Chapter VII
PROBLEMS AND SUGGESTIONS
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While analyzing various aspects of the topography, economic, land use patterns, food crops etc. it is observed that there are quite a large number of problems whose solutions are necessary for development of the region. All these problems may be grouped into the followings:

**Terrain and River Basin:**

Relief is the fundamental factor in shaping the general pattern of land use in any region. In Ghatatal and Kharagpur sub divisions, there are diversities in land surface caused by elongated part of the Chhotonagpur plateau and the several rivers. As such there are low lands probably due to abandoned river courses and some of these low-lands remain water-logged for several months which are not suitable for agriculture. Such areas can be developed into good arable land by providing drainage facilities or by filling the low land by getting soil from upland areas. This process will also increase the productive capacity of the upland areas as well as provide considerable arable land for production of several crops.

Low land areas of the study area which remain water-logged in the rainy season for few months and the land become unsuitable for production of crops. This problem may be mitigated by draining out water from this area and also by constructing canals or the area may be protected by ring ‘Bandh’.

The study area has several rivers. Silai and Kasai rivers are noted for meandering courses and they have abandoned channels. These rivers have in fact spoiled considerable acreage of land by shifting courses, spreading sand,
Plate-46
Flood affected house

Plate-47
Constructional works affected by flood

Plate-48
Agricultural field inundated by devastating flood
creating ditch etc. Besides this, the ‘Bad Land Topography’ is also found in Chandrokona block. Such waste land may be reclaimed by artificial methods and the area may be used for the production of food crops.

In western portion of the study area basically in Keshiary and Kharagpur block I, there are patches of relatively uplands which are considered to be unsuitable for high yield. These areas may be made more productive by removing soils to lower areas and by developing irrigation facilities; the area may be useful for several crops. Most of the farmers tried to remove the soils of the upland areas by constructing bricks.

**Soils:**

In the western part of the study area which is rugged in nature and composed of lateritic soil is generally unproductive. This problem may be solved by transporting some of the top soil and mixing them with unfertile soils for production of different crops like potato, wheat, sugarcane, vegetables etc.

Abandoned courses or areas close to river basin have sandy soil. As a result such areas are used only for growing water-melon and some other seasonal crops otherwise such areas remain barren. This problem may also be solved either by removing sands or by mixing clay soil brought from other areas. This may enable the farmers to convert these unproductive areas into a productive one.

Since this area has been under cultivation for last several centuries, the soils have lost some of its elements required for production of crops. As such soils of this region required chemical analysis and restoration of those lost elements by the addition of chemical fertilizer or some other artificial methods. This problem
Plate-49
Cone shaped lateritic topography at Chandrokona block

Plate-50
Physical features- imprints of Gully erosion at Gangani

Plate-51
Plantation tree (Segun type)
may be solved by taking sample soil from each field to the soil laboratory and by the analysis only shortenings may be detected and manures and fertilizers may be added.

In certain areas problems of soil erosion are frequent. The western part of the study area, having slight undulating land surface, has considerable problems of soil erosion. In such areas, soil erosion may be checked by avoiding deep ploughing, by constructing terraced fields considering the slope, scientific ploughing against the slope and by planting trees on the lower ridge of the sloping land.

**Weeds, Grasses and Wild Animals:**

Most of the cultivated areas have the problems of luxurious growth of grasses like ‘*Kalmi*’, etc. To remove these grasses from the cultivable field creates a problem. This may be eradicated by deep ploughing or turning the soil by ‘*Kudak*’ or by ‘tilling’ with the help of tractor. This may be also eradicated if the field is ploughed after the first rain and reploughed after the growth of these weeds.

This area has also the problem of some wild animals like rabbits, rat etc. who damage the plants and crops. Sometimes rabbits become a problem for root crops like sweet potato and maize. Rats damage paddy crops. To solve the problems some poisonous medicine may be used to kill rats, rabbits for protecting the crop.

**Fertilizers and Pesticides:**

Farmers of the region are not aware of the proper use of fertilizer. Sometimes they feel difficulties in getting the soil tested. In fact government should employ technicians in the villages to collect soil samples for analysis and give suggestions to the farmers. They should also instruct the farmers how to use fertilizers.
There are a large number of plant diseases which hamper the growth of plants and the yield. Insects destroy the food grains. These problems may be also solved by proper supply of insecticides and medicines. The proper use of insecticides should be taught so that farmers can protect their plants from diseases and store food grains without any problem. Certainly the government is spending a lot in developing varieties of insecticides to solve these problems.

**Irrigation:**

This study area has insignificant proportion of canal irrigation because of the lack of perennial river. Methods of storing rain-water by constructing sluice gates and irrigation channels may be developed on both sides of the rivers. This will help crops and pisciculture.

There are few tanks in the region and most of these tanks are also uncared. Due to siltation problem these tanks have lost their depth and water storing capacity. In fact most of them become dry during summer season. This problem may be solved by removing the soils from these tanks so that stored water can be used for irrigation at the time of failure of rain.

The region has a large number of wells and these wells irrigate considerable percentage of land. These wells are sometime dug only few feet below and these wells fail to supply water during summer season. Government authority should take care of the construction of proper wells to ensure water supply.

The region has also considerable number of shallow tubewells. Unfortunately most of these tubewells are either miss-managed or out of order. The government authorities
should see the proper construction of shallow tubewells at proper place, proper functioning of the shallow tubewells and proper distribution of water.

There are also a large number of private tubewells in the study area. These tubewells are also facing the problems of water level as it is going downward and proper supply of power is not available. This problem may be tackled by proper vigilance and proper administration.

**Misuse of Land:**

Misuse of land has been a common phenomenon during the last few decades owing to rapid growth of population. Misuse of land has been used here to describe the use of land irrespective of its land use capability. Most of these problems have cropped up in an attempt to provide growing need for food and accommodation. In this effort the greatest misuse has been committed in respect of the best arable land. With the growth of the population and decline of joint family system, there has been great demand for separate residential accommodation which has led to an alarming growth in the size of the village built-up area. This process has converted cultivated land into residential area.

This is because of the fact that agricultural plots surrounding the settlements area have experienced remarkable change. Whenever there is a need for more houses, they are constructed on the peripheries of the original settlements for reasons of security and community of life. Thus a house which can be constructed even on a barren land consumed the best land of the village. New settlements may be set up on barren land of the area.
Destruction of village’s groves and orchards for bringing maximum area under crops may cause misuse of land. As a result of this action several problems have also cropped up. Due to loss of village grove, which is primarily the main source of kitchen fuel supply, the fuel problem has sprung up and people are forced to use cow-dung which is used to fertilize the cultivated land. As a result the fertility of the soil has remarkably deteriorated which is reflected in the gradual decline of yields of different crops. This problem may be solved only when cow-dung is used to produce bio-gas for fuel and the remaining refuse may be used as fertilizer.

Growth of population and optimum utilization of crop growing areas have almost consumed pasture land of the area. The cattle population has to remain contented with the stalks of the grains. This has caused great hardship to animals. It has further caused cattle rearing and dairy products. This problem may be solved by growing high yielding grass like ‘Hatia grass’ etc for the cattle in the cultivated land.

Some farmers did not consider the importance of cart tracks or foot-path and they have removed most of the foot-paths and cart tracks.

In fact some of the cart tracks and foot-paths are highly needed for agricultural practices. This may be restored by strict regulation and government supervision with strict regulation.

**Defective Agricultural practices:**

A few land use problems have been cropped up due to defective agricultural practices adopted for immediate grains without taking into consideration of long range effects on the soil. As for example, in the race for greater production after the availability of irrigation and chemical fertilizers the people are trying to grow several crops without
giving due rest to the land. As such the soils have stabilized at a very low level of yields. This problem may be solved by the use of proper chemical fertilizer and compost.

There is practically no tradition of crop rotation. Some crops are raised in the same field for several years. This has resulted into deterioration of even first class lands. Sometimes, farmers blinded by their necessity for food, make wrong choice of crops contrary to land capability. Sandy loam soils which are very suitable for Rabi crops such as wheat, barley, maize etc have been found cultivated with paddy crops. Farmers should consider the importance of rotation of crops and capability of the land.

**Consolidation of Land:**

Growth of population and fragmentation of families have resulted in fragmentation of agricultural plots also. It has become so small in size that modern agricultural implements may not be used. Scattered plots hinder the farmers in taking due care in terms of developing irrigation, cultivation, harvesting, protection etc. This problem may be solved with due consideration of farmers and their agricultural plots.

**Suggestions:**

**Agro-based Industries**- Most of the farmers are not aware of the importance of agro-based industries in the region and misuse of several crops and agricultural plots. Agro-based industries may be developed to make use of stalks, husks, bagasse, etc. These may be used to produce hard card board, packing material etc. dairy farming and poultry farming may be accelerated.
**Crop Insurance** - sometimes failure of rain and crop disease become very harmful to crops and farmers are in distress. As a result farmers avoid taking risk in growing crops. Flood also damages standing crops. This problem may be solved by insuring the crops of the farmers. They should feel that their investment in agriculture is insured.

**Dry Farming** - Since agriculture of this region is primarily based on monsoon rain which is uncertain and unevenly distributed throughout the rainy seasons, crops should be developed that may be grown in shorter period with little rain. Even delay in rain or inadequate rain may damage the crop. In fact, scientists are trying to develop maize, rice and other crops which can be grown within minimum time and they have partly succeeded in their efforts.

**References:**