C H A P T E R - VI

Infrastructural Facilities and Marketing Constraints For Rural Development and Its Amount to Rural Credit.

Introduction:

The economic prosperity of the hill regions depends upon largely on agriculture and other allied agricultural activities due to its typical physical setting. It is a fact that the area is confronted with a number of ecological and environmental problems like high altitude, extreme climate, large terrains with steep slopes causing agricultural production process unstable, uneconomic and extremely diverse. As the primary aim is to make overall development of agriculture endeavours are made for analysing the availability of infrastructural facilities. In the absence of suitable requisite conditions for setting up the key industries in this locality the priority is emphasised equally on agricultural allied activities along with agriculture for catering to growing human resources.

For an assessment of the role of agriculture in an economy, the discussion of surplus deficit of agriculture commodities is highly relevant since the surplus determines the extra flow of income to the producers and their engagement in trading of commercial activities while deficit indicates the requirements of imports of foodgrains from the neighbouring areas.

The estimate on marketable surplus/deficit with the hill areas has been done in terms of (a) foodgrains and (b) cash crops.

For the former one, the estimation has been done on the basis of quantity of the commodities available for consumption and total requirement of the area on the basis of per capita rate of consumption. For cash crops, fixed proportion as advised by the Department of Agriculture has been estimated as the exportable surplus.

From the tables 7.1 and 7.2, it is clear that Darjeeling and Kurseong Sub-Divisions are highly deficient in foodgrains production but, Kalimpong sub-division is self sufficient in its requirements. For ginger and orange nearly 90% of the total production has been considered as exportable surplus while for cardamom, a relatively high proportion of 80% have been accepted. As regards the cash crops the hill areas enjoy surplus for the year 1971. After making projection on agricultural produces for the year 1991, the only deficit in cereals production may be converted into a surplus one which, of course, seems to be a healthy sign. Table 3 indicates this characteristic through exportable surplus of agricultural products of the hill area of the years 1981 and 1991.

The hill area, being deficient in the production of foodgrains and other common goods, is to import them from the plains specially Siliguri while it exports a considerable amount of non-foodgrains agricultural products like orange, ginger, cardamom, potato and others outside the district.

Agricultural Allied Activities : The 'marketable surplus' which is actually marketed and is placed at the disposal of non-

Table -71

Surplus - deficit in production of foodgrains (1971)

Area	Population	Requirement of total population (in '000')	Requirement of food-grains as per different consumption standards (in '000' quantity)	Seed requirement of food-grains in '000' qty.	Production of food-grains (in '000' qty).	Surplus deficit (in '000' qty).	ICAR @1.65 qt per year.	Nourrition Advisory Committee @1.45 qty per year. Dr. Aykroyd	Deptt. of agriculture Govt. of West Bengal @ 1.55 qty per year.
1	2	3	4	5	6	7	8	9	10
Darjeeling Sub-division.	2,45,267	200.5	370.6	297.1	300.0	320.6	324.3	120.6	- 210.7
Kurseong Sub-division	1,00,833	82.2	150.9	121.6	110.0	132.3	130.7	28.7	- 110.0
Kalimpong Sub-division	1,34,533	111.7	206.7	163.1	135.6	177.6	183.5	233.2	+ 54.7
Hill area	4,70,633	383.4	727.2	581.7	665.5	633.6	654.5	378.5	- 272.0

Source : A. K. Chatterjee : An agricultural development plan for the hill areas of Darjeeling.

Table 7:2

Acreage/Yield of non-food grain agricultural products for the year 1971 in ('000' qtls).

Area	Potato	Ginger	Vegetables	Oranges (in '000')	Cardamom
Darjeeling Sub-Division	113.0	16.0	31.0	35225	3.6
Kurseong Sub-Division	3.1	4.0	6.3	3925	1.0
Kalimpong Sub-Division	12.8	44.0	13.0	31533	1.1
For All Area	132.0	63.0	42.6	70684	6.5

Source : A. K. Chowdhury : An Agricultural Development ..... Darjeeling.

farming rural population and urban consumers, is of insignificant proportion suggests the farmers to depend mostly on off-farm income. Agricultural allied services with its high potentials, provides the unique opportunity to the hill farmers for supplementing their income. The following discussion enables to estimate the scope prevailing in the sector.(1)

a) Floriculture: Darjeeling is known to be the paradise of plant lovers. Other than the orchid nursery at Sukna at Govt. level, a few orchid nurseries under private management are in progress. Under co-operative organisations for marketing these rare flowers further initiatives have been taken on the part of state Govt. to help these poor farmers. There is immense possibility to popularise this cultivation as this serves the needs of the farmers to raise the income of the poor as well as that helps in export in to other parts of the country.

Darjeeling Himalaya, as noted for its luxurious vegetation, is very much conducive to mushroom cultivation, which grows in abundancewith high popularity for its quality. So many private farmers, now-a-days, are inclined to invest on this project because this region is the result of favourable physiography, climate, soil and biotic factors.

b) Sericulture: Sericulture in Darjeeling district is being developed with the sole objective of providing good cocoons with the Govt. nurseries. Kalimpong Hill Area provide a unique environment for the

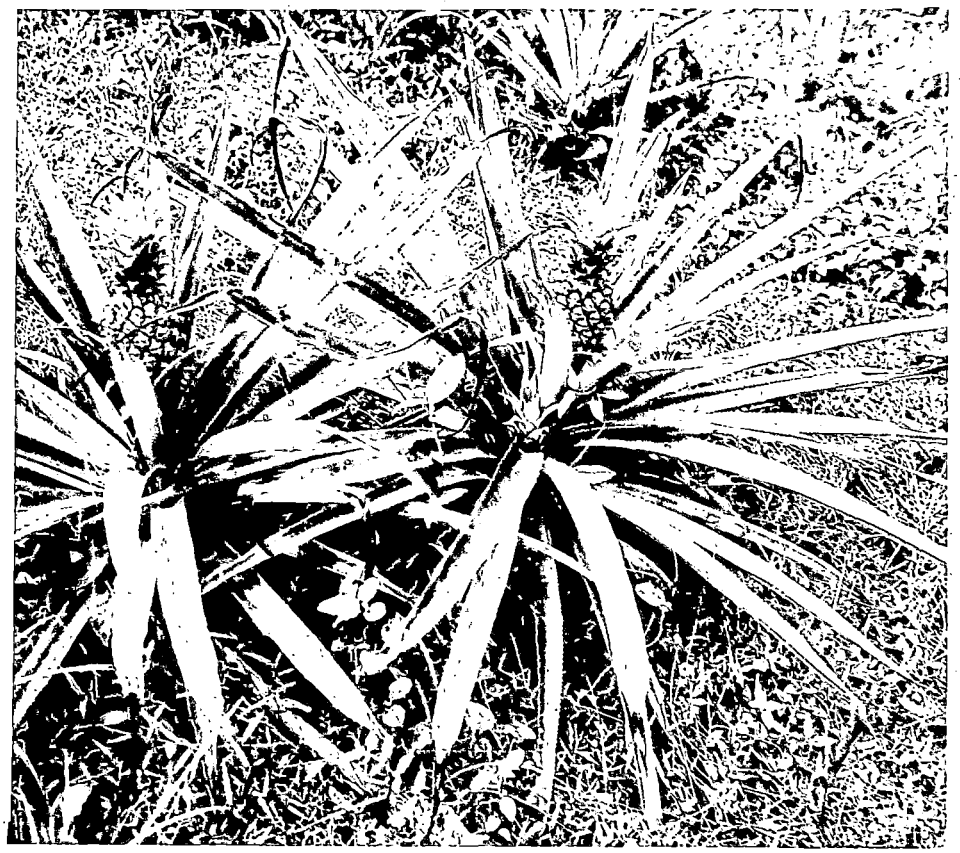

Fig. 19.

Pine apple Cultivation - Potential source of income generation to farmers.

rearing of silk worms.

Sericulture cultivation is provided with financial assistance at the rate of 50% subsidy by the State Government. Disinfectants are supplied free of cost for controlling disease, any, in each crop. One sericulture unit at Kodbag along with demonstration farm at Kalimpong, Bijonbari, Jilabong and Sukdoh have been opened up for distributing young silk worms to the cultivators to make silk worm rearing possible. This growing business has helped the farmers to get a subsidiary occupation to agriculture. As long as the achievements in the field of sericulture are concerned, during the fifth plan period cultivation of mulberry plant has been possible in 577 acres. The production figure of seed cocoon shows 21.95 lakhs kg which is worth noting. During the physical outlay under sixth plan period (1978-83) targets are made on the development of bivoltine seed production and bivoltine cocoon production. The objective is to realise setting up of 10 small demonstration centres and 4 drying chambers. The ultimate proposal is to bring 3000 farmers under the scope for employment and to make use of 1500 acres for production of cocoons.

c) Horticulture: The existing condition on horticulture production and its future potentialities with regard to its intensive and extensive use of Cultivation is of very prospective stage. Cultivation of orange orchards has been possible on the area covering 2700 acres. For temperate fruit orchards 600 acres have been utilised. Fruit progeny orchard has been set up at Sonada and Dalapchand. The scope

on prophylactic spraying of pesticides and insecticides covered 700 acres of orange orchards and 3500 acres for cardamom.

d) Animal Husbandry: Environmental and economic factors like cool temperate, abundance of green fodder along the hill slopes, small and uneconomic size of farm holdings, presence of considerable area of non-productive agricultural lands are responsible, to a greater extent, for the common practice among the hill people to adopt allied agricultural activities in the form of animal husbandry services like dairy, piggery, poultry, pottery, bee-keeping, and others. These subsidiary occupations are very much helpful to raise the income of the farmers.

The hill areas are rich in livestock both in number and diversity in the form of main species like cattle, buffalo, sheep, goat, and pig. There is further scope for pork and ham canning. The average livestock density of the hill areas as 75 animals per sq. km. and they are mostly healthy. By imposing restrictions to continued deterioration of the hill cattle and through introduced schemes like artificial insemination system, present stock is expected to be further improved. For piggery the scope is even brighter due to abundant supply of fodder in the shape of natural grass, bushes and herbs available in the forests and other areas.

Sheep farming of Indigenous variety is popular in the hills. Poultry keeping due to quick returns without involving substantial capital investment are in great demand among the farmers.

Animal husbandry, as a whole, has become the major subsidiary occupation of the people of the hills. It is a pleasure to note that the administration authority here, with its foresight, in implementing a variety of programs including rural credit schemes, has taken the comprehensive approach to make this sector a success.

The very success of agriculture and its allied sectors depends to a great extent on the availability of infrastructural facilities like power, transport, irrigation, inputs, plant protection measures, and agricultural research along with a powerful market mechanism. The existing stages of all these infrastructural facilities are not very conducive to the growth of agricultural development of this area.

a). Transport: The development of any region is dependent of quick, cheap and easy transport. The physiography and natural environment exert strong influence on the growth of transportational net work of an area.

Due to winding nature and too much dependence on road transport, the road transport system may be said to be inadequate and insufficient for the hilly region. Narrow width, sharp turnings, overhanging rocks restrict the use of vehicles with motor wheel in the hills which necessarily tend to keep down the load capacity of the vehicles. The cost of transportation is further increased by the numerous bridges spanning the water courses, streams and rivers. The art of bridge-building varies from the simple and indigenous one

and bamboo bridges devised by the hill people to the more elaborate cantilever bridges of modern pattern.

Excepting for a few main metalled roads, accessible to vehicles, the people are to depend on ponies or even human carriers for normal traffic of goods because the majority of paths are too steep and narrow for any cart to ply there. Most of the villagers lack proper road facilities and are not easily accessible, causing transport means as inconvenient, time-consuming and inefficient one. Easy movement of men and materials in the rural areas is a crucial factor that prevents the growth of the economy of this region.

As regards railway transport, only toy-trains ply in the narrow-gauge railway line (70 km distance between Siliguri to Darjeeling) in the hills for being used on traffic purpose but not on carrying goods from one place to another. This is run only during peak seasons where tourists visit the hill areas (during March-May and September-November of the year), so it is easy to estimate that the railway facilities on a minimum scale, is there but never comes for a means of transporting goods.

The ropeway has proved to be efficient form of transport but they are very few in number. It involves high expenditure to install new ropeway facilities here. In the absence of sound transportational net work, agriculture as well as industrial development are very much handicapped.

Power: Darjeeling District is not endowed with sufficient sources

of power. Coal production in the district is extremely meagre. Neither there is oil nor natural gas. The only source of power is hydro electricity and firewood. Firewood for its better heat generating capacity is used by the people as a supplement to coal. As regards hydel power, the region has immense potentiality for power generation. The first power plant in India was initiated at Darjeeling in 1897 which is in operation at Sidrapong. Even this area is still under frequent load-shedding. The potential hydel power in the hilly regions is tremendous due to major rivers of this are perennial and receive enormous quantity of water due to heavy rainfall during the monsoons. The gradient of the region is steep, the velocity of these rivers is very strong. As the amount of energy in flowing water depends upon the volume of water and its velocity, this area has potential for better power generation. With the utilisation of these resources, power generation can be improved which, inturn, will have a better impact on the overall economy of this region.

c). <u>Irrigation:</u> Because of its physiographic condition, the availability of water for irrigation purposes is highly restricted in the hill area. The gravity flow-irrigation from the hill rivers has been the only source of irrigation for cultivation here. Irrigation water in the hill is normally conducted by bamboo flumes, galvanised iron pipes or unlined open drains cut across the fields from nearby jhoras. Most of the hill jhoras, however, remain dry during winter months. As the major sources of irrigation are done by streams, for minor irrigation schemes such as Sonada Scheme, Mophtola

Scheme, Pedong Scheme, Rang Dusty Scheme and few others are in operation now. The district plan prepared by the development and planning Deptt, Government of West Bengal, has sanctioned the sum of Rs. 6 lakhs for drainage and small irrigation schemes for the period 1980-85. For flood tapping purpose a new venture in the hills subsidised through Hill Development Scheme could not make any headway. The achievement to be made by the Hill Development Scheme is yet to be realised in coming years.

As the scope of irrigation is limited due to environmental factor, total area under irrigation is of very insignificant amount. Although attempts are being made by the Government to provide minor irrigation facilities on a subsidy basis, these are mostly executed only in Kalimpong Sub-division. The Table 6 supports such irrigational facilities done, so far, by both private sources and public arrangements. 80% of the total area irrigated is under private irrigation. Sources which apply that local methods through bamboo pipes and others.

d). Inputs. The availability of agricultural inputs are not adequate and satisfactory. They are not available at the time and places needed by the farmers. There are no sale depots for inputs in the villages. The only other way open to the villagers is to go to the towns incurring higher transportational cost. Dolomite, required at the rate of two tons per acre to counterpart to acidic soil of Darjeeling hills is a bulky material to be carried from

towns to interior villages.

The soil of the hill area lacking nutritive value due to its inherent characteristics and for heavy rainfall, requires adequate fertilizers and manures specially to safeguard the programme of introducing HYV Seheres. As per the study made by the Agricultural Department the consumption of fertilizers in the entire hill area is negligible and amounted to approximately 200 tonnes of Urea and 17 tonnes of sulphur in the year 1979-80, only 3.70 kgs. of fertilizers on average are used per acre in the hill areas. One of the important reasons for small use of fertilizers is due to higher transportation cost involved in transporting fertilizer from Siliguri to the growing areas scattered over a wide area by road transport and head-load mules.

As long as supply of disease free seeds are concerned, the seed farms of Darjeeling district are situated at Kalimpong, Kurseong and Sukna Kalimpong to distribute vegetable seedlings to the cauliflower cabbages, beans, tomatoes, peas, carrots, raddish beets etc. With the increasing demand for having HYV seeds, for maize, paddy, apple, plum pitches, pears etc. are being brought from outside sources on the part of agriculture Department Darjeeling District.

e). Plant protection measures: Agricultural products have a high affinity to be badly affected due to excessive rain here and requires measures for plant protection. Prior to 1980, the entire measures were taken by the Agriculture Department but at present after passing

the Act of 1952, the distribution of insecticide has been handed over to private sources. But with the enormous rise in prices of these insecticides, the uses are getting limited by the poor farmers. Due to its restrict use, either due to the non-availability or for its increased price, the production gets spoilt. Unless these measures are not popularly used, the yield rate can not be expected to be high.(2)

f). Agricultural research: Unless research programmes regarding change in technology, suitable fertilizers for hilly soil, profitable cropping pattern and others in relation to hilly region are made the concept of development would be of no use. There is no soil-testing laboratory in the hill area which is very much needed by the local cultivators. Of course one can not deny the fact that the maize and paddy research Station at Kalimpong has done some preceeding works towards improved way of production of these crops in hill areas. The potato research centre, initiated by the Central Government situated at Darjeeling plays a pioneering role for the production of improved variety of potato seeds which are being exported outside the district on a large scale.

The hill areas of the district, thus, having very unsatisfactory and inadequate infrastructural facilities has failed to provide a powerful market mechanism which contributes to the objectives of agricultural development directly through providing fuller use of a given level of production and indirectly by fostering an increased production. Due to unsound marketing facilities both the producers

and consumers are getting exploited economically. Taking the advantage of poor economic conditions of the farmers, the capitalists and middlemen exploit the situation through local agents introducing 'forward trading' system. They invest money through providing loans facilities at high rate of interest (normally 40-80% per annum) and at harvest time these middlemen and moneylenders pay the normal price for the agricultural products to the farmers.

As long as the spatial distribution of markets are concerned, the entire marketing system is insufficient in numbers and less functional due to its distribution pattern. They are less developed from accessibility point of view. Due to poor transportational net work the areas are lacking linkage and this situation is being exploited by a class of middlemen who always dominate the growers by keeping the poor, illiterate, and simple farmers away from knowledge of complicated modern market mechanism. In the absence of competitive markets and procurements activities, the small and marginal farmer find it ~~very~~ easy to keep permanent relationship with these local traders.

Modern development of agriculture requires that the market centres should also diffuse growth in the surrounding villages by providing necessary agroservice facilities. The hill areas, excepting a few market centres like Darjeeling, Kalimpong and Sonada, do not provide the essential services required for agriculture.

Very recently some arrangements have been initiated on

the part of co-operative agencies and other courses (Govt./Semi-Government) in connection with the crops like ginger, cardamom and pineapple to provide a minimum remunerative price for the produce to the farmers. Sometimes they are being virtually purchased by the authorities for using them in further process of production (e.g. pineapple to be used in producing fruit processing products like jam, jelly, and others in Kothighire factory) or to export them out of this district to have competitive price. Even then the existing marketing system as has developed in the hill area can in no way be said to be functionally integrated with the surrounding rural areas both in respect of collections and disposal of surpluses as well as in providing the essential services required to the hill farmers'. In the absence of a planned marketing system along with the facilities of storing and grading it is unavoidable to prevent loss and harrassment to the farmers. With the increased production and high market arrival, the entire farmer community would be benefitted because these would ensure orderly conditions for the disposal of agricultural produces. However, the efficiency of market centre depends upon respective order to which the market centres belong. For initiating the process of transportation a three-tier-system of market centre with the growth points at the base and regional growth centre at the top is suggested to be implemented for the hill area.

As the existing marketing facilities are inadequate in number and non-functional in character, real linkage between rural and urban economy has been the outcome leaving the scope entirely on to

sub-optimal market forces. In order to arrive at a composite index of development for the various villages, the market centres of different hierarchical orders are to be chosen with respect to spatial distribution of the markets.

Rural Credit and Infrastructural Bottlenecks.

It has been pointed out in the Chapter 6 that rural Credit Institutions like Co-operative, Commercial Banks, RRBs and others have taken a single point approach to rural development. In Darjeeling hilly area infrastructural facilities for the growth of agriculture should have been given a high priority but this is hardly ever done here.

Consequently rural credit taken as a programme has not been able to solve the problem of rural development. A viable approach would have been given to provide simultaneous attention to the development of related infrastructure but the availability of infrastructural facilities in the form of irrigation, transport, power and marketing facilities are extremely inadequate. Hence loan given to the poor farmers land to be dissipated without proper agricultural improvement.

S U M M A R Y

In the absence of setting up large scale industries due to various geo-economic factors, the agriculture and its allied sectors are given priority for the development of this region. The

potentialities on horticulture, floriculture, sericulture and animal husbandry are worth noting. Availability of infrastructural facilities in the form of power, irrigation inputs, plant protection measures, agricultural research and marketing facilities are extremely inadequate. The single point approach to rural credit has failed to solve the problem of rural development.

B I B L I

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