Chapter-I

INTRODUCTION
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Livelihood: Definition and framework

The analysis of prosperity and poverty from livelihood point of view to understand rural inequalities has received considerable attention during the last few decades in India and other developing countries (Sharma, 2005). Conceptually “livelihood” connotes the means, activities, entitlements and assets by which people make a living, attempt to meet their various consumption and economic necessities, cope with uncertainties and respond to new opportunities (de Haan and Zoomers, 2003). A livelihood is sustainable when it can cope with and recover from stress and shocks, maintain or enhance its capabilities, assets and entitlements both now and in the future, while not undermining the natural resource base (Chambers and Conway, 1992). The sustainable livelihood synthesizes all human activities including five core assets: physical capital (housing, vehicles, agricultural machines, communication facilities, transport infrastructure, irrigation works, electricity, markets, clinics, schools, bridges etc.), natural capital (forest, land, water, flora, fauna, pasture, biodiversity etc.), financial capital (cash assets, remittances, savings, livestock, income levels, variability over time, access to credit, debt levels etc.), human capital (education, knowledge, labour availability, household size, skills, health etc.) and social capital (rights or claims, friends, kin, support from trade or professional associations, families, communities, committees, businesses, voluntary organizations, political claims etc.) upon which the livelihoods are built (Carney, 1998). The households utilize these assets in their productive activities in order to create income and satisfy their consumption needs, maintain their asset levels and invest in their future activities (Scoones, 1998; Nicol, 2000; Ellis and Freeman, 2005).

The sustainable livelihood approach aims to find out about livelihoods to improve the design and implementation of poverty reduction efforts. It helps to analyze opportunities and constraints of the rural poor, builds better understanding of multiple perspectives, identifies what options have better potential to reduce poverty and what enabling conditions, policies and incentives are needed for the poor to increase the range of better livelihood options (Scoones, 1998; Ellis, 2000; Moriarty et al., 2004; Lankford,
2005). The framework delineates a set of livelihood outcomes for the people as increased well-being, more income, reduced vulnerability, improved food security and a more sustainable use of the natural resource base (Ashley and Carney, 1999; Carney et. al., 1999; Anon., 2000a).

**Nature of tribal livelihoods**

The livelihoods among tribal communities in India is complex, dynamic and multidimensional phenomenon, the perception of which varies with geographic location, type of community, age, gender, education, fluctuations in resources, services and infrastructures and social, economic, cultural, ecological and political determinants (Kumar et. al., 2009). Agriculture constitutes main source of livelihood among tribes in India playing a vital role in national economy, rural development, employment and occupation, agro-industries, food and nutrition security, growth and survival, social, economic and cultural conditions and poverty alleviation (Surayya et. al., 2008). About 70% of the population mainly depends on rain fed agriculture characterized by low productivity, un-predictive weather and calamities, degraded soil with low fertility, un-protective irrigation and degraded natural resources (Chakraborty et. al., 2009). These factors aggravated the problems of poverty, migration, unemployment, under-employment, food insecurity and malnutrition for millions of tribal people in India (Mourlin, 2007). The capability of agriculture and livestock production to form sustainable livelihoods of tribal poor is in continuous decline because the current overall endowments of production, distribution of productive assets and productive abilities are out of alignment with what is needed (Mourlin, 2007). Consequently, the tribal people are constrained to earn their livelihoods from forest resources.

**Forests based tribal livelihoods: status and potential**

Forests are important renewable natural resources generating livelihood requirements for more than 25% of the world’s population (Anon., 2001). Forestry is the second largest land use in India after agriculture covering 21.02% of the total geographical area of the country (Anon., 2011). Forests provide a wide spectrum of livelihoods for tribal communities in the form of direct employment, self-employment and secondary employment. The direct employment is provided by the forest department and other departments (rural development, agriculture and co-operatives) in the form of
managers, technical, research, planning and executive jobs. The other direct
dependencies consisted of labour force for rural masses generated by these departments
under regular forestry activities are growth, development and maintenance of the forests,
research and training, survey of forest resources, protection and conservation of forest
resources, soil and water conservation, felling, logging, conversion, transport and storage
of timber, harvesting, collection and processing of Non-Timber Forest Products (NTFPs),
preparation of nurseries, fencing, soil working, transplanting, planting, tending
operations, watering, fertilizer and pesticide application, protection and management of
plantation and infrastructure development.

The self employment in forestry create local people’s livelihoods through the sale
of fuel wood and fodder, grazing, lopping and grass cutting, forest based handicrafts and
cottage industries, sericulture, lac cultivation, bee keeping, charcoal burning, leaf plate
making, liquor making, rope making and basketry, medicines, collection, processing and
marketing of Non-Timber Forest Products (NTFPs), cultivation of agricultural crops
under agri-silvicultural practices, livestock rearing, social and farm forestry and availing
of rights and concessions. The application of local skills and village-level technology in
wood-based and small-scale forest-based enterprises provide secondary employment and
livelihood opportunities for tribal people, main amongst are saw milling, rayon, pulp and
paper, ply wood and panel products, wood seasoning and preservation, tanning, sports
goods, match splints, veneers, wooden boxes, bamboo and cane products, agricultural
implements, furniture, structural wooden items, musical instruments, bidi making,
educational goods, wood carving, wooden utensils etc. (Pant, 1984; Gera, 2002). Forest
development integrated with agricultural and industrial progress has great potential to
enhance livelihood security, poverty reduction and food security for vulnerable section of
society including illiterate, unskilled, resource-poor, jobless, landless and labourers
people in rural India (Tewari, 1989).

**Jharkhand state: an overview**

Jharkhand forms part of Chhotanagpur plateau of the Deccan Peninsular Bio-
geographic province. It is the youngest and 28th state of the republic of India and came
into existence on 15th November, 2000. It is situated between latitude 22°00’ and 24°37’
North and longitude 83°15’ and 87°01’ East sharing boundaries with Bihar in the north,
Orissa in the south, West Bengal in the east and Uttar Pradesh in the west. The name “Jharkhand” itself implies that it is a piece of land with forests/ bushes. Jharkhand has an area of 7.97 million ha constituting 2.42% of the total geographical area of India. The topography of the state is flat to undulating with hills, hillocks and valleys and has a mix of wild, semi-wild and cultivated habitats. Jharkhand has an enormous amount of forest and mineral resources. The net sown area of the state is only 22.68% while that of wasteland is 39.02%. The rainfed agriculture predominates due to poor irrigation facilities ranging from 2-8% with the agricultural production recording 50% deficiency and lowest per capita availability of food grains to the tune of just 230 Gms (Mishra, 2001). The climate of the state is dry semi-humid to humid semi-arid type with average annual rainfall of 1400 mm. Out of this, 82.1% rainfall is received during June to September and precipitation during winters is scanty and highly variable.

The state has a population of around 26.90 million (13.86 million males and 13.04 million females) with predominance of rural people (77.80%) and forest dwellers (60.00%) engaged mainly in agriculture (86.26%). The population consists of 28% Schedule Tribe, 12% Schedule Caste and 60% others with literacy rate of 53.58% (62.5% male literates and 37.5% female literates), population density of 338 persons per kilometer² and sex ratio of 941 females to 1000 males (Sivaji, 2009). Around 23.22 lakh families in the rural areas live below poverty line, of which 3.91 lakh belong to scheduled caste and 8.79 lakh to scheduled tribes. Poverty amongst the tribal people is more pronounced and it is 60.60% against the national average of 44.45% (Pal et. al., 2009). The state is characterized by hot climate, undulating plateau, hills and mountains, intermittent rivers, low ground water tables, high soil erosion, generally inefficient agricultural practices, tribal populace with a life style geared to forest ecology, rising agricultural unemployment and acute rural poverty.

Forest resources, biodiversity and tribal communities in Jharkhand

The Jharkhand state is bestowed with rich natural resources, abundant biodiversity and excellent human resources. Its geography is marked by the plateau of Chhotanagpur, catchments of three major rivers- Koel, Damodar and Subarnarekha and rich forest cover. Forests in Jharkhand extend over 23605 sq. km representing 29. 61% of the total state’s geographical area of which 81.28% are Protected Forests, 18.58% are
Reserved Forests and 0.14% are Un-classed Forests. In terms of forest canopy density classes, the state has 2590 km\(^2\) very dense forest, 9899 km\(^2\) moderately dense forest and 10405 km\(^2\) open forest. The state mostly conforms to the tropical dry deciduous forest, tropical moist deciduous forest and sub-tropical broad leaved hill forest. The state has one National Park and 11 Wildlife Sanctuaries covering an area of 2182.15 km\(^2\) which constitutes 2.74% of the state’s geographical area (Anon., 2009).

The forests are rich in biodiversity because of its diverse physiographic, climatic and edaphic conditions. The species richness is recorded in a wide range of taxa of both plants and animals which can be attributed to its terrain, variety of land forms (including water bodies) and climate. The forest vegetation varies from rich Sal forests to miscellaneous forests and sparsely covered grassland. The floral composition comprises a wide variety of trees, shrubs, herbs, bamboos, grasses, lianas, climbers, creepers, runners etc. Sal (Shorea robusta) dominates with 55% of the total growing stock. The forests of Jharkhand harbour a rich and varied wildlife species comprising mammals, birds, reptiles, amphibians and insects. The forest biodiversity of the state is under serious threat owing to the uncontrolled grazing, repeated fires, unsustainable harvesting of usufructs, extension of agricultural fields, habitat destruction and fragmentation by mining, rails, human settlements, dams and encroachment etc. The conservation and sustainable use of forest ecosystems and biodiversity is essential to support sustainable development with biological resources providing raw materials for livelihoods, sustenance, trade, medicine and industrial development (Choudhary and Sinha, 2007).

The state has been a home to 32 primitive tribal communities depending partly or fully on forests for livelihoods and income generation since time immemorial. Almost 16 million people are estimated to inhabit more than 10000 villages situated in and around forests in the state (Census of India, 2001). The Santhal, Oraon, Munda and Ho tribes together constitute about 78% state tribal population while Bedia, Kharia, Kharwar, Lohra, Mahlii, Mal Paharia and Bhumij tribes account for 15% and other tribal groups namely, Gond, Kol, Kanwar, Savar, Asur, Baiga, Banjara, Bathudi, Binjhia, Birhor, Birjia, Chero, Chick-Baraik, Gorait, Karmali, Khond, Kisan, Kora, Korwa, Parhaiya, Sauria-Paharia constitute the remaining 7% of the state tribal population (Anon, 2009). The tribals living in the resource rich regions have been the worst victims of the political
governance and the development strategy of the state. The people have to suffer from exploitative structure of the governance, forest department, poor market structure, rural stagnation, mass poverty, marginal gains from industrial and development projects, poor access to education and health, dispossession of individual and community resources, natural calamities, degradation of natural resources and lack of infrastructure (Fernandes, 1992; Singh, 1995).

**Livelihood sustainability and poverty alleviation: challenges and opportunities**

India has the single largest concentration of rural poor than any other country (Rao, 2000). India with just 2.40% of the total geographical area and 1.0% of the total forest area of the world is burdened with 16.0% of world’s human and 15.10% of world’s livestock population (Prasad and Bhattacharya, 1998). Of the total population in India, about 72.20% are concentrated in rural areas and living in and around forest areas. An estimated 275 million poor people accounting 27% of the total population depend on forest resources for their livelihoods and means of survival in rural India (Bajaj, 2001; Pandey, 2009). Over 50% of forest revenue and 70% of export income are collected from Non-Timber Forest Produces (Campbell, 1993; Bhatt et. al., 1992). The Non-Timber Forest Produces provide 50% of income for 20-30% of rural people in India (Shekhar et. al., 1993; Chopra, 1997).

The tribal communities constituting over 70% of the forest dwellers are among the poorest, socially neglected, geographically isolated and economically exploited most vulnerable section in the society lacking the basic necessities to maintain a decent standard of living: sufficient and nutritious food, adequate shelter, access to health services, energy sources, safe drinking water, education and a healthy environment (Anon., 2006). The tribal districts constitute only 33.64% of the country’s geographical area, though the forest cover in these districts is 59.72% of the total forest cover of the nation (Anon., 2011). The tribal peoples are an integral component of forests having inseparable symbiotic and mutually reinforcing relationship and emotional attachment (Quli and Singh, 2009). Tribals are primarily major gatherers of a wide range of Non-Timber Forest Produces besides hunters, shifting cultivators, herders, simple farmers and other traders. They form the major labour force in forestry operations, forest based
enterprises and industries, protection and conservation of forest resources and implementation of forestry projects.

The forests resources are used by the tribal communities to meet their daily livelihood needs in terms of fuel wood, charcoal and kindling, fodder and browse, mulch and compost, construction timber, shelter, housing and fencing materials, poles, utensils, ornamental and decorative materials, musical instruments, agricultural implements, carving woods, furniture, fibre, medicines, twig brushes, dyes, thatch, brushes and brooms, foods (mushrooms, vegetables, fruits, kernels, nuts, tubers, flowers, spices, jams, beverages, eggs, birds, insects, fishes, honey etc.), cloth, religious and aesthetic goods, animal products and abiotic materials. The forests also satisfy their social, economic, cultural, religious, ethical, traditional, spiritual, ecological and political aspirations (Vidhyarthi and Gupta, 2001).

The dependence of tribal population on forests for their livelihood and household income varies from 15 to 84% depending on the community and the region (Sarin, 2001). The in-efficient utilization and management of forests to maintain flows of material and environmental inputs into livelihood systems, tribal people often transform the resources (Prasad and Siddiqui, 2006). The existence of multiple categories of users, with different and often competing interests develops inequitable and ineffective systems of participatory control and management of forests leading to use of forest resources in an unsustainable manner (Bebbington, 1999). Tackling inequitable and insecure access to forest goods and services is the most important action needed to reduce tribal poverty and improve forest conditions (Ogle, 1996). Poverty among tribal communities living adjacent to forests is generally linked to inadequate and low productive arable land, illiteracy, large family size, remoteness, low socio-economic status, low infrastructures and communication facilities, lack of government services, markets and jobs, indigenous technology, local customs and traditions etc. Whereas, the significant contribution of forests and forest produces based livelihood of tribal communities on poverty alleviation, socio-economic development and forest conservation are largely unnoticed (Kumar et al., 2000). Concern over the fate of the traditional forests and the tribal communities who depend on forest resources for their livelihood has led to strengthen the forest ecosystem and create new forest based employment and income generation avenues by utilizing the
existing renewable resources (Malhotra et. al., 1991). By doing so, the tribal people can secure their rights to the forests, develop sustainable management regimes, preserve the forest, conserve its resources and enhance household income.

**Exploring livelihood strategies: the only hope for future**

Dependence on forest resources is an important source of livelihood for a large number of poor families in the state and the pattern of dependence shown great variation across different regions of the state. Majority of the tribal households meet a large share of their construction, storage, agricultural, energy, nutritional, medicinal and income needs from forests (Quli and Singh, 2010). Ease of access and proximity to widely dispersed rural markets, enable tribal people to generate a major share of their household income from forest based livelihood. But, during recent decades the levels and patterns of forest dependence, nature and strength of needs for forest products and access to tree resources has changed considerably among tribal communities. Unsustainable utilization of forest resources resulted in forest degradation, unemployment, poverty and migration of tribal people to a great extent.

Over the years, the focus on forest management has shifted from timber to resource conservation. Social Forestry plantations, Agroforestry practices, Joint Forest Management and Community Based Forest Management were few strategies evolved from time to time to meet the livelihood needs of the local people and reduce the pressure on the natural forests. Forest Conservation Act (1980), National Forest Policy (1988), Joint Forest Management Resolution (2001) and Schedule Tribe and other Traditional Forest Dwellers (Recognition of Forest Rights) (2006) are some Government attempts and interventions to strengthen both forests and livelihood dependence (Sivaji, 2009). The actual and potential role of forest goods and services in people’s livelihoods is directly related to what’s happening with forest reserves, protected areas, non-timber forest product (NTFP) use, farm forestry, the forest-product industry and the extent to which policy and institutions can influence all of these (Singh, 2007).

The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Rules, 2007, Government of India, Ministry of Tribal Affairs permitted Schedule Tribes to exercise their forest rights over minor forest produce, uses of entitlements (fish, water bodies), grazing, biodiversity, traditional resources, community
tenures of habitat and habitation, intellectual property and traditional knowledge and other traditional rights for livelihoods. One of the major goals of the vision-2020 of the Forest and Environment Department, Jharkhand is to give greater stress on those developmental programmes which offer sustainable employment/livelihood alternatives to forest dependent survival and assure future generations of a green and healthy Jharkhand. The Policies on NTFP management & trade in Jharkhand ensured a number of rights and concessions in access of forest resources for tribal people. The per capita agricultural and forest area in the undivided Jharkhand (Jharkhand + Bihar) were 0.067 ha and 0.027 ha, respectively while after advent of Jharkhand, it remained as 0.066 ha and 0.087 ha, respectively demanding a shift in livelihoods focus from agriculture to forestry. Despite all this, the state has not paid much attention on the livelihood generation of rural and tribal people exploiting forest resources.

The linkages between tribal people, livelihood dependence on forest resources and poverty is complex and requires locally-specific analysis (Singh et. al., 2007). In order to understand the contribution and potential of forest and forest outputs to tribal livelihoods, poverty reduction, socio-economic upliftment, nutritional security, environmental conservation, migration restrain and rural development, it’s changing pattern and reasons for changes, it is imperative to design a research plan based on multi-disciplinary approaches. Keeping the above facts in view, the present study entitled “Studies on forest based tribal livelihood in Bundu block (Ranchi, Jharkhand)” has been undertaken in nine villages viz., Korda, Jojoda, Husirhatu, Banaburu, Nehalgara, Ghagrabera, Hesapiri, Roredih and Kuchidih under Bundu block of Ranchi district in Jharkhand with the following specific objectives:-

**Objectives of the study**

1. To study the socio-economic and ecological aspects of the locality.
2. To analyze the existing pattern of forest based tribal livelihood in the locality.
3. To suggest strategies for poverty alleviation and ecological stability of the locality.

**Scope and importance of the study**

The study will generate solutions for the problems of deteriorating socio-economic and ecological conditions of the tribal areas where people are fully or partially
dependent on forest resources for their livelihood. The strategies developed will be useful in efficient utilization and mobilization of existing resources for all-round development of the area. The findings will be of great importance for scientists, planners and extension workers for planning, formulation and implementation of developmental projects for tribal poverty alleviation through utilization of eco-friendly forest based livelihood strategies.

**Limitation of the study**

Though efforts were made to ascertain the objectivity of the research by remaining impersonal, unbiased and unprejudiced, the study did suffer from several difficulties and constraints. The findings of the study are based on human behaviour influenced by physical, social, temperamental and psychological factors; hence the objectivity of the study is limited to the respondent’s ability of understanding, recalling and verbal expression in furnishing the required informations. Reliable data on earnings, landholdings and other assets were often difficult to obtain since rural people are usually reluctant to share such informations. The quantification of certain NTFPs is very difficult and therefore were left out of the estimates. In social sciences, complete universality is, however, rarely achieved, thus the findings of the research may be applicable in similar situations.

**Lay out of dissertation**

The study has been presented in five chapters. The Chapter I deals with the introduction containing statement of the research problem, objectives, scope, importance and limitation of the study. The Chapter II is devoted to review of literatures connecting the present investigation with similar studies conducted earlier and elsewhere. The selection of the study area, sample and sampling techniques, method of data collection, variables and their measurements, statistical tools and techniques used are furnished in the Chapter III while the Chapter IV deals with the results and discussion. The chapter V highlights summary and conclusion. The preliminary pages of the thesis included title page, table of contents, acknowledgment, list of abbreviations, list of tables and list of figures and maps. Bibliography, appendices/ annexures and photographs are presented at the end of the thesis.