole on collective basis. This is true for both the blocks.

Nearly 57.14 per cent and 26.32 per cent of the members of SHGs were borrowing from the SHG savings in blocks of Jammu and Udhampur respectively. Thus, there is need to propagate more and more internal borrowing among the members to meet enterprise related contingencies or other social and economic contingencies. Interestingly, the system of borrowing from the SHG is a recent phenomenon like the formation of SHGs themselves. There has been spurt in borrowing from SHGs after 2005 than before that period. This is not at all surprising, as the emergence of SHGs is a new phenomenon in the rural areas of Jammu and Kashmir. Amount of money borrowed by the members of the SHGs is reportedly not very high. In majority of the cases, it is higher than Rs. 5000 per beneficiary in the selected blocks. In some cases, the SHGs also facilitate in extending loan to the needy members for an amount lesser than Rs. 5000 too. This is required to meet emergent contingencies by the members.

Members of the SHGs were charged interest for raising the borrowing from the group. In three-fourth of the cases in block Jammu, they were charged with

lower than market rate of interest. This proportion is quite high in block Udhampur. Nearly 90 per cent of the borrowers were charged less than market rate of interest for raising loan from SHG. In block Jammu, the main reasons cited for borrowing money from SHG were to meet enterprise related expenses, and household, religious, social and other expenses. In block Udhampur, none of the borrowers has raised the money for meeting social and other expenses. Majority of the borrowers from SHGs have repaid less than Rs. 5000 in both the blocks. In some cases, the borrowers have repaid the entire amount whatsoever they raised from SHGs. This is true for both blocks of Jammu and Udhampur. This reveals that members of the SHGs are earning sustainable income as a part of the same has been used for repaying the debt raised from SHGs.

In block Jammu, the SHG consists of members up to 20 persons, whereas in block Udhampur the membership of SHG was restricted up to 10 members only. Some members of SHGs were also involved in enterprises on individual basis. Their number is comparatively more in block Jammu than in block Udhampur. Members of the SHGs have invested significantly from their own sources for development of IGAs. Majority of them have invested more than Rs. 5000 for IGAs from own sources and their proportionate share stood at 71 per cent and 81 per cent respectively in blocks of Jammu and Udhampur. This clearly reflects the seriousness on the part of the members of SHGs to take up an enterprise for generating income and deriving livelihoods. The enterprises undertaken by SHGs under SGSY have received less than Rs. 50000 in both the blocks irrespective of the type of IGA undertaken by the beneficiaries as individual or group. Similarly, a SHG has received a subsidy to the tune of less than Rs. 15000 irrespective of the enterprise initiated across the selected blocks. Actually the members perceived that more the number of members involved in a SHG to undertake an enterprise, more would be the subsidy. However, this has not been realized in actual practice. All of them – whether initiated the enterprise in group or individual basis - have been given the flat subsidy. This is highly undesirable and needs to be rectified on priority by the project implementing agency.

Besides financial assistance, other types of help are also available under SGSY for operating the scheme by SHGs. This includes training, raw materials, machinery, marketing, and financial management. None of them has received machinery assistance in any of the blocks. In block Jammu, raw materials and marketing support have also not been provided to any beneficiaries through

SHGs. Some of the members of the SHGs have received general training including financial management.

Majority of the members of the SHGs have outstanding loan up to more than Rs. 15000, which is true in both the blocks. Over the period, they have repaid a significant proportion of the debt raised for enterprise development. They perceived that in coming months they would be able to clear of most of their debt. However, the current slowdown is affecting the performance of their IGAs adversely. The outstanding financial liability on the part of the individual member of SHG/beneficiary is comparatively less. Nearly 82 per cent and 73 per cent of the individual members of SHGs have outstanding debt to the tune of less than Rs. 15000 respectively in blocks of Jammu and Udhampur.

Credit operations: Average amount of loan sanctioned and disbursed was different for different enterprises in both blocks (see table 1). The subsidy received by the entrepreneurs was higher than the margin money contributed except rural trade and poultry in block Jammu, whereas in block Udhampur the margin money contributed in all types of IGAs are higher than the subsidy received under the scheme. None of SGSY beneficiaries has opted for annual repayment of loan. The monthly repayment of installment of loan is quite high and more prevalent, more in block Udhampur than in Jammu. SGSY beneficiaries have repaid the loan raised to run the enterprises undertaken. However, some of them have failed to deposit the loan installment in time due to numerous reasons. Average amount of loan repaid, outstanding and overdue stood are shown in table 2. The difference between average amount of loan repaid and outstanding is low for poultry (minus Rs. 3000) in block Jammu and (Rs. 1960) in block Udhampur.

Various reasons cited for overdue of loan by SGSY beneficiaries include repayment of old debt, sold out assets of schemes, low income generation from the scheme and asset decayed; scheme could not be started due to lack of infrastructure, etc. In block Jammu, repayment of old debt and low income generation from scheme are two potent reasons for overdue of loan by SGSY beneficiaries. Lack of infrastructure for initiation of the scheme was the main reason for overdue of loan by SGSY beneficiaries in block Udhampur. Main source of repayment of full/part of the loan raised by SGSY beneficiaries were income from the scheme, self saving, borrowing from private sources, etc. Income from the scheme and self saving are two major sources of repayment of loan by SGSY beneficiaries in both the blocks.

Table 1: Loan sanctioned and received

Enterprise	Jammu			Udhampur		
	Average amount of loan sanctioned (Rs.)	Average amount received (Rs.)	Difference (Rs.)	Average amount of loan sanctioned (Rs.)	Average amount received (Rs.)	Difference (Rs.)
Rural trade	44000	40000	4000	42000	37000	5000
Dairy	47000	42500	4500	39000	37000	2000
Poultry	42000	40500	1500	41000	39000	2000

Table 2: Loan repaid, outstanding and overdue

Enterprise	Jammu				Udhampur			
	Average amount repaid so far (Rs.)	Average amount outstanding, if any (Rs.)	Average amount overdue, if any (Rs.)	Difference between average amount repaid and outstanding (Rs.)	Average amount repaid so far (Rs.)	Average amount outstanding, if any (Rs.)	Average amount overdue, if any (Rs.)	Difference between average amount repaid and outstanding (Rs.)
Rural trade	18600	25400	6540	6800	12450	29550	6750	17100
Dairy	14200	32800	4390	18600	14690	24310	3285	9620
Poultry	22500	19500	4670	-3000	19520	21480	3325	1960

Beneficiaries' transaction costs: SGSY beneficiaries were identified through baseline survey, block development officer, village level workers, block officials, panchayat officials, self efforts and friends. In block Jammu, majority of the beneficiaries have been identified through block development officer, village level workers, bank officials as well as panchayat officials. Surprisingly none of the beneficiaries has been identified through baseline survey. In block Udhampur, baseline survey has also been conducted to identify SGSY beneficiaries. In case of dairy, a significant proportion of beneficiaries have been self identified the enterprise under the scheme. Overall, the identification of beneficiaries through panchayat, friends and self is least cost than identifying the beneficiaries by baseline survey and through government and bank functionaries. As none of the beneficiaries in block Jammu has been identified through baseline survey, and friends, panchayat and self identification have played a greater role in identification of the beneficiaries, the transaction costs have been minimized in block Jammu compared to Udhampur on account of identification of SGSY beneficiaries.

Transaction costs of operationalising IGA through SBLP under SGSY is also influenced by time gaps between identification of beneficiary and application, sanction and disbursal of loan and disbursal of subsidy, if any. In case of nearly three-fourth and less than two-third of the beneficiaries in blocks of Jammu and Udhampur respectively, the time gap between identification of beneficiaries was less than 6 months, which needs to be reduced further to minimize the transaction costs associated. Comparatively, the time taken in identification and application of loan is smaller in block Jammu than in block Udhampur. Thus, lower transaction costs were incurred in block Jammu for operating SBLP. Similarly, a considerable time has been taken between application and sanction of loan. In both the blocks, more than 40 per cent of loan applications have been sanctioned in four months and more than 80 per cent of the loan applications have been sanctioned in less than 6 months. Significant variations have been noticed in case of different IGA across the blocks of Jammu and Udhampur.

The time gap between sanction of loan and its disbursal is reportedly lower: less than 2 months in one-half of beneficiaries and less than 4 months in case of more than three-fourth beneficiaries. In some cases, the time taken for disbursal of loan amount was up to 6 months and even more than 6 months also, which is a serious issue and needs to be reduced. Overall, there has been significant gradual reduction in time between identification of beneficiaries, filing of applications,

sanction and disbursal of loan. Thus, transaction costs becomes smaller and smaller when the intended beneficiaries moves from one step to another in availing the benefits of SBLP under the scheme of SGSY. The whole process of identification to disbursal of loan took on an average of nearly 2 months to more than one year and sometimes even more than one year.

The beneficiaries were asked to reveal whether subsidy and loan amount were released together. In block Jammu, 60 per cent of the beneficiaries received both the loan and subsidy together, whereas proportion of such beneficiaries stood at one-half in block Udhampur. Thus, there is need to disburse both the loan and subsidy amount in one installment to the beneficiaries so that they should utilize the amount effectively for operating the enterprises. Were beneficiaries consulted for showing preference for any particular scheme? In blocks of Jammu and Udhampur, 72 per cent and 57 per cent of the beneficiaries respectively were consulted for giving their preference for any particular scheme. Thus, a significant proportion of the beneficiaries were running their enterprises without their preferences. These enterprises were entrusted on them by implementing agencies, which may be due to achieving targets of particular group of enterprises.

Whom did they consult for expressing their preference for any particular scheme? The beneficiaries have consulted block development officials, banks officials, panchayat officials, middle men and others for showing their preference for a particular enterprise. In block Jammu, panchayat officials followed by middlemen, block officials and bank officials were consulted for showing their preference for an enterprise. In block Udhampur, block officials followed by bank officials and panchayat officials were consulted more for showing their preference for a particular enterprise. Nearly 64 per cent of the beneficiaries have got the scheme of their choice in block Jammu, whereas in block Udhampur such proportion of beneficiaries stood at 47.31 per cent. The main reasons cited for declining the choice of IGA by the prospective beneficiaries were related to the viability, suitability, and cost-effectiveness of the enterprises proposed by the beneficiaries. Some of them even did not know the reasons of declining of the preference for a particular IGA.

Did you make application yourself? Less than one-third of the beneficiaries reported in positive and more than two-third of them have sought assistance in

filing applications for loan through SBLP under SGSY. This is not at all surprising given the low educational attainment of the beneficiaries, which is equally true in both the blocks. Who helped them most in getting the scheme? They had got the help from numerous persons in getting the scheme, which includes block officials (32.16 per cent), bank officials (20.27 per cent), panchayat officials (25.87 per cent), middle men (11.18 per cent) and other (10.48 per cent) in block Jammu. Similar is the situation in block Udhampur with minor variations.

Total transaction costs incurred by the beneficiaries have been estimated by adding the monetary value of time incurred on number of visits to block office and bank using shadow price of the wages foregone, hush money paid, if any including average imputed value of wages foregone. The beneficiaries have visited the block office a number of times for getting all sorts of queries, knowledge, and information regarding the scheme so that they may be able to understand the main guidelines of the programme, for which they have incurred significantly on travel related expenses. They have also traveled to the block office for getting their application forms filled in, approved and recommended as beneficiaries for sanction of loan by the banks. Likewise, they have also visited the banks a number of times, for smooth approval and sanction of loan, release of first and subsequent installments. Therefore, the beneficiaries have also incurred travel expenses on account of visit to banks for operationlising the scheme. Not only this, it has also been revealed by the beneficiaries that they have paid huge sum of money as hush money to smoothen and speed up the approval and sanction of loan. They were compelled to do so because of delay tactics and non-cooperative behaviour of both block functionaries and bank officials.

This is shown in table 3, which reveals that average transaction costs of availing an enterprise through SBLP under SGSY stood higher in block Jammu compared to block Udhampur. It is significant to note that the transaction costs shown in table 3 related only to the beneficiaries, but not that of bank and/or project implementing agency, which has not been estimated in this study. If we add together the transaction costs incurred by beneficiaries and the bank and/or project implementing agency, it could be much higher than the level of transaction costs shown in table 3. Transaction costs differ from enterprise to enterprise. For example, poultry has the highest transaction costs (Rs. 9594) and rural trade has the least transaction costs (Rs. 8275) in block Jammu.

Table 3: Transaction costs in availing loan under SGSY

Enterprise	Average number of visit to block	Average number of visit to bank	Expenditure (per trip/Rs.)	Hush money paid, if any (Rs.)	Average imputed value of wages foregone (Rs.)	Total Transaction costs incurred (Rs)
Jammu						
Rural trade	6	4	75	7500	700	8275
Dairy	7	5	67	8625	840	9172
Poultry	5	5	94	9500	-	9594
Udhampur						
Rural trade	5	4	135	4685	-	4820
Dairy	6	7	154	6570	-	6724
Poultry	5	6	78	6400	-	6478

The behaviour of the block officials towards the beneficiaries has a significant role in improving the performance and minimizing the transaction costs in operating the scheme. One-tenth of the beneficiaries reported the behaviour of block official as bad in block Udhampur against nearly 6 per cent in block Jammu. One-third and one-fifth of the beneficiaries from blocks of Jammu and Udhampur reveal the behaviour of block officials as very good and nearly 30 per cent of beneficiaries reveal their behaviour as good and rest as normal. Similarly, perceptions of beneficiaries on behaviour of bank officials were also ascertained. More than one-tenth of the beneficiaries reveal the behaviour of the bank official as bad. In rest of the cases, they reported their behaviour as very good, good or normal. More or less similar is the situation in both blocks.

Suggestions for programme interventions

The following suggestions for programme interventions will go a long way in accelerating the growth of IGAs to cope with the emerging environment and minimise the beneficiaries' transaction costs:

Special attention should be paid towards enterprise clusters which can lower transaction costs, help realize external economies and lower the cost of credit.

NGOs should be promoted to supply a host of enterprise services which were earlier delivered by state owned institutions. On equity considerations, poorest of the poor including women, vulnerable and disadvantaged groups should be given due share in the promotion of the IGAs under SGSY without contribution of any margin money.

Availability of timely and adequate credit is the lifeline for the micro enterprise sector. Mismatch of the short term with long term loan and delayed working capital decisions give birth to sick units from day one. It is, therefore, essential to have a package of credit assistance programme starting from equity/seed capital support, followed by support for augmenting promoter's contribution, long-term loan and working capital, etc.

Since SHG is in the core of SBLP model, philosophy of SHG must be respected. SHG is a slow process. Lot of time needs to be spent on formation, nurturing and monitoring of the SHGs. Investment credit for asset creation and income generation are not the main objectives behind SHGs. In SHG, credit is not supply-led but demand-led. SHGs must be allowed to mature first with thrift collection, internal lending, record maintenance, fund management, and problem solving. Target must not be 'number of groups' formed or 'amount of credit disbursed' or 'amount of subsidy released' but 'number of groups matured'. Credit is expected to follow as a natural process.

Credit constitutes the most crucial component of SGSY. Its role in strengthening livelihoods of the members of SHGs depends on supply of credit along with credit plus services as well as credit worthiness of SHGs. Concerted efforts should be made to ease these constraints operating on credit supply as well as credit absorption. Given the banking sector reforms introduced in the post reform period, banks are oriented more towards profit making rather than fulfilling social obligations. It may not be feasible to direct credit distribution of Scheduled Commercial banks beyond priority sector obligations. However, there is substantial scope for improving credit flow to SGSY provided priority sector guidelines and RBI regulations are effectively implemented. There should be effective enforcement of the banks' requirement to achieve the sub-targets both under agriculture and weaker sections.

NGOs must serve as 'Eyes and Ears' of the micro enterprise sector because this sector is not in a position to develop the network unlike their Big brothers, on their own. Thus, informatics network at district and block levels must be put in place. Today, knowledge is the most effective power. This network may be

used for all types of communications and information dissemination to create awareness, provide economic and market intelligence data, and for market forecast, and sector-wise future demand pattern, etc.

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Rajiv Gandhi University Research Journal
(January-July, 2012), Vol.11, No.1: 190-195
ISSN 2250-2866

Environmental Awareness and Attitude towards Environmental Education among the Senior Secondary School Students of Papumpare District of Arunachal Pradesh

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(Received on 10-04-2012 Accepted on 11-4-2012)

Abstract

Our natural resources are being depleted and environmental degradation is increasing because of our unsustainable patterns of production and consumption, uncontrolled population growth, and inequality of social and economic distribution. At present, everyone knows and acknowledges environmental problems but comparatively few people truly understand and are aware of an importance of the environment. It is difficult and time consuming to persuade other people to appreciate the value and worth of the environment. These call for public awareness and participation for bringing about an attitudinal change and finally restricting further damage to the environment. The purpose of this paper is to examine the level of awareness and attitude towards environmental education among the Senior Secondary level students of Papumpare district of Arunachal Pradesh.

Keywords: *Environment, Environmental Education, Attitudes, Awareness, Checklist*

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Introduction

The alarming growth rate of global population on the one hand and increasing basic and luxury needs of humanity on the other consequently result in fast environmental resource consumption and pollution. Environmental problems have no national or regional boundaries; rather it is a global problem facing the entire humanity. It is imperative to understand the causes and effects of these problems and devise ways and means for their solution and prevention. These call for public awareness and participation for bringing about an attitudinal change and finally restricting further damage to the environment. Effective implementation of environmental management and conservation programmes depend on education, awareness in raising and training in the relevant areas. To do this task, Environmental Education has to play the vital role of building public awareness. Environmental education at every level of education may be an appropriate way to help us to face our environmental problems.

The concept of environmental education has emerged from the Stockholm Conference organized by the United Nation in 1972. The Recommendations of the conference strongly emphasized on 'formal' and 'mass' environmental education programs to be implemented at different levels through several modes. In response to this, UNESCO-UNEP launched the International Environmental Education Programme (IEEP) in 1975 whose objective was to promote exchange of information, experience, research, curricula and international cooperation in the area of environmental education. Besides these, there was an international workshop which was held in Belgrade in 1975, and emphasized that environment education should be lifelong, interdisciplinary, involve active global participation and foster values of local, national and international cooperation. In the context of propagation of proper education towards environment an Inter-governmental Conference was organized at Tbilisi, USSR in 1977, by UNESCO which resulted in the famous Tbilisi Declaration to consider environmental education. The Tbilisi Conference recommended about the development of necessary skills, knowledge, values, attitudes and understanding among individuals and social groups on the environmental problems. It also emphasized the pre-service and in-service training of teachers in environmental education. The basis of such a training programme would be the preparation of teaching learning materials and adoption of interdisciplinary approach. In view of the above points the importance of environmental awareness and attitudes cannot be ignored. There is the necessity of determining the level of awareness and attitude towards environmental education. Authentic studies conducted in these areas

will be useful one. When the related literature were examined there has not been any study investigating students' awareness and attitudes towards environmental education in Papumpare district of Arunachal Pradesh. Taking this into account and its relevance in context of Papumpare district of Arunachal Pradesh the present study undertaken by the investigators was to know the awareness about environment and attitude towards environmental education among the Senior Secondary Students. The findings of the study will be useful in fulfilling a gap in the related field and planning awareness programme in the state.

Objectives of the Study

The objectives of the study were: (i) to asses the level of awareness among the Senior Secondary School Students about environment in Papumpare District of Arunachal Pradesh; and (ii) to compare the attitude of Senior Secondary school boys and girls towards environmental education.

Hypothesis

In view of the cited objectives, the following hypothesis is formulated:

- There is a significant difference in the attitude of Senior Secondary school boys and girls towards environmental education.

Methodology

- **Design:** Since the purpose of the present study was to assess the level of awareness and compare the attitude of students towards environment and environmental education, henceforth, the investigators used descriptive cum survey method which enabled them to determine environmental awareness and attitude towards environmental education among the senior secondary students of Papumpare District of Arunachal Pradesh.
- **Sample:** A total of 60 senior secondary school students studied during the academic session 2010-11 were drawn through random sampling procedure pertaining to the awareness and attitude variables. The selected sample of 60 students included 30 boys and 30 girls in the present study.
- **Tools:** In the present study the investigators used an "Attitude scale" developed by Kapoor (2002) to measure the attitude of senior secondary students towards environmental education. The attitude scale consists of 34 statements and each statement of the scale has Likert type four point alternatives such as "Strongly Agree", "Agree", "Undecided", "Disagree", and "Strongly Disagree". The investigation also developed a

checklist and used to assess awareness about an environment. The checklist consists of 15 items having two options as "Yes" and "No".

- **Data Collection Procedure:** The data were collected individually from 60 senior secondary students of Papumpare District by trying out the attitude scale and checklist. Before administering the scales, necessary instructions were made and the ambiguity of the subject was clarified.
- **Analysis and Interpretation:** To examine the students' awareness about the environment and measuring the attitude towards environmental education the investigators adopted simple percentage and inferential statistics as 't' test and their results have been put in tables 1 and 2.

Result

Table 1: Showing the Scores of Students on Environmental Awareness

Sl. No.	Areas	Yes (%)	No (%)
1.	Population growth	20	80
2.	Deforestation and Shifting cultivation	80	20
3.	Excessive consumption	80	20
4.	Air pollution	100	-
5.	Awareness campaign through mass media to protect environment	80	20
6.	Environmental degradation leads to global warming	100	-
7.	Plant more trees	60	40
8.	Recycling of paper to preserve environment	100	-

An examination into the table 1 indicates the responses of students' awareness about environment. The above cited table also reveals that only 20 per cent students agreed that population growth is one of the factors for environmental degradation, whereas 80 per cent of respondents gave their responses that deforestation and shifting cultivation are harmful for environment. It was also found that all the students agreed that air pollution is one of the major causes of environmental degradation. Moreover, 80 per cent students responded that awareness campaign through mass media is the best way to protect environment and majority of the students were greatly worried that environmental degrading leads to global warming. Further, 60 per cent students are in favour of planting more trees, whereas all the students agreed that recycling of paper is one of the best

ways to protect environment.

Apart from this analysis, the above table 1 depicts that majority of senior secondary school students of Papumpare district had sufficient knowledge about environment. They are also well aware of the environmental problems and means to protect it. However, it appears that the students could not relate environment with population growth, as it is revealed in their response that only 20 per cent agreed population growth as one of the major causes of environmental degradation. From this short interpretation, it can be deduced that any environmental programme needs to address population growth and its impact on environment. The findings of the study also reveal that 60 per cent students agreed on tree plantation as a means to protect environment. This merely indicates that almost half of the sampled students are yet to be made aware of importance of tree plantation. In this context this paper identified two major areas that need to be addressed in any environmental awareness programme in order to develop awareness about the environment.

Comparison of the Attitude towards Environmental Education among the Boys and Girls of Senior Secondary School in Papumpare District

A glance into the table 2 depicts that the computed 't' value came out to be (3.61) which exceeds the criterion 't' value (2.00) at .05 level of significance for df 58. As the calculated 't' value is > the table 't' ratio and significant at the particular level of significance, therefore, the formulated hypothesis which states that "There is a significant difference in the attitude of Senior Secondary School Boys and Girls Towards Environmental Education" gets retained. From this analysis, it can be comprehended that in true sense, there does exist difference between the attitudes of Senior Secondary Boys and Girls of Papumpare District towards environmental education. Since the mean difference is found in favour of the boys, hence, it can be generalised that the Senior Secondary School Boys of Papumpare District have favourable attitudes towards environmental education as compared to the attitudes of girls in the concerned area.

Table 2: Summary of the 't' value of Attitude Scores of Senior Secondary Students - both Boys and Girls

(Attitudes Towards Environmental Education)

Group	N	Computed 't' value	Table 't' value	df	Remarks
Boys	30	3.61	2.00 at (.05 level of significance)	58	P > .05
Girls	30				Significant

Discussion

In a nut shell without any iota of doubt, it can be said that knowledge, conscious and attitude levels of students play a vital role towards environment and its protection. It can also be emphasised here that if more students have positive attitudes towards environment there is less occurrence of environmental problems. The result also reveals that majority of the students have sufficient knowledge about environment. They are also well aware of the environmental problems and means to protect it. Besides these, the result reveals that boys have more favourable attitude towards environmental education as compared to girls. The differences between the attitude of boys and girls towards environmental education might be due to the factors like settlement, socio-economic status and influence of mass media, which needs further investigation. Further, the present study supports the study conducted by Davidson and Freudberg (1996), Burger et al, (1998), Aydin Cepniln (2010) that gender has a high effect on environmental attitudes and behaviours. At last the present study focuses that more involvement of secondary level students need to be encouraged in social activities like- tree plantation, protection of environment, etc. so that their knowledge and attitude can be translated into making the society more environment friendly, healthy and socially viable.

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Rajiv Gandhi University Research Journal
(January-July, 2012), Vol.11, No.1: 196-203
ISSN 2250-2866

Situating Historical Writings on Indian Nationalism

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(Received on 09-06-2012 Accepted on 23-07-2012)

Abstract

The history of Indian nationalism has been one of the most contested domains in the historiography of modern India. While there are historians who see in Indian nationalism a creative surge to free the people from the colonial yoke, others see the National Movement for such freedom as both conceptually and ideologically untenable in the Indian context. However a closer look and analysis reveals that Indian nationalism was a product of the objective conditions created during the colonial rule and their subjective realisation by the people.

Keywords: *Nationalism, National Movement, Colonial, Primordial loyalties, Marxist, Nationalist, Subaltern, Communalism.*

The history of Indian nationalism has been one of the most contested domains in the historiography of modern India. While there are historians who see in Indian nationalism a creative surge to free the people from the colonial yoke, others see the National Movement for such freedom as both conceptually and ideologically untenable in the Indian context. They tend to argue that in such a shapeless country as India is, with its admixture of societies, politics has always been structured around primordial markers like religion, caste, community or factions, and motivated by self-interest. Therefore, it is implied that the idea of a common 'Indian' National Movement is alien to such a society.

There is set of historians who tend to see the National Movement in India against colonialism as merely an assertion of the elites. The National Movement for

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them was not a people's movement but a product of the needs and interests of the elite groups, who wanted to further their own interests or the interest of their respective groups defined in terms of their "primordial loyalties, 'prescriptive group identity", etc. The elite groups, their needs and interests, provided the basis for what came to be defined as the idea of nationalism. Nationalism was thus an instrument and primarily an ideology which the elite groups used to legitimize and further their narrow interests and ambitions. The earlier British administrators like Lord Dufferin, Lord Curzon, and writers like Valentine Chirol and many others had argued in the late nineteenth and early twentieth century that it were the frustrated educated middle classes which for its own factional or sectional or local interests used nationalism to fight the 'benevolent Raj'[1]. The later day historians, such as J. Gallagher, Anil Seal, C.J. Baker and some others have expanded this line of argument further. (Seal, 1968; Also see Johnson, et al.,1973; Baker, et al., 1981). Anil Seal (1968:342) developed the notion of the entire National Movement as representing the struggle of one elite group against another for seeking favours from the British.

Their analysis of the National Movement is premised on the denial of the basic contradiction between the interests of the Indian people and that of British colonialism and the centrality of this contradiction in giving birth to the National Movement. They deny the existence of colonialism as an economic, political, social and cultural structure in India. For many of them colonialism was merely a foreign rule, and quite often this rule is seen as a natural succession to the Mughal rule. There is a denial in their analysis, of the fact that the economic, social, cultural and political development of India required the overthrow of colonialism. And it is here that they vehemently argue against any claim that Indian National Movement represented a common site of the Indians to contest colonial rule. As such, to this group of historians, generally known as the Cambridge school of historians, the Indian struggle against imperialism seems to be a mock battle. (ibid., 351).

One of the basic premises of Seal, Gallagher and others has been the idea of formation of local elites and their role in the formation of an all India elite. They argue that with the expansion of the British administration to the localities and provinces the local potentates started organizing politics by acquiring clients and patrons, whose interests they served and who in turn served their interests. This

1 Dufferine, Marquis of, and Ava, *Speeches*, Calcutta, 1889; Lord (of Kedelston) Curzon, *Speeches*, vol. I-IV, Calcutta, 1900.1902, 1904, 1906; Chirol, V., *Indian Unrest*, London, 1910.

led to a relationship close to patron client model. Politics in India thus developed along this patron-client relationship. Gradually, bigger leaders emerged who acted as brokers to link together the politics of these local potentates. Eventually, all-India brokers emerged as the British rule encompassed the whole of India. In order to operate successfully these all-India brokers recruited province level brokers and contractors. Later all India leaders like Gandhi, Nehru, Patel, and Rajendra Prasad would be seen in these writings as more or less the chief brokers. These brokers would cleverly use existential grievances such as war, inflation, disease, drought and depression, which quite often had nothing to do directly with colonialism, to hoodwink the masses to involve them in this factional struggle.

There is also a bid to deny legitimacy to the people's struggle and thereby the National Movement in which people participated in millions. The notion of empire is kept at centre-stage to argue further that independence was the benevolent handiwork of the British rulers. There has also been argument from some historians from this quarter that the end of the empire came not because of the success of people's movement but owing to the fact the British imperial interests in India had declined and India no longer served its role in the maintenance of the imperial interests. India, therefore, had become a liability over the years. (Johnson & Seal, 1981: 387-414; and Tomlinson, 1982: 58-72 & 1975: 331-52). In fact, it has been argued that it was Britain, which had to foot the bill for India's defense during the Second World War[2].

The categories of nation, class, mobilization, ideology, etc., which have been used to analyze revolutionary processes and National Movements in Europe, Asia and Africa have found no place in this historiography. The Indian National Movement, as Seal had already argued, was a mock struggle, a sham fight, for factional supremacy among the local elites. The fact and the reality of colonial exploitation are by implication denied to have any role in political mobilization. By such a denial of the existence of the colonial exploitation and the consequent underdevelopment, the central contradictions in the relationship between the colonial and the colonized, this school also does not admit of any idealism on the part of those who sacrificed their lives for the anti-imperialist cause. Not only was there no idealistic, intelligent and active role given to the mass of workers,

2 This view has been seriously questioned. On the contrary it has been argued that towards the end of the British rule and especially during the war British imperial control was intensified and the economic exploitation of India increased manifold. (See Mukherjee, 1986:239-82).

peasants, lower middle class in such historiographical treatments, the dawn of independence too has been seen as something bestowed or merely a withdrawal, 'decolonization", i.e., as something which happened because India had lost its position in terms of its utility to the empire. Here when the masses were actively struggling for independence many of them concentrated on the developments in Britain. (Potter,1973 :47-73).

A number of books and biographies that fall within what one may refer to as the nationalist school of historiography do recognize the existence of colonialism and its exploitative character and treat nationalism as emanating from its evils. Recognizing the central contradiction of Indians with colonialism, they argue that India was under the process of becoming a nation and the National Movement was the movement of the people. (Tarachand, 1972; Datta, 1957 & 1958).They however tend to ignore and underplay the inner contradictions of the Indian society in terms of class and castes. They also are entangled in the constitutional negotiations and the positions taken up by the British, the Congress and the other political groups, paying little attention to the mass upsurges.

Marxist historians have provided an important corrective to both the Cambridge and the nationalist historiography of the National Movement. Marxist historians have seen the operation of the colonial system and the resultant movement from the Indians as the core of historical phenomenon in modern India. They also, at the same time, try and locate the class contradictions within the Indian society. They have been successful in bringing to history-writing 'people', their movements, and their ideas which the Indian leadership had succeeded in bringing to the movement. (Dutt, 1986; Desai, 1959; Chandra, 1966; Chandra, Tripathy and De, 1972; Chandra, 1979; Sarkar, 1985; Namboodripad, 1986; Habib, 1996; and Panikkar, 1986).

The Marxist historians have been able to see the central contradiction between colonialism and the Indian people while, at the same time, emphasizing the internal contradictions within the Indian society. However, many of them, like R.P. Dutt, have not been able to integrate fully their treatment of the primary anti-imperialist contradiction and the secondary inner contradictions. Characterizing the leadership of the Indian National Congress as being bourgeoisie, he and many who followed him, equated the movement as a bourgeoisie movement capable of solving only the political problem and incapable of solving the social problem, i.e., the secondary inner contradiction. It is for this reason that the role of the Congress leadership is attacked for being either conservative or bourgeoisie. They see the bourgeoisie as playing the dominant role in the movement

and they tend to equate the national leadership with the bourgeois or the capitalist class. (Dutt, 1947).

Another significant characteristic of this historiography has been its analysis of the class character of the movement in terms of its forms of struggle, which has led to conclusions open to serious criticism. Many of the Marxist historians have equated violent mass or popular movement with radical and genuine movement while peaceful or non-violent movement as signifying the bourgeois character of the leadership. It is in this frame of reference that the Gandhian movement, one of the largest popular movements is never seen as a radical or revolutionary movement. Further, any efforts at negotiation, talks, or retreat have been shown as the compromising nature of the leadership and the non-revolutionary character of the movement. It is in this frame that the talks or negotiation on the independence question has been shown as compromise by the leadership. (ibid; also see Sarkar, 1985). Further, it appears that they are more interested in the activities, in which the Communists played an important role or that which involved the struggles of workers and peasants and which stepped outside the Congress limits of non-violence. (Sarkar, ibid).

Explaining the independence in 1947, they tend to see it in terms of a compromise between the Congress and imperial powers. "Under the leadership of Gandhi", wrote A.R. Desai, "the Indian national Congress followed this 'non-violent' road to compromise to secure a transfer of power from the British rule and stave off the possibility of the subcontinent following the other militant path of revolutionary class and mass struggle". (Desai, 1979). It was a fear of the radical forces, many argued, that made the Congress go the negotiation way and accept eventually the partition as a price. (Sarkar, 1985: 414; Chattopadhyay, 1976: 428). According to their analysis the British too preferred a compromise with the Congress rather than surrendering power to a combination of radical political forces. Thus, the transfer of power took place through "bourgeois" path of bargain and compromise rather than the path of revolutionary mass struggle. However, these writings tend to gloss over the fact that the Congress, which spearheaded the anti-imperialist National Movement, was not a class specific organization, rather it represented a multi-class movement striving at liberation of the country from colonialism. They also tend to ignore the fact that the National Movement contained within it different strands of people, who shared the ideology of ant-imperialist nationalism but had widely divergent perspectives of post-independence social development and which were reflected in many political trends that coexisted in the movement and at times contended

for hegemony. They also had differing perceptions over the strategic path to be followed by the movement and over the tactics, the forms of struggle, their timing and the like. (Mukherjee, 2004: 354).

Notwithstanding the critique, the Marxist historians have added considerable dimensions to our study of economic and social conditions of this period. By associating itself with the economic issues and the struggles of the oppressed, it has helped the historian to identify with the mass of the people, who had so far been regarded more as the objects rather than the subjects of history.

Dismissing all these writings, including the Marxist one, as elite historiography a new school emerged which is described by its proponents as subaltern. Appearing to follow the Marxist premises in some instances, the initial writings of this collective known as subaltern studies, claimed that they were replacing the old 'blinkered' historiography, which had little to offer by way of an understanding of the history of the people, with a new people's or subaltern approach. They question the ideology of nationalism and tend to locate the basic contradiction in the Indian society between the elite on one hand and the subaltern groups on the other, and not between the colonial rule and the Indian people. This interestingly brings them closer to the imperialist historiography. They assert that the Indian people were never united in a common anti-imperialist struggle and as such, there was nothing like Indian National Movement. For them the entire National Movement had two separate and autonomous domains of politics - one the "elite" and the other "subaltern". They see their relationship as characterized by a "structural dichotomy" to the extent that any effort at "braiding together of the two strands of elite and subaltern politics led invariably to explosive situations". (Guha, 1982: 4-6). Instead of admitting a closer relationship between the two they see the association of the Congress as efforts to "control and, and if necessary, suppress the stream of popular politics". (Pandey,1978:217). They further argue that with the increase of the Congress organization and its widened campaigns the depth of the movement actually diminished. (Ibid.:207-8; Also see Sumit Sarkar, opcit.: 183). They thus criticize both bourgeois and working class histories for privileging nation and class over community and lay emphasis on community rather than on the nation.

There seems to be thus a commonality of perception among the scholars of the Cambridge Subaltern camps, in as much as they challenge the notion of the nation and replace it with their attempts to restore "agency" to the voices that they claim have remained suppressed due to modernist and liberal historiographical practices. In their zeal to question nationalism they argue that it was the

"nationalist discourse", premised on the same modernist framework as communalism, which in its attempt at self-definition, generated a particular kind of politics as communalism. Accordingly, they tend to see nationalism and nationalist politics in binary relation with communalism and claim that in the final analysis these were responsible for inventing communalism. (Chatterjee, 1984). They also appear as absolving colonialism from its role of constructing and promoting it for their own ends.

The foregoing discussion thus brings out important issues for furthering the understanding of the trajectory of Indian nationalism and finally the development of the national movement in India. There is no denying the fact that India was not a nation prior to the advent of the colonialism. However, it had started taking a shape of a nation in the face of the objective conditions developing during this period and its subsequent realizations subjectively by the people. It was during this period that the people underwent through a process of metamorphosis resulting into what we are today. Any understanding of Indian nationalism and the Indian national movement, therefore, has to be premised on this understanding. After all the people participating in the entire struggle for freedom could not have been devoid of rationality and reason.

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Rajiv Gandhi University Research Journal
(January-July, 2012), Vol.11, No.1: 204-213
ISSN 2250-2866

The Role of Political Communication: A Review of the Media Report on the Fall of the CPI (M) in last concluded West Bengal State Elections[1]

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(Received on 18-05-2012 Accepted on 04-07-2012)

Abstract

Criticism of the news media's performance in West Bengal in the weeks before the 2011 State Legislative Election has been profuse. Scholars, commentators, and journalists themselves have argued that the media aided the Trinamul Congress lead by Mamata Banerjee in her march to Writer's Building, the State Secretariat by offering analysis and commentary about the lacunae and mal administration of the erstwhile ruling CPI (M) from diverse perspectives. It is found that news coverage conformed in some ways to the conventional wisdom: Trinamul Congress were the most frequently quoted sources, the voices of Buddhadev Bhattacharya administration officials were barely audible, and the overall thrust of coverage favored a anti-incumbency perspective.

Keywords: *State Legislative Election, CPI (M), Trinamul Congress, Anti-Incumbency Perspective, Political Communication*

Introduction: Change or Return (in Bengali, *Paribartan* or *Pratyabartan*)

Public Communication, and in particular political communication, accomplish a public service by flagging issues to address the masses and enter their sphere of

1 This article reports the results of a systematic analysis of every news appeared in The Statesman, Kolkata edition, in all through the period from April 21 2011 to July 6, 2011.

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attention. Researchers have worked on various facets of public communication. (Berkowitz, 1993; Cameron, Sallot, & Curtin, 1997; Cohen & Young, 1973; Curtin, 1999; Curtin & Rhodenbaugh, 2001; Davis, 2000; Macnamara, 1993; Shoemaker et al. (1987); Shoemaker & Reese, 1991; VanSlyke Turk, 1988; Zawawi, 2001). However, the objective of political communications extends beyond bringing attention to or away from political *issues*. Instead, the main goal of political communication is the use of media outlets to communicate specific political *views*, *solutions* and *interpretations* of issues in the hope of garnering mass support for political policies or campaigns. This article, led through a case study of the recent upheaval of the state elections in West Bengal, is a testimony of the fact that how successful an orchestrated political communication is at bringing its *specific perspectives* into the media and thereby bringing a paradigm shift in voters' preference for candidates in an electoral process.

13 May, 2011 was the historic day for West Bengal by all accounts. By midday, some 80,000 EVMs, used in six phases of the three-week poll held between 18 April and 10 May, 2011 cumulatively announced the winners and losers in the 14th Assembly poll. Its outcome is historic. Trinamul-Congress-SUCI (TMC+INC+SUCI) alliance ousted the world's longest elected government deemed "invincible" till 2009. The superlatives that clinched the outcome of the poll were either of the two six-letter words - Change or Return (in Bengali, *Paribartan* or *Pratyabartan*, respectively) - which reverberated in every voter's mind. The resonance of the first was louder and more ubiquitous than of the second and the results amply reflected it. Another slogan, coined by Trinamul supremo Mamata Banerjee ~ *Ma-Mati-Manush* (The Mother, the Earth and the Man) also reverberated by a carefully crafted campaign which was adequately covered by all forms of media. The present-day youth, urban and rural, except the members of the SFI and DYFI, to most of whom the CPI-M is like "my mother sober or drunk", being beset with massive unemployment and other frustrations wanted a change in governance. There was high turnout in the 2006 Assembly poll too but it involved a lot of reportedly fake voting with CPI-M cadres out to rig the poll - evident from nearly 100 per cent polling in some stations. But the superb arrangements by the EC did not let it happen in 2011. The tsunami on 13 May, 2011 in the political arena in West Bengal submerged many political figures of the Left Front.

Fearless Efforts of Mamata Banerjee

Once Karl Marx said, "Anyone who knows anything of history knows that great social changes are impossible without feminine upheaval." The 13th of

May, 2011 witnessed a historic poll victory. The TMC-Congress alliance demolished the 34-year rule of the Left Front in West Bengal. It was achieved singularly by the relentless and fearless efforts of Mamata Banerjee who led her crusade for 13 years. Her objective was to oust the world's longest-serving Communist government. The Left tally is down from 235 (2006) to a mere 62. It was a referendum on *paribartan*. The Left front survived for 34 years in part because of the absence of any real opposition and in part by resorting to undemocratic means, rigging and booth - jamming. Thanks to the Election Commission, free and fair voting was possible this time around. Mamata Banerjee was able to reach out to the poor with her slogan of *ma, mati, manush*. On the contrary, the Left moved away from the people because of its failure to leverage the power of political communications.

The Collapse of the Red citadel in Bengal

The Red citadel in Bengal that stood firmly for 34 years was razed to the ground by an electoral tsunami engendered by the indefatigable Mamata Banerjee and her call for *paribartan* (change). Mamata Banerjee announced: "Bengal is free. The reign of terror, repression and deceit is over." Her long-cherished dream of ousting the Marxists from power finally came to fruition. The CPI-M slipped to third place winning a paltry 40 seats against the Congress' 42. The outgoing chief minister Buddhadeb Bhattacharjee suffered a humiliating defeat BY 16,684-vote. The state comprehensively rejected the Red combine in the 2011 Assembly poll.

The Trinamul-Congress-SUCI alliance swept the poll capturing 227 seats, surging far ahead of the Left Front's total tally of 62 seats. History was made and the rout of the Marxists was so stunning that nearly the entire outgoing Cabinet was wiped out in the electoral arena with heavyweights, including housing minister Gautam Deb, industries minister Nirupam Sen, urban development minister Asok Bhattacharya and finance minister Asim Dasgupta, to name just four, who had their comfortable majorities of five years ago, overturned with surprising ease.

Left Front chairman Biman Bose was left claiming rather disingenuously that it was an "unexpected result"; his Quixotic bravado of the Left would bag 199 seats exposed. The Opposition combine's landslide victory was a resounding slap in the face of Bhattacharjee who had arrogantly reminded the people at the height of the agitation against the Tata Motors' small-car project at Singur of the electoral arithmetic: "We (LF) are 235 and they (Trinamul) are 30". The lack of

grace from the Left even in defeat was reflected in the joint Press statement of the LF chairman and outgoing chief minister that neither congratulated the Trinamul chief nor mentioned her by name. Mamata Banerjee, however, exhibited both personal dignity and political maturity in saying she wished all outgoing ministers and their families well. She urged CPI-M supporters "not to feel sad" and added: "I am with you (too)." And "I dedicate this victory with all humility to the people of Bengal, to *ma, mati, manush*, to all the people who have reposed such faith in us. I am here only to serve the people and I have no family except that of the people of the state who have decisively registered their protest against the Red regime's arrogance, repression and deceit. Bengal now tastes the joy of freedom," she said.

Home Truth of CPI (M)

Indeed, the outspoken minister for land and land reforms Rezzak Mollah ~ among a handful of CPI-M ministers who won - indicted the outgoing chief minister and the housing and transport ministers in the press for being "instrumental" in the Left's rout. In his rural dialect he termed them as "snake charmers who lacked the skill to catch even a *hele* (harmless) snake but tried unsuccessfully to trap a cobra". Mollah described Sen as the "villain of the piece", since he was the chief architect of the outgoing government's skewed industrialisation policy which was the single largest factor in Marxists' rout. "I warned them not to go ahead with the policy of industrialisation through farmland acquisition. They paid no heed." Gurudas Dasgupta of the CPI echoed the sentiment and said that he too had been warning the Left about the disastrous effects of such a policy in Bengal.

West Bengal has finally said goodbye to the Communist Party of India (Marxist) and its assorted partners. It has done so decisively, and while the Marxists would now like us to believe that change was inevitable after three decades and more in power, they ought to be stunned if only because they had seemed so totally in control even three years ago. But in the victory of the Trinamul and the defeat of the Left, there are lessons for both political groupings.

The Civil Service was Whipped into Blind Obedience

The media is of the view that in the past two decades, especially in the last years of Jyoti Basu and throughout the Buddhadeb Bhattacharjee period, the CPI-M became intolerant of dissent, impervious to criticism and arrogant in its conduct. Worse, it sought to convey to the people it ruled that the writ of the party and its leaders could not be questioned. The civil service was whipped into blind obe-

dience, the police became an agent of the party and civil society was bludgeoned into submission. Quite honestly, it was difficult to find more wimpy civil servants than the ones in Bengal after Marxists had put them in their places; a dozen or more needed to be put together to fashion a single working backbone.

Marxists down, and on the way out?

The news paper reports reiterate that the Communist Party of India-Marxist in West Bengal is a lot in disarray these days following its electoral decimation in the Assembly poll. Indecision, confusion and a lack of confidence have virtually become the order of the day for leaders who till not so long ago were considered the vanguard of a strictly regimented party.

Bengal leaders are still smarting from the criticism dished out in the official review report of the Assembly elections adopted by the Central Committee of CPI (M) during its 11-12 June meeting in Hyderabad that lambasted the Left Front government under Buddhadeb Bhattacharjee and the party in Bengal spearheaded by state secretary Biman Bose, holding them jointly responsible for the Left Front's debacle in the 2011 Assembly poll.

> There were various shortcomings in the performance of the LF government in the recent years. They pertain to the public distribution system, health, education, rural electrification and other developmental and welfare measures. Some programmes and schemes were not taken up for implementation... deficiencies in basic services and their delivery caused discontent among the people. The administrative and political mistakes in regard to land acquisition in Singur and Nandigram proved costly. The Nandigram events and subsequent police firing alienated sections of the intelligentsia and middle classes. The image of the party amongst the people has been dented by manifestations of highhandedness, bureaucratism and refusal to hear the views of the people. The existence of corruption and wrongdoing among a small strata of party leaders and cadres due to the corrosive influence of being a 'ruling party' and running the government for a prolonged period was also resented by the people. Erosion of support amongst the working class and the rural and urban poor indicates the failing to consistently taken up class issues. The independent role of the party and mass organisations was impaired due to the dependence on administration.

Lesson for Trinamul

The print news media opines that Trinamul government must dismantle extra-constitutional structures; the Marxists must recast their politics without leaving space for their various levels of intrusive committees, and by recognizing that criticism is a necessary component of a democracy. In short, while the Trinamul must strive to govern in a generally liberal and democratic fashion, the Left if it wants to be a force in Indian politics must aspire to return to power in the manner of democrats. Equally, this is a lesson for Trinamul, especially because it may be tempted to replicate - at various levels of society - the levers that the Left had employed so successfully to perpetuate its rule. That will be foolhardy and counter-productive. Having done away with the so-called dictatorship of an anointed proletariat, it is unlikely people will accept the autocracy of a self-proclaimed, but as yet untested, democrat. Life has given Mamata Banerjee the opportunity of a lifetime. If she is able to offer to the people of West Bengal a responsive and democratic government, she could well force the Left to recast itself as a more liberal, less intolerant political party. The Constitution does not provide for – or permit – Stalinist methods; and even after Indira Gandhi's tinkering, it allows space only for socialist politics, certainly not for the sort of dictatorship of the proletariat that the Marxists employed over a significant part of the past 34 years on the assumption that voters had endorsed it. If the Left doesn't learn and Mamata Banerjee plays her cards right, 2011 could well turn out to be a fatal blow for Indian Communism. But if Mamata Banerjee slips up, 2011 could well become a fatal blow for West Bengal.

Going by the recent media reports, West Bengal's new chief minister has shown, in her first week in office, exactly why she is so beloved of such a large section of the state's populace. Her car doesn't hold up her fellow citizens who are also using the same roads, there is no trace of arrogance whatsoever in her public persona, and her surprise visits to hospitals and police barracks, as long as they don't disrupt work or break silence/sanitised area rules, are a valid show of concern from the state's chief executive for the health and welfare of those she's been elected to govern.

The surprise visit or mingling with one's constituency is the oldest management technique in the book - think CEOs on the factory floor - that, if followed up with the necessary kick on the collective backside of those who think government jobs are sinecures sans accountability, has proven to be an effective tonic in varied corporate and governmental entities to tone up the administration and even help improve work culture. That Mamata Banerjee herself main-

tains a pretty punishing work schedule only adds an apt personal punch to this strategy.

Paradigm Shift towards Federalism

The ideological appeal of CPI (M) was limited. The CPI-M's chief minister of West Bengal was always perceived by the media as the CM of the party and not of the state. Bengal has declined in every index of human development. The state's experience has reinforced the general perception that Marxist regimes worldwide are known for their governance deficit. Despite land reforms, the agricultural growth rate in Bengal has been less than 2.5 per cent, well below the national average. Despite vast tracts of arable land, Bengal has not been able to match the productivity levels of either Punjab or Haryana. The Left Front did not initiate a green revolution. The overwhelming failure of the Bengal Left is rooted in a failed ideology and a highly centralised party structure. Dissenters had no place in the party. Unquestioning loyalty replaced honest opinion. The party structure reflected a patron-client relationship.

Liberalisation and globalisation further exposed the party's ideological bankruptcy in the print and electronic media. No attempt was made to reopen the closed industries. Yet capital-centric industries were invited to invest without providing the proper infrastructure without taking the people into confidence. The same apathy was reflected in the Dooars where thousands lost their livelihood with the gradual closure of the tea industry.

Into this morass of failure, Ms Mamata Banerjee rose like a phoenix. She has maintained a distance from the national parties without severing ties. Her stint with the NDA and now with the UPA is a re-statement of the Bidhan Chandra Roy Bengal. It means that Bengal will have an important presence in Delhi's corridors of power without sacrificing its local identity. The Trinamul Congress is willing to share power with the Congress at the Centre in keeping with the concept of cooperative federalism. Mamata's stint as Railway minister in the present UPA government sent a message to the voters that a paradigm shift is not only desirable but also feasible. She is aware of the compulsions of national politics. Her party is part of the national coalition, and yet retains its distinctive state identity. This strategy has relegated the Left's policy of confrontation and separate identity to the footnotes. She has convinced the voter that Bengal will flourish and stabilise within the larger framework of a federal India. Bengal's political and cultural identity will be reflected in partnership and cooperation with the Centre.

Conclusion

This case study has found a high correlation between political communication and the impact of media in altering mass opinion. A correlation generally does not allow establishing a causal relationship. Even though, it can be considered as an indicator that this causal linkage exists in this case, whereas political communication in offline and online media are the cause and common growing perception of "misrule" of the existing political governance as the effect. Taking the following into consideration, establishing such a causal linkage appears to be very believable, such that political parties establish their programmatic agenda and manifesto through a long and intensive *internal* policy negotiation process. This process can be influenced by mass media coverage or by public opinion, respectively. The ability to effectively communicate a programmatic agenda to the public via the media is an important prerequisite to garnering public support for a political player and, thus a first indicator of success of a political communication.

It requires a Hercules to clear the Augean stable with more than 30 years' muck that has pushed the state to its nadir. The news media is of the view that it is indeed difficult to prioritise the challenges facing Mamata Banerjee. Still, the agenda must be topped by the imposition of law and order in each and every sphere. The continuing atrocities must be stopped and the law breakers - past and present - must be booked immediately. There must not be any compromise, any leniency shown to them on any ground. They have done enough damage physically and psychologically to the people and deserve to be punished. This punishment must be meted out to all - political and non-political elements ~ in the same way without any discrimination. This will leave the law- abiding citizens in peace and will serve as a disincentive for future criminals. This ought to be the starting point of the change that Mamata Banerjee and her team have fought for.

Mamata Banerjee often admits to the press that she is a Leftist. A certificate or a stamp issued by a Communist party is not always necessary to become a true Leftist. Miss Banerjee is working for the poor. She fought for the farmers in Singur. She observed fast for many days. Attracted by her determination, many eminent personalities stood beside her.

From a normative perspective, one might view West Bengal State election coverage as a case of the media playing its watchdog role more effectively than the indexing argument suggests. Even in the absence of common citizens' dissent, the print media networks sought out sources with divergent views, giving the

public access to a broader debate than was occurring inside West Bengal. It is indeed possible that those anti-ruling party sentiments were taken quite seriously by people with predispositions leading them to be skeptical of comeback of the CPI (M) in the state. It is simply not known at this point. Further study of these issues both at the level of political communications and at the level of citizen attitudes is certainly in order. However, the patterns that have been explicated here clearly raise important theoretical and normative questions about how the news filters the communications of political actors and refracts—rather than merely reflects—the texture of an election process.

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Rajiv Gandhi University Research Journal
(January-July, 2012), Vol.11, No.1: 214-219
ISSN 2250-2866

Book Review

Review of ***Marginalised Identity: An Engagement with Art, Literature, Language and Ethnicity***, Editors: Jumyir Basar, M.C. Behera, Lisa Lomdak, Commonwealth Publishers Pvt Ltd, New Delhi, 2012, Rs 995/-

This book does not theorise marginality in abstraction, nor does it exoticise the margins or look upon the margins as self-empowering. In other words, this is not just one volume again on the margins from the academia that builds it up in terms of a cultural capital. What we have in this volume instead are essays that deal with historically authenticated experiences of different forms of marginality accompanied by various kinds of deprivation and exploitation and this leads towards attempts to find resources for a transformative agenda.

The editors rightly state that two different processes of marginalisation frame the conceptual background to the essays – one dealing with social processes in a given culture, interpreted and made use of by people with vested interests to create hegemonic structures, and the second emerging out of interventions from outside that again figure as developmental. What we also have in the text I think, particularly in those sections related to literature and the arts, is an engagement with the representation of marginality. The readers for instance, are led into an inner journey of a painter, Joan Marie Kelly, working with performance art and relational aesthetics where she enters into an intimate conversation with her models who are women from brothels in Kolkata, and where the conversations become part of her paintings. She tries to find out through her art practice whether it can be constituted into a medium that can break barriers of "class, social status and stigma" (20). Stereotypes are broken as the women become a part of her universe and the lesson to be derived from her work is that art can give back to the marginalised the natural humanity that is denied to her by social forces.

Literature is a secondary model of the world where one arrives at essentials in a distilled form or within a network of relationships that serve a purpose. Sabine Jell-Bahlsen deftly reconstructs the trajectory of marginalisation of the Igbo people of Southeastern Nigeria that becomes progressively greater through pre and post colonial times to the present day as a result of religious proselytising and the

erasures of an entire value system. Her analysis, based on novels by Chinua Achebe, Flora Nwapa and Chimamanda Adichie, includes the spheres of political organisation, law, ethics, gender issues, social structure and personal identity and finally religion. Each of these spheres in the indigenous community had certain qualities that guaranteed an ethical, humane foundation integrally linked with the culture of the land and that did not allow individuals to fall back into a comfortless, uncertain vacuum. The study of the novels is sustained by a rigorous and detailed background research into the community. A similar study is undertaken by Nigamananda Das as he studies the wiping out of animist faiths with a particular kind of Christianity taking over Adi and Angami tribal societies. Das looks at Mamang Dai and Easterine Iralu's works and addresses the issue chiefly from the point of ecological concerns linking the loss of biodiversity to proselytising. As he rightly points out ecological concerns are also intimately linked with social, economical and political concerns.

There are two other papers in the text related to literature. A J Sebastian takes up the tribal poets of Nagaland, Anungla Longchari, Monalisa Changkija, Ayangla Longkumer, Rosemary Dzuvichu, Josephine Changkija, Nina Lungalang, Thejangu-u Zumvu, Easterine Iralu, Lhusi Haralu, Sedenguli Nagi, Kangzangdine Thou, Temsula Ao and Wetshokrolo Lasuh, grappling with their times. Their poems are anguished expressions depicting rape, fratricide, gender discrimination, alcoholism, drug addiction, and ecological abuse. Each comes forward as both stemming from and moving towards marginalisation. Poetry, Sebastian feels, has the potential to transform social relations by engaging the emotions and the intellect in pondering over questions of deep social malaise. A powerful statement also emerges from Shreya Bhattacharjee as she studies the cartographical intervention in the drawing up of borders between India and Pakistan turning thousands into immigrants in their own land. Focussing primarily on Manto's short stories and later on Sabiha Sumar's film *Khamosh Pani* she tries to reclaim the voice of immigrant women who in history were treated as consumable objects and as the film and the stories suggest, both fundamentalist forces and state powers align themselves to frame discriminatory anti-women legislations.

Of the remaining eight articles, five are linked with language issues in the North-east while of the remaining three one is on territory and identity in the context of Mizoram, the second on saliency of cultural and ethnic identity and the process of Islamization among the Borewale Muslims of Andhra Pradesh and the third on globalisation, ethnic identity and the Karbi people. Sivasish and Sravani Biswas in the article on territory and identity in Mizoram sketch a brief history of the

Mizo people and their land, their territory drawn and redrawn several times in history. A short sketch shows them as being repeatedly displaced in history - "from Mongolia to China and then to Tibet and Burma and finally the present Mizoram" (223). They had taken shelter in the inaccessible Lushai hills and made their livelihood through hunting but then the British came and started distributing lands to anybody who would cultivate tea thereby depleting the forests that provided food to the hunting tribes. The people retaliated – there were counter-attacks and further retaliations coupled with natural calamities and internal strife. The process was long and brutal and then came the spread of Christianity – however, even as the people were taking note of the enormous changes under the force of the Empire, the British were removed and yet exploitation on various levels continued. The researchers point out the fluidity of the physical and cultural boundaries between the seven states carved out in Northeast India leading to both coexistence and conflict. They also point out among other things that after 1947 all of a sudden the "Mizos were cut off from their relations in the Chin hills of Burma. The approach and exit through Burma and Chittagong in Pakistan were closed, and the then Lushai hills became a landlocked territory at the mercy of a passage through Assam. Freedom and easy access across hill ranges and hunting expeditions were all restricted by the imposition of territoriality and manned by the Indian Army. Food supplies, oil and vital necessities came mostly through one life-line in Assam which could be snapped at will" (227). The history continued with a new threat of cultural and linguistic subjugation, stories of uprisings and retaliations and then instead of the Gospel, the Government brought huge amounts of grants to the place. An economic dependence was created leading to frustration and ennui with occasional forays into assertions of territoriality and identity. In all the essay is an incisive comment on the "crisis of insecurity" and its link with the impasse that characterises the region and points out the necessity to help build trust and bring in self-reliance in different spheres.

S A A Saheb brings an anthropological approach to his study of the nomadic Borewale, mendicants from the Rayalseema region of Andhra Pradesh. The study seeks to depict the assimilation of the Borewale, who were local converts occupying the lower echelons of Hindu society, into the Muslim community and then gradually into the mainstream of Indian social life. Needless to say the process remains incomplete, but there is a degree of optimism as the text moves forward describing customs, rites and rituals and inter-community linkages. A degree of light is thrown on hierarchical systems maintained within the Muslim community which the author states does not have either the "comparable ideo-

logical framework" or "the tendency towards rigid elaborateness" (235).

The next group dealing with language issues constitutes in some ways the core of the text. That language issues are integrally linked with marginality is a point that is asserted quite strongly and accompanying it is the statement that policy-makers need to pay more heed to this aspect than they do.

The first article in the section by Bhaskar Jyoti Goswami is a study of the Lower Assamese Kamrupi dialect in relation to the standard form of the upper Assam variety and its further marginalisation due to globalisation, an "unhindered outside infiltration" (16) in the name of liberalisation during the 1990s. "As malls and multiplexes opened up in and around Guwahati, the indigenous people began to become more and more susceptible to more and more outside interventions" (217) and their language underwent drastic changes jeopardising their very existence. Goswami makes a detailed analysis of the changes that came over the Kamtapuri dialect spoken in the region. Changes are inevitable but the danger arises when there is just a one way traffic – when other languages and dialects remain untouched by the language or dialect in question. Needless to point out that language preservation is integral to the preservation of culture and heritage of a people.

A different voice emerges in the writing of Asima Ranjan Parhi who takes up the question of interventions, categorizing a certain kind as progressive and the other as regressive. His focus is generally on the Northeast but particularly on Arunachal Pradesh. The ethnic multiplicity of the region throwing up a plethora of languages led to the need for a link language and he feels that English does the work quite efficiently. He suggests that the English he is referring to is anti-elitist, flexible, functionary and not a language of power. Arunachal Pradesh he suggests has "countered the complexity of language issue by using both the languages of Hindi and English for its own use at appropriate circumstances." He also points out that while the status of the English language is looked upon with suspicion, an entire generation brought up in the 'rock' tradition, otherwise welcome colonial forms of dress, music etcetera. With an amount of passion he asks why the media insists on an intervention that is linked with false values in the name of democracy and hence regressive when the crying need of the moment is infrastructural development at par with other parts of the country. He feels quite strongly that the vocabulary of binaries such as margins/ mainstream, superior/inferior, self/other etcetera serve only to fragment and disintegrate the social fabric.

As different from Parhi's contention, we have Lisa Lomdek who takes the readers back into the domain of peripheries and centres by looking into the statistics of languages that are critically or otherwise endangered in Arunachal Pradesh and tries to find various related causes both in the micro and macro levels. The question of education policies come up again and again. Schools introducing certain languages spoken by a large number of people serve to further marginalise languages spoken by a lesser number of people. She also tries to understand the role played by English and Hindi in Arunachal Pradesh where both came to be regarded as 'achiever' languages and contributed to the rise of an indifferent attitude towards the mother-tongue. Regardless of the major or minor speech communities, she states, "the home where the inter-generational transmission of mother-tongue has completely stopped is the biggest factor for endangerment of languages today" (145). Later again she insists on the responsibility of policy makers towards ensuring the preservation of mother-tongues and cultural identities.

Bhagirathi Biswas gives a critical exposition of the history of languages in North-east India with relation to geographical and political factors. The study has its own fascination as the Northeast of India is one of the most heterogeneous linguistic and cultural regions of the world. There is a constant series of coming together, moving apart and being transformed again and again and if the dyna-mism of the region is to be kept alive one has to take steps to keep alive the many mother tongues of the region. One way of doing so is through the interven-tion of the electronic media in the communicative circuit, recognising the impor-tance of multilingual computing and the movement towards building up a host of computer-language interfaces, states Biswas. Debasish Mohapatra in his well-thought out overview of the history of the globalising process in the context of the Northeast also takes up the case of the electronic medium and its impact on second language teaching and learning experiences, but he links it with several important questions such as what shall count as linguistic capital or how would language be represented in the shifting paradigm brought into being by techno-logical and hence also economical changes. He does look upon the electronic medium as having potential transformative power, but he is cautious and states that its power can only be effective if there is a collective effort to radicalise the field of education. Mohapatra defines globalisation as a part of a process of change generating "centrifugal and centripetal forces" resulting in the "deteriora-tion of important economic, social and cultural practices from their traditional moorings" (176). He locates language as constituting a central place in the cul-

tural universe, giving shape and power to human capacities and hence claims a special status for it in educational policies, research and practice. As he points out "language policy is the major tool through which battles and manipulations take place" (194) but then they could as well be enabling. He points out in a relevant manner the unfortunate polarization between educational research and educational policy with different factions in both areas taking up strongly con-trasting oppositional stances and therefore leading nowhere. Mohapatra too ends on a positive note and brings to globalisation a connotation that is different from the one with which he had begun. It is, he states, a process of transnational interactions between people, cultures, information etcetera and it could be achieved through language and cultural education.

As a case study of the relation between globalisation and a community in the Northeast, Nityananda Pattanayak studies the predicament of the Karbi people who became peripheral in their own land because of large scale migration and with political parties wooing the larger groups as a part of their electoral strate-gies. This, along with other factors, forced them to construct rigid boundaries, sometimes foreclosing dialogue by taking up arms. The author suggests a num-ber of measures that could be adopted to bring in a holistic development to the land enabling its members to reap the benefits of globalisation and to bring peace to the region.

This volume with the numerous case studies will serve as a ready reference for scholars and will remain relevant for decades. There are a number of print and other errors that I am sure will be rectified in the next edition. The volume arrives at a time when there are paradigm shifts in many areas of social life and living necessitating new ways of conceptualising issues and looking for resolutions. *Marginalised Identity*, one hopes, will also lead to the conceptualisation of ways in which one can bring in change, from perspectives that are both substantivist and for the time being, artificially marginalised.

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DECLARATION

Name of the journal	: Rajiv Gandhi University Research Journal
Language	: English
Time of Publication	: 2012 (January to July, 2012)
Name of the Publisher	: Registrar Rajiv Gandhi University
(a) Nationality	: Indian
(b) Address	: Rajiv Gandhi University Rono Hills; Doimukh-791112 Arunachal Pradesh
Place of Publication	: Rajiv Gandhi University
Name of the Printer	: S. Zekrul Saad
(a) Nationality	: Indian
(b) Address	: 20, Hill View Road South Sarania, Ulubari PO Guwahati-781007
Name of the Press	: Gung-ho Ventures
Name of the Editor	: M.C. Behera
(a) Nationality	: Indian
(b) Address	: Arunachal Institute of Tribal Studies, Rajiv Gandhi University, Rono Hills, Doimukh-791112, Arunachal Pradesh
Owner of the publication	: Rajiv Gandhi University Rono Hills, Doimukh

The above declaration is true to the best of my knowledge.

-Editor

Rajiv Gandhi University Research Journal

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Institutional	Rs. 500.00	US $ 75