Chapter VIII

OBSERVATIONS AND FINDINGS
Chapter-VIII

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Detailed analysis of geographical conditions influencing land utilization, crop rotation and associated problems of Ghatal and Kharagpur sub-divisions leads to draw following observations and findings-

Ghatal and Kharagpur sub-divisions of Paschim Medinipur district being located in the eastern and south-western part of Paschim Medinipur district, an early inhabited tract of West Bengal has been under cultivation for thousands of years. In spite of that land has not lost its bearing capacity. Frequent floods have enabled the land to maintain its natural fertility by gaining fresh deposit of silts.

Although the study area is a part and parcel of the alluvial plain of Silai, Kasai and Keliaghai rivers and it is supposed to have homogeneity in land surface, land uses and crop production but the elongated part of Chhotonagpur plateau has disturbed the monotonous terrain character and have brought regional diversities in physical landscape. In fact, these plateau portions have caused diversities in land utilization, production of crops and associated conditions.

Alluvial deposition coupled with watertable has considerably influenced the development of tubewell and wells. In the laterite platform of the western part, the depth of watertable experiences a substantial variation from 4-15 metre below ground level. It may be more in the drought prone areas. In this part the water level is not so prevalent for irrigation while the eastern portion is more suitable for tubewell and well because the water level is near the surface.
Excepting the elongated part of Chhotonagpur plateau, most parts of the study area have gentle slope with rivers having meandering courses, distributaries, abandoned channels etc. As a result there are low-lying areas in the old courses of the rivers with sandy soils near the main river and their distributaries. Considerable percentage of land remains either water-logged or unsuitable for cultivation.

Since the study area has very gentle slope having homogeneous land surface, most rivers (mainly Silai river) are shallow and these rivers become furious during rainy season and damage crops in Ghatal block. These rivers also do not contain water for irrigation during dry season.

Although the Ghatal and Kharagpur sub-divisions are noted for productive soils in Paschim Medinipur district, there is considerable regional variation in texture and element of soils. Quality of soils decreases westwards and the percentage of alluvial soil increases eastwards. The impact of soil is obvious on the production of crops in the region. Even in the villages soils are leading diversities in crop production.

The analysis of natural forest and groves and orchards reveals the fact that growing population has caused decline in the percentage of natural vegetation and orchards. People are trying to convert groves and orchards into cultivable land partly because of the shortage of cultivable land, and partly due to less gain from the fruit products. Sometimes its protection becomes a problem for the owner.

Growth of population has affected the productive land surrounding the settlement area. Agricultural lands close to settlement remain generally more productive because of the use of compost and refuse of man and animal but due to growth of population, people are compelled to construct new houses in the adjacent fertile land. As a result people are losing most fertile land for agricultural practices.
The present study assessed the findings of other scholars that the region has made considerable progress in illiteracy as well as level of education; In fact, most of the villages have considerable number of educated people. Even female education has remarkably accelerated.

Occupational structure has also considerably changed due to the impact of urbanization, education and modernization through decades. Younger generations are diverting towards secondary and tertiary occupation.

Although the study area has considerable percentage of urban population but due to proximity of municipal area (especially Kharagpur municipality) the region has been remarkably influenced by urbanization in respect of quality of life and socio-economic activities.

Land use has considerably been changed during decades. People have tried to make use of every inch of land leading to optimum utilization of land. Only possibilities left to cultivators are that they can either maximize the production by using chemical fertilizers, manures or developing irrigational facilities and multiple cropping.

It has been observed that the study area especially the blocks of Ghatal subdivision are famous for potato cultivation. They are used to supply adequate potato to other states.
Chapter IX
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Landscape is a combined effect of structure, process and stage. Its uses greatly determine the degree of landuse practices both qualitatively and quantitatively. Land is limited and the only solution is better management of land so that it can enhance its productivity and becomes a viable base for development. Growth of cultural landscape promotes economic growth which ultimately results in the overall development of a region. In this context man-land ratio and man-land management practices in Ghatal and Kharagpur sub divisions are of great consideration. Growth of agriculture and industry has a positive impact on the socio-economic condition of a region. Thus the present study highlights the population growth and transformation of land of developing region to a developed one brought about by the growth of agriculture and industry specially agro-based industries in the study area.

Chapter-I introduces the study area, Ghatal and Kharagpur sub divisions, Paschim Medinipur district of West Bengal which emerged on 1st January, 2002 from undivided Midnapur. The study area extends from 21º 45´ 17´´ to 22º 51´ 45´´ north latitudes and 87º 07´ 30´´ to 88º 12´ 30´´ east longitudes. It covers an area of 3,866.26 square kilometre with 33,41,588 population having 10 police stations and 15 C.D. blocks. Agricultural growth in the district of Paschim Medinipur in West Bengal took place during the forth-five year plan (1969-1974). The agricultural activity has a positive impact on the socio-economic condition of that region. The chapter also contains objectives, hypothesis, methodology and review of previous literature with a brief account of the historical background of the study area.
Chapter-II describes the physical set up of the study area. The western part of the study area is formed of laterite but in the south and east ordinary alluvium of the Gangetic delta predominates. In the north west of the district micaceous schists crop up. Pure alluvial deposits of Silai and Kasai river and its tributaries are found throughout the study area except the western part. Ghatal and Kharagpur subdivisions are traversed by river Silai, Keliaghai, Kasai and their tributaries. The principal tributary of river Rupnarayan is Silai which enters in the district from the Manbhum district and falls into the Rupnarayan river at Bhandar. The Palashpai khal flows for 16 kilometres over Daspur II block before joining with Rupnarayan river. The climate of the study area is characterized by hot and humid tropical monsoon climate with heavy downpour during the months of rainy season (June- September) giving rise to flood menace in every year. The soils of the study area can be categorized into three major types. The north western and south western part is covered by lateritic soil. The central part of the study area is composed of older alluvial soil and the newer alluvial soil is found along the river valleys. Natural vegetation is scanty and this region is decorated with Sal, Kusum, Piasal etc.

Chapter-III analyses the socio-economic set up of the study area which affects landuse patterns because population and other aspects like literacy, occupation structure, poverty, electricity, transport and communication etc are significant social determinants. The population of the study area was 10,09,091 in 1951 which was 33,41,588 in 2011 with population density 260.99 in 1951 and 864 in 2011. The number of urban population was 3,88,337 in 2001 which depicts the conversion of land from agricultural use to industrial landuse. The population share which affects the land use changes was 934 in 1951 and 961 in 2011. The literate population always determines the nature of landuse of the study area. This chapter also deals with on the
different types of institutions like school, colleges, health centres, power stations, which are increasing gradually and change the cultural landscape.

Chapter-IV describes the general landuse patterns of the study area. The general landuse pattern of the toposheet (Map no 73N and 73O), DPMS maps from NATMO and satelite imagery of the study area has been analysed. Generally the major portion of land is used for agricultural purposes. Besides this, the major part is covered by the rural settlements and the municipal area is used for urban settlements. There are some patches of forest cover and wet land. The transport network which occupies the least portion of the study area always helps to change the general landuse patterns. Activity on the land is the major criterion for classifying the landuse patterns that is essentially a qualitative rather than a quantitative phenomenon. The landuse of the study area has been categorized into five types such as forest area, cultivated land with irrigation, cultivated land without irrigation, culturable waste land and area not available for cultivation. This chapter also stresses on the block wise landuse patterns of the study area.

Chapter-V discusses the landuse of the selected fifteen mouzas of each block of Ghatal and Kharagpur sub divisions. These mouzas vary from one another in physiography, drainage, soil, vegetation and general landuse. It will be seen that more than 80 percent of the total area is cultivated. But some mouzas are very much affected by water logging and relatively high water table which are poor in agricultural practices. The occupational analysis of the population of the villages shows that agriculture is the mainstay of the major portion of the population. Few villages which are located very close to block headquater such as Madpur, Bhagabanti mouzas are directly or indirectly dependent on cultivation. Land utilization in the two seasons of Kharif and Rabi is generally confined to the
production of grain crops which occupy more than 90 percent of the total cultivated land in the villages. This chapter also deals with educational institutions, drinking water facilities, and development of roads etc which are the cultural determinants of landuse changes.

Chapter-VI encompasses the growth of population and landuse changes. Growth of population has affected the productive land surrounding the settlement area. Agricultural land close to settlement remains generally more productive because of the use of compost and refuse of man and animals. People are compelled to construct new houses in the adjacent fertile land. It has been noted that due to the increase of population the cultivated land has been reduced and the culturable waste land has been gradually increased. The chapter analyses the impact of population growth on changing landuse during 1971-2001 of the study area as well as the each block.

Chapter-VII includes discussion on various kinds of problems relating to population growth. The most important problem is the variation in land surface which is the elongated part of Chhotonagpur plateau dissected by 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 agricultural practices. Besides, Badland topography also aggravates soil erosion in the study area. The study area also suffers from lack of perennial river, good irrigation system; water tanks etc. Remedial measures for proper utilization of land for agricultural growth, agro-based industrial growth and overall development of the region have been suggested.
Chapter-VIII mentions the observations and findings related to the study area. It tries to summarize the study by pointing out the facts that have come up during the course of the study.

In Chapter-IX conclusion has been drawn by summing up the distinctive characteristic outlines of all the chapters and highlighting the major theme of the study of population growth and land use change which will ultimately bring out socio-economic development in Ghatal and Kharagpur sub divisions.

Thus it may be concluded that Ghatal and Kharagpur sub divisions of Paschim Medinipur district display the image of agrarian economy. But the resource potentials have not yet been fully utilized. Agro based industries should be given priority, for which it requires the improvement of transport and communication systems. Optimum utilization of resources and parameters of social well being should be treated and used thoroughly. Government’s co-operation and participation of the local people are urgently needed for the implementation of development plans and programmes.