

**Chapter VIII**  
**Problems of Agricultural**  
**Development**

# Chapter VIII

## Problems of Agricultural Development

### 8.1. Introduction

In this chapter an attempt is made to provide a description on problems of agriculture in the study region. The study has been revealed that agricultural land use pattern within the subdivision differs across the gram panchayats. Here we provide an idea regarding problems faced by the gram panchayats. This region is regarded as one of the most developed agricultural areas of Darjeeling District. Therefore, to identify and eradication of problems will make the region more developed agricultural zone in the district. The other sector of the economy cannot escape from the impact of the fluctuations in the development of agriculture.

### 8.2. Problems of Agriculture

The problems of agriculture have been discussed into two categories, viz., physical and non-physical determinants. These are discussed in following paragraphs:

#### 8.2.1. Problems of Physical determinants

##### 8.2.1.1. Relief

Relief is considered to be a constant determinant of agriculture. Our study reveals certain features of relief of the subdivision. Siliguri subdivision is located to the southern foot-hill zone of Darjeeling Himalaya. As the area guided by the high hills of the lesser Himalayas in the north and gentle alluvium in the south, so the major part of the study area is composed of unconsolidated materials, derived from the Himalayas and brought down by the rivers originated from these hills. The average surface elevations along the north-south direction are respectively 350m and 300 m above mean sea level. The structural hill of the north is highly forested and not suitable for cultivation. The plain is composed of the alluvium brought down by the Mahananda, Balason and the Mechi rivers and their confluence. The general slope is from north to south. Physiographically, the area can be divided into the upland plains of older alluvium and the lowland plains of

newer alluvium and both these area is favourable for cultivation. Therefore the GPs of Kharibari and Phansidewa block are agriculturally developed area in this region.

#### **8.2.1.2.Uncertainties in Monsoonal rainfall**

The uncertainties in monsoonal rain in India play a vital role in agriculture. In spite of the improvement in irrigation, nearly 70% area under cultivation is dependent on rainfall which is uncertain, erratic in nature. Lack of irrigation restricts the diversification of crops. It is a matter of concern that about 11000 hectare of cultivable land still remain un-irrigated. So, irrigation is a major lacuna to enhance the productivity of different crops in the region

#### **8.2.1.3. Soil**

Soil type is considered to be important physical determinant to influence agricultural productivity. The study has been revealed that type of soil is not similar within the region, so certain crops are cultivated in particular region and the productivity level too varies across the regions. The areas of yellow sandy loam soil is rich in organic matter but the clay content of the soil is remarkably low, the ultimate result of which is leaching. All the organic matter is transported downward. In this way all the acid and iron components are accumulated in the lower layer. Therefore, this area is not considered as fertile cultivated land in this region.

#### **8.2.1.4.Rivers**

The Mechi is flowing from north-south direction. It flows along the western border of Siliguri subdivision. The Mahananda River originating from the Mahaldarim range a few kilometers east of Kurseong and reaches the plain areas of Siliguri sub-division. It receives a number of hilly streams the most important being the Balason. It flows southward and forms boundary between Jalpaiguri and Darjeeling.

There are sharp changes in the volume of water of these rivers depending upon rains. The swelling of Mechi also creates havoc during monsoon. Although there is an extensive network of drainage system of rivers, rivulets and streams flow down below the valleys but they are of not very much useful to provide irrigational facilities. Therefore only 26% of the subdivision is under river lift irrigation.

## **8.2.2. Problems of Non - Physical determinants**

### **8.2.2.1. Pressure of population**

The excessive pressure of population on land causes backwardness in the agriculture. According to 2011 census, population has been increased by 18.40% in the subdivision which is higher than the district average (14.47%). In Siliguri subdivision 70.10% population belongs to rural area. The man-land ratio in the study area is 1:0.0016 according to 2011 census. In the Siliguri subdivision the percentage of agricultural labourers is higher in Kharibari blocks (12.00%) than that in the other blocks of the district. Compared to the number of cultivators, the number of agricultural labourers is almost equal or more than the cultivators. From this, it could be inferred that the number of landless labourers has become greater due to tremendous population pressure in the Terai blocks. This shows high degree of dependency on agriculture and causes further fragmentation of land holding that prevents improved farm practices.

### **8.2.2.2. Uneconomic size of land holdings**

Land holding size is an important aspect of land use study. With the changes in the size of the holdings the land use pattern also changes and the land use pattern becomes stagnant as soon as the holding reaches to a particular level. The size of farm is a matter of great importance to make any developments in agriculture. Land holding is the lower level unit of land use.

In the year 2010-11, 80.12% of the holdings in the district are below 2 hectares covering 95.56% area of the total geographical area. It is also found that large size holdings (> 4 hectare) account for 2.55% of the total number of holdings covering only 3.91% of the geographical area. The small size land holdings have been operated by manpower whereas the large ones depend on farm machinery. In 1990-91 it was 32.12% in case of large land holdings in the subdivision. Thus the size of holdings has been decreasing and is bound to decrease further owing to the present rate of increase in population and the scarcity of land available for cultivation.

### **8.2.2.3. Inadequate Irrigation**

Irrigation is essential for crop cultivation and better yield, especially in areas where rainfall is uncertain. Only 27.66% of the net cropped area and 24.41% of gross cropped area have been brought under irrigation up to 2010-11 in the subdivision. The main sources of irrigation in the study area are STW, ODW and R.L.I. The study reveals that 59% of total irrigated area is irrigated by STW (shallow tube well) in the subdivision. RLI (river lift irrigation) contributes 26% of total irrigated area in this subdivision. And only 11% of total irrigated area irrigated by ODW (open dug well). The gram panchayats of Matigara block is irrigated by STW and ODW. The sources of irrigation in Naxalbari block and Kharibari block are RLI, STW and ODW. In Phansidewa block sources of irrigation are RLI and STW. All these sources have been faced problems related to maintenance. Irregular power supply also intensifies the problem.

### **8.2.2.4. Low Degree of Mechanization**

The number of modern implements likes agricultural tractor, agricultural power tiller are insignificant. But the numbers of electric and diesel pump sets are significant in the subdivision. Small implements like paddy thresher and pumpsets are also present in each gram panchayat significantly. It is observed that the farmers of the district have to share some of their agricultural implements with others which indicate that they do not possess the implements individually, but they borrow or lend on exchange basis. It is further identified that the use of modern agricultural implements has increased during the study period. However, despite progressive increase in the use of agricultural machines, its sustainable benefits towards agricultural development have remained confined to the rich farmers.

### **8.2.2.5. Inadequacy of Seeds**

In Siliguri subdivision with less penetration of agricultural technology, the usage of HYV seeds are limited. It has been found that though the farmers use HYV seeds but it is not a continuous process. It means that they use these in alternate years or with lower frequency. Moreover the HYV seed usage is not complimented with proper irrigation, fertilizer or soil nutrient. The farmers have been used their own farm produces as seed in years when the cash flow is not adequate. The availability of these seeds is very poor

which have a direct negative impact on the yield. During the field visit we observed that the farmers do not adopt proper method of seed treatment. The availability of seeds is another problem identified. Siliguri subdivision has 7 seed stores in total. But the accessibility of these stores by farmer of remote areas is not feasible.

#### **8.2.2.6.Problem to use Fertilizers**

The use of fertilizers is not same throughout the district being generally higher in the irrigated areas. There are 7 fertilizer depots in Siliguri subdivision, 2 at Matigara, 1 at Naxalbari, 2 at Kharibari and 1 at Phansidewa. But the accessibility of these depots by farmers of remote areas is not feasible. The obstacles in the lesser use of fertilizers are lower proportion of irrigation, lack of finance, high prices, non-availability of required time and the small holding size which discourage the use of fertilizers.

The farmers of this region do not follow any specific pattern of fertilizers use. Farmers knew that nitrogenous fertilizers bring growth in plant. But they do not know about the nutrient balance. They also knew that crop rotation is needed for maintaining soil nutrient but they are more comfortable with traditional way of cultivation.

The consultation about the latest fertilizer and the most effective fertilizer is not available to them. It is the word of mouth that is being used to take such vital decision regarding fertilizer usage and no scientific methodology is used. Usage of right fertilizer in right proportion is likely to impact the productivity of crops in a positive way.

#### **8.2.2.7.Problems of Labours**

In agricultural sector, labour input considered as a major parameter in productivity. In 1990-91 agricultural labourers were available in the study region. But now a day the availability of labourers become a problem in agricultural sector. Due to high pressure on land, members of the family have been forced to migrate and with increased literacy, educated members are averse to consider cultivation as their occupation. The farmers are still tending to pursue subsistence farming that is retarding not only agricultural productivity but also breeding unemployment and poverty. It has observed that labourers frequently used to move outside the district for a guarantee of job. The result is low supply of labour during the peak season.

#### **8.2.2.8. Problems of Transport**

For the development of agriculture well developed and well connected transport network is needed. In Siliguri subdivision, excepting the main roads, there is no good all weather roads. Villages are not well connected with the CBD. In Matigara 176 km, in Naxalbari 125 km, in Kharibari 94 km and in Phansidewa 113 km road is unsurfaced which are more than the surfaced roads.

There is no proper method for transporting the agricultural produce from the village to the market in a collective manner. As each farmer is expected to sell his own produce individually so transporting it in vehicles is not economically profitable for him. So it is felt that if the farmers of a particular village forms a co-operative, and can transport the produce of the village, it would be economically viable.

#### **8.2.2.9. Other problems**

There is a lack of access to any fair-price market and most of them depend on middlemen who exploit them in every way possible. It is also surprising that subdivision has no cold storage facilities available to the cultivators. The farmers who get agricultural credits are found to utilize the amount for personal consumption and are not in a position to repay. This makes them defaulters and they are unable to avail any further loan.

### **8.3. Conclusions**

From the above study it is clear that agricultural backwardness in the subdivision is not attributed to any one single determinant. It is the cumulative result of several determinants discussed above. The present status of agriculture in the subdivision is observed with inadequacy in good quality agricultural inputs like seeds, fertilizers and pesticides. Farmers practices traditional method of agriculture like late raising of nursery and late planting of paddy, consequently late sowing of wheat, own produce used as seeds which is not in good quality. Farmers are vulnerable to middlemen in case of marketing the agricultural produce.