Chapter 5

Factors and Processes of Agricultural Transformation

Background

Most of the areas of Ilam are witnessing transformation today. The western and some of the southern parts adjoining the *Terai* still remain underdeveloped in terms of both accessibility and adoption of economic activities away from traditional subsistence farming. Changed land-use patterns, changes in terms of adoption of non-cereal crops, and the growing importance of dairy farming, plus the proliferation of non-farm activities induced by farm income growth, are the symbols of transformation. In the transformed area, new economic activities have emerged; income has increased; and quality of life, welfare, and quality of natural resource base (at farm) have registered upward trends. What has triggered transformation in Ilam ? It is naive to single out one or two factors only; many factors are responsible for the change. The historical linkage of the region with Darjeeling, slow but gradual opening up of the areas with the construction of a road network, and keen adaptation of technological innovations from across the border (Darjeeling and Sikkim) have initiated the process of transformation in Ilam. The process has been continually assisted by adoption of varieties of non-cereal crops such as cardamoms, broom grass, ginger, and potatoes; and by switching to dairy cattle. Government support in terms of creation and expansion of roads and communications, agricultural and rural development support, and credit support together have further hastened the process of transformation. The continued increase in farm incomes has initiated multiplier effects in terms of increased demands for off-farm products and services, further accelerating the pace of increase in employment and income.

Darjeeling Effects: Tea Domain

British efforts to develop tea gardens in Darjeeling date back centuries (at least 200 years) and in Ilam also a tea estate was established about a century ago by bringing materials and technology from Darjeeling. Farmers have been keen to grow a few tea

bushes since then, thus acquiring the knowledge and techniques of tea farming. Three tea estates in the public sector were established after the 1960s, followed by a massive drive on the part of the private sector in establishing tea gardens. Tea farming on a small scale, even by small farmers, is becoming common these days. Big private tea gardens have their own processing units and extend processing facilities to private growers and smallholders. Lately, three private processing plants have been in operation in Ilam, making tea processing easy and instant. Farmers do not have to depend upon sun drying any more - they can dispose of the green leaves as soon as they pick them. Many Ilamese working in or having some connection with tea estates in Darjeeling came back and engaged in tea farming. Even to day, tea technicians from Darjeeling are consulted and technology spills over.

Historic events connected with the proliferation of tea plantation and its gradual popularisation can best be traced as follows. In 1860, the Darjeeling effect came first to Ilam in the form of plantation of tea on 120 acres by the then district chief (*Bada Hakim*) importing tea cuttings and technicians from Darjeeling. In 1865, Soktim tea estate was established on an area of 180 acres. In 1966, a Tea Development Corporation (TDC) was established by the government assigning it the responsibility for planned development in tea plantation and marketing.

Tea plantation on private estates really took off after the enforcement of the Land Reform provision that no ceiling would apply to land meant for tea plantation. Land Reform was implemented in 1964 and enforcement has been in place since the late 1960s. Land owners who had evaded ceiling provisions by promising to plant tea began, though reluctantly, to plant tea on their land. Commercial banks, including the Agricultural Development Bank, provided credit to such tea growers at subsidised rates. The subsidy was quite high when the interest rate was seven per cent for general credit, it was only two per cent for credit for tea plantation purposes. Thus, tea plantation was initiated on private farms by compulsion and promoted by capital support from the commercial banks.

In 1976, the Overseas' Development Ministry (ODM) of Britain carried out a tea development project with a total budget of 3.7 million pounds. The project brought the concept of a 'Kenya Model' with an emphasis on tea farming on small farms. The project was instrumental in providing technology on the farmer's doorstep and worked to modernise tea processing. Small and medium farmers also began tea plantation. This had been concentrated in the tea estates only earlier. Before the project, processing of tea in the private sector was carried out using the discarded machines in India and even with the help of modified rice mills. Only tea estates had the privilege of modern tea-processing facilities. The poorer technology was inimical to quality tea production outside the tea estates. To improve the quality of processed tea, the concept of a 'Central Factory' was promoted, and the tea estates were assisted in providing quality processing facilities to small and outgrowers. Due to the project's impact, at least an additional 2,000 acres of tea plantation were established by outgrowers and small farmers.

Production of quality tea leaves mainly because of new plantation (plantation in Darjeeling is relatively old) and modern processing facilities guaranteed a premium price for the harvest. There began a flow of tea leaves to Darjeeling for some years, but soon it was checked when modern processing plants were established to cater to the needs of outgrowers and small farmers. Ilam is self sufficient in tea processing facilities now, and there has been a surge of tea plantation at farm level and also in the form of large tea estates.

Darjeeling Effects: Education and Awareness

Geographical proximity to Darjeeling and Sikkim has tremendously affected Ilam and other close by districts in terms of education. Missionary intervention in education in the Darjeeling area is heralded even in India, and Ilam benefited from it. The Ilamese have family relations in Darjeeling, making education accessible. Frequent and unrestricted movement of people across the border led to exposure to education, living styles, and, importantly, made people aware of development options and possibilities. This also has helped the proliferation of schools in Ilam over a long period of time. Education and citizens' awareness are key to innovations and growth. Ilam developed this infrastructure early as a result of the Darjeeling effect. The literacy rate in Ilam is around 60 per cent, and this is one of the highest among the hill and mountain districts of Nepal. There are about 500 Graduates in Ilam compared to about 200 Graduates in each of the neighbouring Panchthar, Terhathum, and Taplejung districts (Population Census 1991).

Roads

Ilam is at the forefront of the hill districts in terms of its massive road network. Out of the 47 VDCs in Ilam, 40 are connected by road. Except for a few western VDCs and a few further north, all are approachable by road. Motorable roads in Ilam total 180km compared to 90 in Panchthar, 10 in Terathum, and 24 in Taplejung. Only a few settlements require more than two hours walk from the road head. This has facilitated movement of goods and services; and more importantly it has stimulated a flow of technology and ideas. Accessibility has worked as an incentive to the villagers to remain in the villages rather than to move to market towns and urban enclaves. This is one of the important reasons for development of a wide network of marketing centres in Ilam. Unlike in other hill districts, marketing activities are dispersed all over Ilam.

Three important roads, viz., Charali-Ilam, Pashupatinagar-Fikkal, and Bettar-Ilam, have continually been connected by feeder dirt roads. These main roads were built by funding from the centre, but most of the link roads have been constructed using local government funds and people's participation. Though gravelled or blacktopped a decade or so ago, all the important roads have been in operation since the 1960s. Public and local investments in roads have been massive in Ilam. Without roads, commercialisation of farming would not have been possible.

Non-Traditional Crops

Ilam receives a high rainfall (annual average of 2,300 mm) for an extended period of time (June to September) in the year. The altitude is gentle, thus hillocks in the hills dominate. With the exposure to Darjeeling and Sikkim, especially the exposure to cropping diversification there, new crops such as tea, cardamoms, and broom grass are planted invariably in all locations. Gradual development of the road network has made commercial growing of these crops viable. Before embarking on commercial production, farmers are aware of the crops and have already tested them out by cultivating them in their backyards. Because these crops do not compete (when grown on a limited scale) with cereal crops in terms of land area, acceptability among farmers has remained high. Now that the crops have an established commercial viability, some of the cereal crop lands are being reallocated to these crops.

Improved Cattle

Almost half of the milch cattle are of an improved variety in Ilam. Animals were traditionally imported from Darjeeling via relatives and friends. Lately, the road network and, most importantly, establishment of a powdered milk factory in Biratnagar have greatly facilitated promotion of the dairy sector. Every day, 25,000 litres of milk are sent to Biratnagar and 4,000 litres or more are used by the cheese factory in Pashupatinagar. Access to improved livestock technology, on the one hand, and roads and an ensured market in Biratnagar, on the other, have faciliated the development of the daily activities. Veterinary service centres at the private level have come up to serve the dairy farmers. An asssured market for milk and availability of a sustained supply of forage from broom grass have propelled the development of the dairy sector.

Forward Linkages

Adoption of new crops and establishment of new economic activities have been greatly facilitated by the gradual evolution of forward linkages. Two such linkages are worth mentioning, because they have ensured the processing and marketing of local products. First, tea processing plants in the private sector have made every small farmer's involvement in tea plantation possible. There are three tea-processing plants in operation in the private sector in Ilam, and they have enough capacity to cater to the processing needs of individual tea growers. The plants purchase green tea leaves immediately after picking. Farmers do not have to be involved in post-harvesting activities; the plants act on their behalf. There is a great enthusiasm now among farmers for allocating at least some land to tea plantation. Secondly, the milk plant in Biratnagar has ensured a market for milk. The plant purchases 25,000 litres of milk every day. The cheese factory in Pashupatinagar consumes an additional 5,000 litres of milk. Backed by the supply of improved breeds, skills, and suitable climatic and environmental conditions, there seems to be no limit to expansion of the dairy sector.

Cardamom, ginger, and broom grass are traded in Darjeeling and in other neighbouring Indian markets via the Nepal *Terai*. Individual traders are involved, and processing of cardamom and ginger is not yet carried out.

Multiplier Effects

Adoption of new crops and establishment of economic activities have gradually increased the incomes of local farmers and have demonstrated strong multiplier effects. Non-farm economic activities are emerging, especially in terms of trade and services. These activities have helped absorb local labour and talent. Lopsided urbanisation is not to be seen in Ilam, the markets and non-farm activities (trade and services) are dispersed throughout the villages, retaining labour and entrepreneurs locally.

Public Support: Technology and Trade

Public support for agricultural development was and is largely limited to traditional cereal crop based farming in Ilam. The diversification and change in cropping systems that are seen in Ilam today have become possible mainly through farmers' initiatives and adoption. Recently, government agencies have been gearing their efforts towards the changed situation in Ilam, but there is not much these agencies can do as there are no comprehensive research programmes on the crops adopted. Adoption of practices from across the border is still important where technology for non-traditional crops is concerned.

Public support in terms of credit, however, seems to have been instrumental in supporting the transformation of Ilam. Since the early 1980s, due to a built-in social infrastructure (education, exposure, and entreprenurship), the banks have treated Ilam as a priority district and have funnelled credit to it. Credit support is not only essential for innovation and diversification, but it is also vital for the development of trade and commerce in commodities, the product of innovation. Banks have played an important role in promoting commercial activities.