

# Chapter - 1

## Introduction

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Indian agriculture still continues to be the single most important livelihood of the masses. Agriculture policy focus in India across decades has been on self-reliance in food grain which we achieved through Green revolution. The national economy of India is heading for an inclusive growth and in making this progress a reality livelihood generation from core agricultural and rural sector must have to go all out and sustainable livelihood generation mentoring customization and value addition have got both intrinsic & extrinsic dynamism. There is million dollar question whether the livelihood change & its dynamics are heading for their livelihood and life process.

Poverty in rural India is a common feature. The gradual impoverishment of purchasing capacity of rural masses appears to be a threat. Even suicidal cases among the farmers due to poverty and frustration are not rare cases (Bagchi, 2008). There are several factors, which may be responsible for making the farmers resource poor, poverty driven and victim of malnutrition. Lack of education, lack of knowledge, insufficient extension

coverage, weak market accessibility and several other factors may have contribution in this regard. At the same time the soil health and the ecological balance are deteriorating day by day due to excessive use of input like chemical fertilizers, chemical pesticides etc. in most of the areas. As a result of that productivity is also reducing simultaneously.

Population growths, fragmentations of holding, shrinkage of agricultural lands are also creating obstacles to agricultural growth. Poverty has increased thrice in last three decades and right now around 350 million people are having a hard run below poverty line.

Pressures are mounting up with the emerging challenges for searching out more and more livelihood from less and less land and more and more income from more and more occupational stresses. The victim of increasing abject poverty is the populace from rural labourers, marginal farmers, dying rural artisans, the children and women and the traditional forest and coastal dwellers. The reality become harsher while the contribution of agriculture to the national GDP is slanting from 27% to 14% in recent times and the people dependent on agriculture is more than 58 per cent yet.

### **Changing Trends in Agriculture**

Majority of the India farmers derive their livelihood from agriculture. During the Tenth Five Year Plan, gross domestic product (GDP) originating from agriculture and allied activities was 2.3 percent compared to 8.0 percent in the industrial sector and 9.5 percent services sector. During this plan period, the growth in the agriculture and allied activities averaged 2.3 percent which is lower than that of 3.2 percent during the 1990s and 4.4

percent during the 1980s. Also, there is a shift from staples to cash crops which is the major reason for food insecurity. From 1960-61 to 1998-99 the area under grain crops has gone down from 45 million hectares to 29.5 million hectares, area under cotton has increased from 7.6 to 9.3 million hectares and area under sugarcane has increased from 2.4 to 4.1 million hectares.

Since 1990-91, due to the new Economic policies, the area under food grains and coarse grains have declined by -2 and -18 percent respectively while area under non-food cash crops such as cotton and sugar-cane have increased by 25 and 10 percent respectively. However, production of milk has increased from 84.4 m tonnes (2001-02) to 97.1 m tonnes (2005-06). Production of eggs has increased from 38729 million (2001-02) to 46231 million (2005) (Ghatak, 2007).

The decline in per capita consumption of cereals, in particular coarse cereals, has worsened the nutritional status of the rural poor. In the case of the poor, total consumption of high value cereals like rice has declined by 10 percent due to rise in prices of cereals in real terms during the 1990s and dietary diversification towards non-food grains. Similarly, average daily intake of protein by the Indian population decreased from 60.2 grams to 57 grams in the rural area between 1993-94 and 2004-05 (Praduman Kumar, et. al. 2007). Recent studies indicate that household level food security for the poor households is changing for the worst. Household Level Food Security - Its Importance As P Sainath (2007), puts it: "*Seldom has policy been so forcefully implemented as in the 1990s. For ten years, governments have*

*assaulted the livelihoods and food security of the poor. That security does not lie in mountains of grain but in millions of jobs and workdays for people*". Food security at the national, state or district level does not automatically ensure food security at the house hold level. Today, commercial crops are being recommended by Agriculture Departments to improve the economic status of farmers without explicit consideration of their household level food security. What most small and marginal farmers often need is food crops such as short duration cereals, millets and fodder crops to meet their family's food and fodder needs.

### **Poverty in India**

The Planning Commission is the nodal agency in the Government of India for estimation of poverty at the National and State levels. As per latest official poverty estimates for the year 2004-05, the total number of persons living below poverty line (BPL) for the year 2004-05 is **354.7** million accounting for **29.8%** of the total population.

The committee was headed by SD Tendulkar has used a different methodology to reach at the current figure. It has taken into consideration indicators for health, education, sanitation, nutrition and income as per National Sample Survey Organization survey of 2009-10. This new methodology is a complex scientific basis aimed at addressing the concern raised over the current poverty estimation.

Since 1972 poverty has been defined on basis of the money required to buy **food worth 2100 calories in urban areas and 2400 calories in rural areas**. In March this year a government committee headed by NC Saxena

committee estimated 37.5% Indians were poor which accounts for 407.6 million persons.

Poverty is one of the main problems which has attracted attention of sociologists and economists. It indicates a condition in which a person fails to maintain a living standard adequate for his physical and mental efficiency. It is a situation people want to escape. It gives rise to a feeling of a discrepancy between what one has and what one should have. The term poverty is a relative concept. It is very difficult to draw a demarcation line between affluence and poverty. According to Adam Smith - Man is rich or poor according to the degree in which he can afford to enjoy the necessaries, the conveniences and the amusements of human life.

Poverty in India is still rampant despite an impressive economic growth. An estimated 250 million people are below the poverty line and approximately 75 per cent of them are in the rural areas. In general, poverty can be defined as a situation when people are unable to satisfy the basic needs of life. The definition and methods of measuring poverty differs from country to country. According to the definition by Planning Commission of India, poverty line is drawn with an intake of 2400 calories in rural areas and 2100 calories in urban areas. If a person is unable to get that much minimum level of calories, then he/she is considered as being below poverty line.

Even after more than 50 years of Independence **India still has the world's largest number of poor people in a single country.** Of its nearly 1 billion inhabitants, an estimated 354.6 million are below the poverty line, of which 278.2 million are in the rural areas and 76.4 million are in urban

areas. More than 75% of poor people reside in villages. Poverty level is not uniform across India. The poverty level is below 10% in states like Delhi, Goa, and Punjab etc whereas it is below 50% in Bihar (43) and Orissa (47). It is between 30-40% in Northeastern states of Assam, Tripura, and Meghalaya and in Southern states of Tamil Nadu and Uttar Pradesh.

Poverty has many dimensions changing from place to place and across time. There are two inter-related aspects of poverty - Urban and rural poverty. The main causes of **urban poverty** are predominantly due to impoverishment of rural peasantry that forces them to move out of villages to seek some subsistence living in the towns and cities. In this process, they even lose the open space or habitat they had in villages albeit without food and other basic amenities. When they come to the cities, they get access to some food though other sanitary facilities including clean water supply still elude them. And they have to stay in the habitats that place them under sub-human conditions. While a select few have standards of living comparable to the richest in the world, the majority fails to get two meals a day. The causes of rural poverty are manifold including inadequate and ineffective implementation of anti-poverty programme. The overdependence on monsoon with non-availability of irrigational facilities often result in crop-failure and low agricultural productivity forcing farmers in the debt-traps. The rural communities tend to spend large percentage of annual earnings on social ceremonies like marriage; feast etc. Our economic development since Independence has been lopsided. There has been increase in unemployment creating poverty like situations for many.

Population is growing at an alarming rate. The size of the Indian family is relatively bigger averaging at 4.2. The other causes include dominance of caste system which forces the individual to stick to the traditional and hereditary occupations.

Since the 1970s the Indian government has made poverty reduction a priority in its development planning. Policies have focused on improving the poor standard of living by ensuring food security, promoting self-employment through greater access to assets, increasing wage employment and improving access to basic social services. Launched in 1965, India's Public Distribution System has helped meet people's basic food needs by providing rations at subsidized prices. Although it has affected less than 20% of the Poor's food purchases, the system has been important in sustaining people's consumption of cereals, especially in periods of drought. It has provided women and girls with better access to food and helped overcome the widespread discrimination against female consumption within households. It has also reduced the burden of women, who are responsible for providing food for the household.

The **largest credit-based government poverty reduction programme in the world, the Integrated Rural Development Programme** provides rural households below the poverty line with credit to purchase income-generating assets. Launched in 1979, the programme has supplied subsidized credit to such groups as small and marginalized farmers, agricultural laborers, rural artisans, the physically handicapped, scheduled castes and scheduled tribes. Within this target population, 40% of the

beneficiaries are supposed to be women. Although the programme has reached 51 million families, only 27% of the borrowers have been women. The programme has significantly increased the income of 57% of assisted families.

**Rural poverty** is largely a result of low productivity and unemployment. The Jawahar Lal Rozgar Yojana, a national public works scheme launched in 1989 with financing from the central and state governments, provides more than 700 million person days of work a year about 1% of total employment for people with few opportunities for employment. The scheme has two components: a programme to provide low-cost housing and one to supply free irrigation wells to poor and marginalized farmers. The public works scheme is self-targeting. Since it offers employment at the statutory minimum wage for unskilled manual labor, only those willing to accept very low wages the poor are likely to enroll in the scheme. By providing regular employment and thereby increasing the bargaining power of all rural workers, the public works scheme has had a significant effect in reducing poverty. It has also contributed to the construction of rural infrastructure (irrigation works, a soil conservation project, drinking water supply). Evaluations show that 82% of available funds have been channeled to community development projects. Targeting was improved in 1996 when the housing and irrigation well components were delinked and focused exclusively on people below the poverty line.

**Livelihood:**



A livelihood can include a number of activities, not all of which involve money. For example, a family may cultivate a home garden to produce food for family consumption, earn a small income by renting a piece of land, work as seasonal agricultural laborers, make bricks, sell eggs from their poultry, occasionally work on a construction or road repair site, and receive money each month from their daughter who works in a garment factory. All of these things together are their livelihood.

### **A sustainable livelihood**

- Enables a family to cope with and recover from stresses or shocks
- Maintains or improves assets and capabilities
- Maintains or improves the natural resource base
- Does not undermine the livelihoods of others
- Provides for future generations

Rather than focusing on problems and 'needs,' we help people identify individual and community assets and find ways of using and increasing these assets to develop sustainable livelihoods. These might include social assets (*e.g. social networks, self-help groups, CBOs*), natural assets (*e.g. land, sea, rocks, trees*), human assets (*e.g. knowledge, skills, experience, mental and physical health*), physical assets (*e.g. roads, buildings, equipment, telecommunications*) and financial assets (*e.g. savings, pensions, remittances, credit*). We help households, producer groups and CBOs assess their resources, plan and achieve their livelihood goals and monitor change. The Sustainable Livelihoods Framework described above serves to explain some of the different linkages that can be encountered between local

institutions and livelihoods. But in the framework, these linkages remain relatively abstract. What does a “linkage” mean in more concrete terms? A linkage here is taken to mean any way in which an institution influences or affects a livelihood strategy undertaken by a particular group or individual, or, vice versa, any way in which a livelihood strategy influences or affects an institution.

### **The Sustainable Livelihoods Approach**

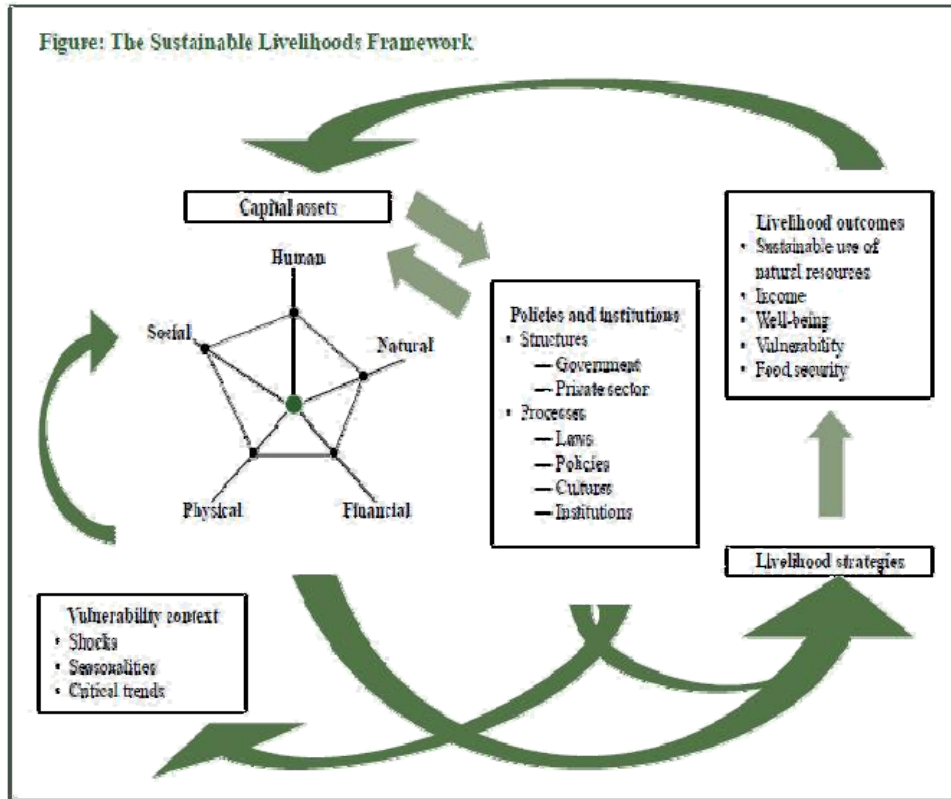
The sustainable livelihoods approach is a way of thinking about the objectives, scope, and priorities for development activities. It is based on evolving thinking about the way the poor and vulnerable live their lives and the importance of policies and institutions. It helps formulate development activities that are:

- People-centered
- Responsive and participatory
- Multilevel
- Conducted in partnership with the public and private sectors
- Dynamic
- Sustainable

The sustainable livelihoods approach facilitates the identification of practical priorities for actions that are based on the views and interests of those concerned but they are not a panacea. It does not replace other tools, such as participatory development, sector-wide approaches, or integrated rural development. However, it makes the connection between people and the overall enabling environment that influences the outcomes of livelihood

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strategies. It brings attention to bear on the inherent potential of people in terms of their skills, social networks, and access to physical and financial resources, and ability to influence core institutions.



### Capital Assets

The sustainable livelihoods framework helps to organize the factors that constrain or enhance livelihood opportunities and shows how they relate to one another. A central notion is that different households have different access livelihood assets, which the sustainable livelihood approach aims to

expand. The livelihood assets, which the poor must often make trade-offs and choices about, comprises:

- **Human capital**, e.g., health, nutrition, education, knowledge and skills, capacity to work, capacity to adapt.
- **Social capital**, e.g., networks and connections (patronage, neighborhoods, kinship), relations of trust and mutual understanding and support, formal and informal groups, shared values and behaviors, common rules and sanctions, collective representation, mechanisms for participation in decision-making, leadership.
- **Natural capital**, e.g., land and produce, water and aquatic resources, trees and forest products, wildlife, wild foods and fibers, biodiversity, environmental services.
- **Physical capital**, e.g., infrastructure (transport, roads, vehicles, secure shelter and buildings, water supply and sanitation, energy, communications), tools and technology (tools and equipment for production, seed, fertilizer, pesticides, traditional technology)
- **Financial capital**, e.g., savings, credit and debt (formal, informal), remittances, pensions, wages.

### **Vulnerability Context**

Vulnerability is characterized as insecurity in the well-being of individuals, households, and communities in the face of changes in their external environment. People move in and out of poverty and the concept of vulnerability captures the processes of change better than poverty line measurements. Vulnerability has two faces: an external side of shocks,

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seasonality, and critical trends; and an internal side of defenselessness caused by lack of ability and means to cope with these. The vulnerability context includes

- Shocks, e.g., conflict, illnesses, floods, storms, droughts, pests, diseases
- Seasonality, e.g., prices, and employment opportunities
- Critical trends, e.g., demographic, environmental, economic, governance, and technological trends.

### **Policies and Institutions**

Livelihood strategies and outcomes are not just dependent on access to capital assets or constrained by the vulnerability context; they are also transformed by the environment of structures and processes. Structures are the public and private sector organizations that set and implement policy and legislation; deliver services; and purchase, trade, and perform all manner of other functions that affect livelihoods. Processes embrace the laws, regulations, policies, operational arrangements, agreements, societal norms, and practices that, in turn, determine the way in which structures operate. Policy-determining structures cannot be effective in the absence of appropriate institutions and processes through which policies can be implemented. Processes are important to every aspect of livelihoods. They provide incentives that stimulate people to make better choices. They grant or deny access to assets. They enable people to transform one type of asset into another through markets. They have a strong influence on interpersonal relations. One of the main

problems the poor and vulnerable face is that the processes which frame their livelihoods may systematically restrict them unless the government adopts pro-poor policies that, in turn, filter down to legislation and even less formal processes.

### **Livelihood Strategies and Outcomes**

Livelihood strategies aim to achieve livelihood outcomes. Decisions on livelihood strategies may invoke natural- resource based activities, non-natural resource based and off-farm activities, migration and remittances, pensions and grants, intensification versus diversification, and short-term versus long-term outcomes, some of which may compete. (One of the many problems of development is that projects and programs, while favoring some, can disadvantage others.)<sup>2</sup> Potential livelihood outcomes can include more income, increased well-being, reduced vulnerability, improved food security, more sustainable use of the natural resource base, and recovered human dignity, between which there may again also be conflict.

In terms of the livelihood framework described above, this may mean the way in which an institution affects the different livelihood assets or capitals that people use for their livelihoods - by controlling access to those assets, or by influencing how, where, when and by whom they are used. For example, an environmentally protected area, such as a park or game reserve, represents a particular type of local institution that could link with the livelihoods of people living in the area in several different ways. A protected area would itself be the product of several other institutions - such as the Ministry of the Environment; the legal system that allows protected

areas to be created; the constitution of the country that mandates the government to protect the environment; and local pressure groups that have persuaded the government to set up the protected area. The creation of a protected area might strongly influence people's access to natural assets within the area - households that went hunting for animals may no longer be able to do so; people who collected wild grasses, firewood or wild fruits may have their access to these regulated or stopped altogether; grazing of livestock may be prohibited inside the protected area. People's livelihood assets could be affected in other ways as well. The protected area might limit access to traditional religious sites or burial grounds that have particular cultural significance, having an impact on people's social capital. If local people have to move their residence to outside the protected area, their physical capital will be affected. Being made to shift from an area they know well to an area where they are unfamiliar with the natural environment will reduce people's human capital as their acquired knowledge and skills may no longer be relevant.

This proposal intends to operationalize the concept of Knowledge Network (KN) visualized by Honey Bee Network on the basis of its experiences of last ten years. The KN aims at scouting, stimulating, sharing and sustaining creativity and innovations at grassroots by establishing symbiotic linkages between local innovators, investors, R&D institutions and experts, entrepreneurs, policy makers and other civil society actors. *The Knowledge Network can be described as multi-channel, multi-node, multi-level network of individuals and institutions engaged in generating sustainable creative*

*solutions through augmenting local innovations and knowledge systems.* It deals with the best of the formal as well as informal knowledge systems. It encourages the diffusion and scaling up of technological as well as institutional solutions which existing institutions, markets and structures fail to promote. It helps overcome one of the major constraints faced by creative communities and individuals i.e. their sense of isolation. It provides scope for lateral learning among those who solve problems and not just those who articulate the same. In that sense KN aims to experiment with solution augmenting approach rather than just problem solving approach. It recognizes that local communities may not always achieve optimal solutions to local problems and thus linkage with modern science and technology, markets, and other institutions may be necessary. But this should be possible at the terms which grassroots innovators can negotiate and deal with. The knowledge network will mainly focus on value added or raw grassroots green innovations as well as traditional knowledge which is very obscure on Internet or for that matter on any other net (particularly contemporary innovations). We also want to overcome the isolation of such public spirited scientists in public or private sector who treat people's knowledge about biodiversity and other resources with respect but are isolated and often ignored by their peers.

#### **NATURAL RESOURCES MANAGEMENT AND LIVELIHOOD**

Natural resources, such as water, land and forests are fundamental to the livelihoods of the rural poor. Our projects target rain fed areas where water is limited, soils are fragile and prone to erosion and forests play a key role

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in supplying the products necessary to support the livelihoods of the poorest. Under such conditions sustainable management of natural resources to ensure lasting benefits is paramount. The watershed management programmes of Government of India, which DFID supports in Andhra Pradesh and Orissa, are grounded in the conservation and sustainable use of water and soils in hydrological units.

### **Water**

Rural livelihoods programmes are contributing to improved management of water resources, through watershed management interventions, including demand-driven improvements to drinking water. This is leading to important changes in the lives of the rural poor, particularly women. In APRLP watersheds there has been a major increase in the availability of water, through the revival of previously dry bore wells and dug wells. The number of surface water sources has tripled. Nearly half of all APRLP watersheds have seen an increase in groundwater levels. More land has been brought under irrigation, primarily due to good rainfall, watershed interventions, and availability of credit under APRLP. Whilst watershed management activities have brought many benefits, there is a danger that they may also contribute to unintended consequences, including reduced inflows to traditional tank systems, catchment closure and groundwater overdraft. Given that there is limited scope for increasing water resources, the emphasis needs to shift towards improved management of existing water resources and, in particular, ensuring that allocation of water to meet primary needs has priority. This requires an efficient and equitable water

governance system for using and allocating available water resources. APRLP has contributed in this area, developing tools such as water audits, which can assist decision makers to make informed decisions about water, taking into account issues of equity, sustainability and efficiency.

### **Land**

Land is of equal importance to water in supporting livelihoods. In some of the remote hilly areas targeted by the rural livelihoods programmes land resources are fragile and subject to erosion and damage if they are misused. Low levels of nutrients, which are further depleted by cropping; low levels of soil organic matter and limited water holding capacity constrain land productivity. Shortage of common grazing land is often a limitation to livestock raising, and the grazing land that does exist is often degraded. Soil conservation is an integral part of the works component of watershed development, and WORLP and APRLP pay attention to the management of common grazing land in watershed development plans.

### **Changes in Livelihood and Gender Patterns**

A number of studies are pointing to increasing poverty levels in many parts of the developing world (Baden with Milward, 1995). The incidence, severity and distribution of poverty has not been uniform over time and space, but it is becoming increasingly clear that the vulnerability (to shocks) of the poor is increasing in many parts of the developing world especially in countries that are marginalized in the world economic system or affected by conflict and civil disorder. A number of studies have illustrated the increasing reliance of the poor on diverse forms of coping and survival

strategies (Moser, 1996; Davies, 1996b). In the context of increasing poverty in many developing countries, the emerging trend is that women's capabilities are being eroded much more quickly than men's. Gender inequality in terms of access to resources seems to be increasing and more and more people are having to resort to unsustainable forms of livelihoods.

### **Rural Livelihoods**

Contemporary economic growth processes often polarize men's and women's experiences and opportunities and increase economic and gender inequalities (WRI, 1994). Suppressing domestic demand in the early stages of economic restructuring and the reorientation of the economy towards export production has mixed results. As production for export has increased, firms in industry and agribusiness have provided both wage and self-employment for women. Nevertheless, the promotion of trade has on balance benefited men and adversely affected women who are mainly involved in the production of non-tradeables (IDB, 1995). The introduction of new technology, new agricultural practices and legislation continues to favor men. A significant trend in developing countries has been the move towards private ownership in land. New laws tend to be premised on the assumption that men are heads of households. In Latin America, this has meant that women have been excluded from rights to land ownership. In many rural areas women are less likely to have access to agricultural credit (without collateral such as land) and have limited opportunities for participation in decision-making processes oriented towards enhancing agricultural production (World Bank, 1995b). This tendency limits women's

scope to ensure sustainable livelihood. An emerging trend is the '**feminization of agriculture**'. As men migrate to cities in search of employment, rural women increasingly have to take up a number of agricultural tasks with limited capabilities (FAO, 1995a). Some observers believe that there has been some progress on the advancement of the status of rural women. Increasing alliance-building and networking among rural women has facilitated the integration of their concerns into policymaking. The recent introduction of new international agreements, legislation, policies and programmes may eventually improve women's access to land and tenure security. NGOs and community-based organizations have given rural women a voice (FAO, 1995a). But it is doubtful that this has done enough to reverse the processes leading to the feminization of agriculture and women's decreasing ability to ensure sustainable livelihood.

### **Livelihood and Horticulture**

Promotion of horticulture can, not only lead to livelihood security and higher economic returns but also nutritional security. The region is ideally suited for arid and sub-tropical horticulture. Even tuber crops could fit the crop rotation and lead to higher yield and income. In order to help farmers to go for horticulture, the university has laid stress on fruit crops like guava, mango, aonla, pomegranate etc. In RCA, Voluntary Centre of AICRP on Vegetables has been opened. Floriculture unit has been strengthened. Post harvest technology unit also is going to be expanded looking into the relevance and demand for the region. Establishment of Hi-tech Horticulture Unit will go a long way in promoting horticulture in the region.

Technologies will be developed, high quality planting material generated and training provided to farmers and rural youth so that this activity is taken up in a big way.

### **Fisheries and Livelihood**

Fisheries provide a food and protein source to fishers' households and the wider population. Fish provide the main source of animal protein to about one billion people globally and in coastal areas the dependence on fish is usually much higher. Inland fisheries are particularly important for the food security of poor people, as most inland fish production goes for subsistence or local consumption.

### **Employment**

Around 38 million people worldwide are employed in fisheries and aquaculture, 95% of them in developing countries. The majority are involved in small-scale fisheries. Related industries such as processing and marketing also provide employment for approximately 50 million people. In some areas, a large proportion of the population is involved in fishing, for example a study in Tanga (Tanzania) found that 70-80% of males were involved in fishing. Migrant fishers may employ agricultural workers as crew, providing seasonal employment and contributing to village economies.

### **Financial benefits**

Fisheries can provide an important contribution to household cash income. A study in Tanzania found that between 65 and 90% of fish production is

sold, compared to only 15% of agricultural production in the same communities. This cash income gives access to other benefits such as education, health services, clothing, other foodstuffs etc. It also allows investment in other assets or enterprises such as land, livestock or fishing gear, which in turn can further reduce vulnerability to poverty.

### **Social and cultural benefits**

Beyond the food, employment and financial benefits, there can be significant social and cultural outcomes attached to fishing. Fishers, their families and their wider communities benefit. In fisheries that are community managed and fished, the income from fishing may go towards community projects and improving infrastructure and services for the community, or towards support for needy families. For example, in Lao PDR, increased production from inland enhancement fisheries provided greater community income for community projects such as building health centers, or to support poorer community members.

Fishing is rarely carried out alone and is often a very social activity, strengthening bonds between people and community cohesion. Research by FMSP in the Pacific showed that the benefits of community rules that limit fishing were primarily social, through community fishing days when the fish were harvested to provide a feast. People often turn to natural resources when other livelihood options are limited, and fisheries can act as a 'safety net' for the poor. For example, during years of conflict in Mozambique, many people who were displaced from their agricultural lands in the hinterland migrated to the coast and turned to fishing. However, problems

are often associated with open-access arrangements which fail to control exploitation of the fish stock. The result may be overexploitation and reduced productivity of the fishery.

### **Livelihoods and Climate Change**

Livelihoods are an idea that has been gaining increasing currency in recent years and is now seen as fundamental to poverty reduction approaches around the world. The emergence of livelihoods approaches has led to new understandings on how poverty, and the ability to move out of poverty, reflects the (lack of) capabilities and assets available to the poor. This includes material assets such as access to land, other natural resources, financial capital and credit, tools and inputs into productive activities and others. It also reflects human capabilities (the knowledge and skills of the family), social and political factors such as contact networks and the openness of government institutions and, critically for our purposes, the capability to withstand the effects of shocks such as natural disasters. For most households, and especially for poor people, these assets are deployed in a series of livelihood activities: the means through which a household gains an income and meets its basic needs. This includes paid employment, but for poor people in particular it includes the ability to farm and to exploit common property resources for livestock, fishing, gathering fuel wood and many other things. Reliable and secure access to these resources, to land, water and biotic resources, is fundamental to the livelihoods of the poor. Climate-induced changes to resource flows (whether temporary, reflecting variability or structural, reflecting change) can fundamentally affect the

viability of the livelihoods of the poor. Indeed, in many ways this is what climate change impacts are all about: changes to resource flows critical for livelihood sustainability. All of these six concepts—adaptation, vulnerability, resilience, security, poverty and livelihoods—are open to many interpretations. It is hoped that the explanations given here will provide a basis for the identification of the most effective processes through which actions to assist the poor and vulnerable to adapt to climate change can be developed.

### **Livestock and Livelihood**

Diversification of farm, non-farm and livestock activities appears to be the route that the majority of the households pursue in trying to improve their income situation, maybe as an adaptive strategy. Econometric analysis suggests that a ‘farm with livestock route’ appears the best in terms of escaping poverty, with only 14% remaining in poverty over the long term through this path. On the other hand, the risk of being unsuccessful is the lowest through the ‘non-farm route’. This indicates that those who are able to pursue a single strategy may be with some degree of specialization, they are more likely to exit poverty. However, proportionately more households are struggling through these routes. In fact, very few households specialize in either farm or non-farm or livestock. This implies that poverty reduction strategies need to incorporate opportunities for the poor to enter into specialized non-farm activities. Expansion of training linked to certain activities is an option. At the same time, poor farmers and livestock keepers should have the opportunity to diversify income through non-farm



activities. Livestock is a common enterprise along with other farm and non-farm industries; around 50% of the households hold one or another type of livestock or earn income from livestock-related occupations, either in-village or outside the village through migration or commuting. Although income share earned from livestock directly is not high, holders get indirect benefit to keep it, such as buffering function, home consumption etc. Some livestock related jobs in the migration/ commuting route are identified in the recent survey, predominantly in larger, commercial livestock units identified in our earlier study (Akter et al. 2007). Targeted trainings related to jobs in commercial livestock production may be helpful for the poorer to get employment. A resurvey of the panel would yield more, and more detailed policy recommendations.

### **Poultry and livelihood**

Poultry eggs and meat are important sources of high quality protein, minerals and vitamins. They have a special importance as supplementary nourishing food, particularly in the diets of growing children, sport-persons, pregnant women and nursing mothers. Poultry is an important part of allied agriculture. It provides supplementary income and employment to a large number of small and poor farmers in developing countries of Asia. It is also a rich source of organic manure for plants.

During the last fifty years significant scientific and technological advancement has taken place in all aspects of poultry production including breeding, nutrition, management, health cover and processing technology particularly in the developed countries. Overall growth in poultry sector in a

number of developing countries has also been very significant. However, in these countries, the new technological benefits have mainly reached to large commercial poultry operations. Sustained efforts are, therefore, needed to ensure that they reach the small poor rural farmers. This paper presents the major issues involved, their possible solutions and suitable policies for poor poultry farmers in the developing countries of Asia. The paper begins with a brief overview of production, consumption and trade trends across major regions of the world and then moves on to the major characteristics, features of poultry sector and associated policy issues.

### **Current Situation**

Poverty is one of the main issues, attracting the attention of sociologists and economists. It indicates a condition in which a person fails to maintain a living standard adequate for a comfortable lifestyle. Though India boasts of a high economic growth, it is shameful that there is still large scale poverty in India. Poverty in India can be defined as a situation when a certain section of people are unable to fulfill their basic needs. India has the world's largest number of poor people living in a single country. Out of its total population of more than 1 billion, 354 million people are living below the poverty line.

Nearly 75% of the poor people are in rural areas, most of them are daily wagers, landless laborers and self employed house holders. There are a number of reasons for poverty in India.

**Need of the study:**

With this background, the present researches, as being designed with the above stated topical expanse, have envisaged to study the change dynamics of rural livelihood: rural system approach. There is a need to generate a comprehensive perception on the dynamics of livelihood creation for the socially and economically peripheral people and also to generate social indicators to measure the progress based on a community perception.

Different endeavor has been taken from the pre-Independence era to uplift the economy of the rural poor. But till now livelihood security is a burning issue. Hence there is necessity to investigate reasons behind the distress condition of the rural poor and suggested way of assuring livelihood security.

Now the situation demands diversification of agriculture and allied entrepreneurship, nourishment of human and natural resources and secured livelihood.

With this background the objective of the research work have been delineated as follows;

**General objective:** To estimate and analyze the change dynamics of rural livelihood.

**Specific Objectives:**

(1)To study the personal, socio-economic characteristic of rural livelihood of selected area of Nalanda district.

(2)To estimate change dynamic of Livelihood over decades as the consequent character of the responders perceived have as “Y”.

(3) To customize and estimate a set of variables (16 by count) as predictor character deemed to have impact on livelihood dynamics.

(4) To estimate the interaction and relationship among and between the dependent and independent variable both at the inter and intra level.

(5) TO elicit some policy implication for a subsequent application in area under study or elsewhere having similarity of system character to usher sustainable livelihood for respondent or the population, having homogeneous trait within that of respondents.

#### **LIMITATION OF THE STUDY**

1. Number of variables should have been more to cover more vulnerable aspects and potential tenets of livelihood generation and management.
2. Some of the variables have to some extent been overlapping in nature. The variables should have been more mutually exclusive in nature.
3. The high proportional residual effect, though have been compensated by participatory study have been indicative of the low key interaction amongst and between the antecedent variables vs. consequent variable.
4. Gender issues, if studied with more focus, could have enriched the research work further.
5. The location of the study has been rather a faraway village, this has retrenched the scope for including more number of respondents, vis.-a-vis variables