

Chapter 2

Review of Literature

In any scientific investigation a comprehensive review of relevant literature is essential. At direct reference on all items are not abundance certain specific references along with some indirect references have been incorporated in this chapter for purpose of meaningful use. Its main function, apart from determining the work done before concerning the problem area, is to provide an insight into the methods and procedures and create a basis for interpretation of findings. This chapter deals with review of literature adopted from different authors and researchers who conducted more or less similar studies in this field. Following are the review of studies on assessment of livelihood pattern of forest fringe area people:

Richards *et. al.*, 1990 studied from Sunderban, West Bengal that these forests were intensively managed to provide a sustainable supply of timber and firewood for the increasing population of southern Bengal. For two centuries, land-hungry peasants strove to transform the native tidal forest vegetation into an agro-ecosystem dominated by paddy rice and fish culture.

A case study was conducted in the Birbhum district in West Bengal. Study undertakes an evaluation of the Integrated Rural Development Programme (IRDP) in terms of economic viability, namely, the efficiency of investments made in the programme for enabling the poor to cross the poverty line on a sustainable basis (Ghoshet. *al.*, 1991).

Over the past decade, the West Bengal Forest Department has worked with thousands of tribal and Hindu caste communities to establish local management systems (Forest Protection Committees - FPCs) to protect and regenerate degraded natural forests in the SW of the state. These regenerating forests now generate a wide variety of medicinal, fibre, fodder, fuel and food products for participating rural communities. The West Bengal experience indicated that communities and forest departments could work together to establish effective controls over forest use (Poffenberger, 1992).

Based on experiences in Orissa, Rajasthan, Tamil Nadu and West Bengal, as part of a larger 'Forest and the People' project; Biswas, 1993 discussed the social forestry programmes as a means of using people's participation to enhance forestry production. Linkages of such programmes to rural systems and participation issues were discussed, and factors needing consideration for successful results are considered.

In India it has been observed that wherever there is a large concentration of forest, there is also high concentration of tribal people in particular, and of the rural population in general. Rural people are dependent on forest resources for their livelihoods. It meets basic needs like fuelwood, fodder and small timber that are important for them and their livestock.

Degradation and depletion of the forest resources are increasing poverty and suffering among the rural people. Therefore, it is imperative to rehabilitate degraded forest resources in order to sustain rural livelihoods. The National Forest Policy 1988 of the Government of India envisaged people's involvement in conservation, protection and management of forest. It emphasized that forest produce must go first to the people living in and around forests. Further, in June 1990 a Government resolution supported involvement of non-governmental organizations and the creation of village level institutions in forest management. Now, it is recognized that participatory management of forests is key to sustainable development for people and forests (Biswas,1993).

A general discussion with particular reference to India, covering the effects of agricultural development and forest products industries on forestry (particularly deforestation), mining and forest conservation, and sustainable development (Chakrabarti, 1995).

Chakrabarti , 1996 discussed the biodiversity conservation in relation to man's activities, with particular reference to sustainable ecosystem/resource utilization and tropical forest conservation in India.

Joint Forest Management (JFM) practices have been executed on a large scale during the last 10 years in the coppice sal (*Shorea robusta*) dominated forests of the lateritic region of south West Bengal in the districts of Midnapore, Bankura, Purulia, Burdwan and Birbhum. The extension programme responsible has operated efficiently and had a wide sociological impact on eco-literacy. The JFM movement is shown to have opened new areas of extension activities in forestry research (including non-timber

forest products, NTFPs, which had '100%' frequency) through which people's participation is assured. The participation of people in JFM is found to be not only in protecting activities but also in providing management support (Banerjee *et. al.*, 1996).

The forests of West Bengal have recently come under a co-management initiative called Joint Forest Management. The changing forestry regimes in southern West Bengal since the 1930s to suggest that the redefinition of forest management in the region since the mid 1980s cannot adequately be explained in terms of property rights. The nature of village communities, overlapping jurisdictions of different agencies and groups in forest management, and the nature of expertise qualifying the scope of jurisdictions - that of foresters and villagers - are intersecting issues that have to be analysed to understand the institutional politics of co-managing natural resources worldwide (Sivaramakrishnan, 1998).

A case study on the implementation of joint forest management (JFM) was undertaken in Bankura District, West Bengal (India). The 10 most important (and different) constraints identified for each group are listed and discussed. They are (in descending order of importance): (1) for the FD - staff inadequacy, misconceptions of rights and duties, lack of funds, lack of coordination with other development departments, poor participation by women, heterogeneous committee membership, legal constraints, lack of good local leadership, inadequate extension work, and preferential species selection by participants; and (2) for the participants - negative FD attitudes to people, marketing on non-wood forest products, lack of awareness of potential gains from JFM, the balance of power between the FPC and FD,

legal status of the FPC, centralized non-flexible administration, lack of freedom over species choice, political rivalry, and conflict on distribution of employment opportunities and benefits (De *et. al.*, 1998)

Various papers were presented on different issues associated with sustainable development in India. The link between poverty and environmental degradation was also discussed, some papers were considered how the ecosystem approach would help in sustainable rural development. The case studies cover a wide spectrum (namely Kerala, Karnataka, and West Bengal) of the country, at a micro level (Annon. 2, 1998).

Karlsson, 1999 presented of the Buxa Tiger Reserve in India and the conflict that is currently occurring with the Rabhas, tribal people who live in close proximity to the reserve area. Whilst the people are officially acknowledged as partners in wildlife conservation, the project so far to them has resulted in less employment, and reduced access to the forest. The concept of popular participation is still only a concept.

Singh, 2000 studied on a women's group in Bankura, West Bengal, India and their work principally to develop degraded land such that it now grows trees on which tassarsilkworms are reared. Supplementary income generating activities have also been organized on an individual or group basis.

The role of non-timber forest products (NTFPs) in sustaining the livelihood of millions of tribals and other forest-dependent communities in Orissa, India, who are critically and intricately linked to forests. It also presents some major findings of field-data based research studies, which highlight a

number of issues and options for ensuring sustainable management of forest resource that could provide food sustenance and some income to the forest dwellers. It addresses issues relating to sustainability and forestry development in view of the past depletion of forest cover, extinction of some precious species, as well as over-exploitation of NTFPs. The multiple use of the NTFPs have spelt out their commercial significance and also their critical role in the subsistence economy of the forest dwellers. The paper presents findings from research studies relating to income from sale of NTFPs; food sustenance; employment potential in the collection, processing, and sale of NTFPs; pattern of NTFP utilization; etc. The study suggests interventions from emerging people's institutions like Gram Panchayats to act as catalytic agents at the grassroot level. The study concludes that in many cases, multiple use NTFPs-based forest management needs a significant re-ordering of the ongoing liberalized world economic order (Mallik, 2000).

Mukhopadhyay *et. al.*, 2002 studied that women's involvement in rural non-farm (RNF) activities for the period 1998-99 were collected from 50 households in Bankura district, West Bengal, India. Results revealed that involvement of women in different RNF activities (in terms of hours spent per day) is higher than that of men and there exists an inverse relationship between holding size, monthly income of the family, and participation in RNF activities. The study also reveals that the contribution of women to monthly income from different RNF activities is higher than that of men.

The concept of sustainable agricultural development and the role of traditional folk media in propagating such kind of development were

studied by Ray *et. al.*, 2004. Traditional folk media includes a variety of forms including folk theatre, puppetry, story-telling, folk dances(like ‘Chou’) ballads, and mime.

Banerjee *et. al.*, 2004 described an action research conducted in Bankura district, West Bengal, India, for the purpose of generating employment through a rural women's organization. Forest wastelands (and their ownership) were the resource around which poor women were organized. After mobilization, acquiring the land, and tree plantation, the women proceeded to rearing and marketing tussar cocoons, and other agricultural activities. The entire process was participatory, with women being directly involved.

To assess linkages and impact of participations Joint Forest Management (JFM) programme, on Sustainable Rural Livelihoods (SRL) across socio-economic group of forest fringe communities. The study is based on four sample FPCs, one female FPC and three joint FPCs in Midnapore and Bankura districts in West Bengal. The result suggests that the Joint Forest Management programmes under the sample FPCs/villages in West Bengal are participatory. With regard to the sustainable rural livelihoods framework, strong sustainability criteria meet for very poor and poor households, which live below poverty line and are dependent on forest resource for their livelihood security. The study suggest that force or law cannot effectively control illegal collection of TFPs by the households living below poverty line, until a considerable increase in the collection of legal forest products-NTFPs, fuelwood etc. and wage income from forest are ensured (Sarkar, 2009).

The idea of sustainable livelihoods encompasses a gamut of concepts. It is generally analysed within the framework of natural, human, social and economic capital. The study essentially deals with the natural resource base, and how it sustains rural livelihoods and improves the economic and social condition of people. The paper studies how livelihoods have been improved in the specific area due to the impact of policy interventions through watershed development. Watershed as an ideal unit for Natural Resource Management (NRM) is acknowledged globally because it is a geo-hydrological area where along with soil, water, vegetation, animals and humans too are found. The development and proper management of watershed has been found to restore degraded ecology, immensely affecting agriculture and rural livelihood. The crux however lies in community participation, which is the core element for ensuring the sustainability of NRM. The aim of this paper is to highlight the impact of watershed management on the environment and the socio-economic aspect of the rural community through participatory NRM. The study was carried out in Gurguripal, a small village in the West Midnapore district of West Bengal. This region was severely degraded prior to the watershed development. It is only after the Forest Department (FD) brought about institutional changes that things started improving. Forest Protection Committee (FPC) was formed to carry out conservation and development activities in line with the centre's policy on watershed development. As it is a watershed with maximum land under forest cover, the FPC carries out the overall development activities and no separate watershed committee is formed. The FPC comprises all the beneficiaries of the village along with the FD

officials. Overall it can be concluded that the participatory approach has notably contributed towards the sustainability of livelihood for the community as a consequence of natural resources stabilisation. The beneficiaries have been able to improve their livelihood options in the process together with reversing significantly the degradation of natural environment like those of arresting severe soil erosion resulting in preservation of soil fertility so essential for crop production (Chakraborty *et. al.*, 2009).

The concept of sustainable rural livelihood within the context of forest fringe communities in Ghana had been studied by Divine OdameAppiah , 2009. The rhetoric of using forestry to sustain community livelihoods has been approached with ambivalence. In this wise, the focus is on the perceived relationships that exist between the forest as an independent resource and the forest fringe communities as dependents of the resource. Within forest-fringe districts like any other local and agrarian environments in Ghana, the livelihoods of the people are largely predicated on subsistent agriculture. Alternatively, it also entails the exploitation of the natural resources including forest resource supplies as integral part of the larger socio-economic sustainability of the these communities in the district. The issue of rural sustainable livelihoods in forest fringe communities has been perceived as a critical approach to meeting the conservation and management of forest resources and the communities that subsist on the resource. Hitherto, the interventions had almost invariably been presented in the well-recognized/protected forest reserves, under formal institutional management. In recent years however, the need for a shift in this attention

has engendered what could be termed as off-reserve forest resources management. In this connection, the off-reserve areas which are predominantly occupied by subsistent farmers in agro-forestry have been advocated as the desired areas for forest resource conservation and management. This is in view of the role played in supplying forest resources both tree and non-tree forest products (NTFPs) on sustainable basis. In this connection, the farmers and forest end-users within forest communities are perceived as agents of operation and change. Ultimately, the long-term goal is to create a strong synergy among various stakeholders of forestry, regarding use rights and responsibilities of conservation and management. This has the avowed aim to promote in the country, particularly in forest fringe communities, commitment to conservation and management of forest resources for sustainable rural livelihoods.

Choudhury, 2009 reported that three women's selfhelp Groups have developed a picnic spot at Poro, which in the last one month has generated a revenue of Rs 1 lakh. The spot on the bank of the Poro was first identified by the forest department in the middle of 2007. Three selfhelp groups with 10 women in each were formed to look after the spot.

The poor people specially in tribal dominated area have a great deal of forest dependence. With the advent of joint forest management institution it was expected that poor villagers would be socio-economically better motivated to protect the forest resources on which their livelihood greatly depends. In Ranibundh beat in Bankura district, it was noticed that due to operation of a number of factors like lack of co-ordination between various agencies widespread illiteracy, unemployment, risk of eviction and loss of

customary right to access the forest resources, villagers often do not feel motivated to protect the forest with a feeling of alienation of their traditional property right. So grant of permanent tenurial right to forest dependent people, mitigating the fear of eviction, extension of employment opportunities and ensuring a cohesive trust between various agencies seem most urgent for protecting the forest from degradation (Datta *et. al.*, 2010).

Paul *et. al.*, 2011 studied that India's forest policy regime enacted so far had alienated the common users of their property rights in the name of forest and wildlife conservation. However, poor conservation outcomes have forced planners to reconsider the role of the forest community in resource use and conservation. Presence of a deep-rooted economic, social, cultural and ethical difference between members of Forest Protection Committee (FPC) constrains group behaviour and their capacity to modify regulations governing resource use. This paper studies the forest policy regimes of India in detail and seeks to investigate the influence of emerging socio-economic issues towards formulating a more robust and sustainable future forest policy by selecting the district of Bankura in West Bengal, India, as a study area, where forest protection regime is practiced rigorously for nearly two decades. The exercise reveals that tribal populations are reluctant to be non-workers and prefer to protect the forest by being a stakeholder in the process of Joint Forest Management (JFM). Thus formulating a more egalitarian distributive JFM mechanism for sharing of benefits fairly across the resource users requires cognizance of collective-choice rule used and the type of heterogeneity existing in the community.

Forests provide a source of livelihood to all classes of rural people, especially in tribal dominated areas. With the advent of joint forest management concepts and commercial earning prospects from non-timber forest products (NTFPs), it was expected that forests would be best preserved by the villagers who depend on them for a substantial part of their livelihoods. However, in the case of the Ranibundh block in the Bankura district, it was observed that the predominance of private agencies in marketing channels of NTFPs, together with risk of eviction, loss of customary right to access forest resources, low employment prospects, and lack of training about proper management of NTFPs have led to the failure in motivating the forest dwellers to prevent degradation of forest resources. It is suggested that government agencies, producer institutions, non-governmental organizations (NGOs), and other strong institutional entities can promote forest preservation when complemented by the granting of forest rights to rural people, the extension of training facilities, and alternative employment prospects (Datta *et al.*, 2012).

Das, 2012 examined that how rural livelihoods are improved owing to the impact of policy interventions through community-driven forest management in West Bengal, India. As an instance of comparative analysis of a gender-sensitive forestry program, this study employs the "sustainable rural livelihoods" framework to assess any enhancement of livelihood opportunities across various socioeconomic groups in forest fringe areas. In general, robust livelihoods sustainability is found for a pro-poor section of rural households that participated in the forestry program. Amongst participants, however, especially the feminine units attain more favorable

livelihoods outcome. Conversely, the program's eschewed households are behind sustainable livelihoods. It is therefore early need to expand the participatory forestry program for sustaining poor households' livelihood security in forest fringe areas of rural India.

Goswami *et. al.*, 2012 studied that the agricultural extension has often been conceptualised to embrace a broadened mandate that goes beyond transferring technologies and facilitating agricultural development. International organisations have started to shift from 'agricultural' to 'rural' focus in their programmes and Extension's success in future may not be judged in terms of technology transfer or agricultural development alone. Naturally, the scope of evaluating extension programmes will also have to be broadened for justifying the government expenditure and to enliven its prospect as livelihood promotion agency. Sustainable Livelihoods Framework provides excellent scope to capture the multifaceted impact of development programmes on clients' livelihoods in terms of increase in their asset base and decrease in vulnerabilities. The present study described the development of an impact monitoring tool for Joint Forest Management (JFM) in selected villages of Ayodhya Hills, Purulia district, West Bengal and describes its field testing. The development of the tool followed a simple indicator-based multi-stakeholder approach taking SL framework as a reference. This was followed by the development of a 'perception analysis tool', using recall data. The field testing of the tool successfully captured the impact of JFM on peoples' assets and vulnerabilities and discriminated successful Forest Protection Committee from the less successful one.

The rural population of Himalaya has been strongly dependent on the forest resources for their livelihood for generations. Inaccessibility of the area and deprived socio-economic status of the locals are largely responsible for the total dependency of the local inhabitants on nearby forests for fuelwood, fodder and other life supporting demands. Extensive farming of fuelwood trees on less used, barren land and establishment of fodder banks could be the alternative to bridge the gap between the demand and supply. Active participation of local people is mandatory for the conservation of these forests. It has been estimated that Average fuelwood and fodder consumption were found to be 2.42 kg/capita/day and 43.96 kg/household/day respectively which was higher than the earlier reported values. (Malik *et.al.*, 2014).