Chapter wise Summary of Findings

CHAPTER I

Due to administrative convenience Medinipur district was divided into Paschim & Purba Medinipur following the existing block boundaries. In this chapter the analysis is made on the basic natural resources and socio economic resources of the both district .In the analysis it is revealed that maximum rugged land is situated in Paschim Medinipur where as in Purba Medinipur the land surface is quite plain. The unproductive laterite soil is concentrates in Paschim Medinipur where as in Purba Medinipur soil is mainly of alluvial type. Thick vegetation concentration found in the rugged land of Paschim Medinipur. Literacy rate is much higher in Purba Medinipur.In Paschim Medinipur 1/3rd population is under developed (S.C and S.T) population. After the division road accessibility is better on Purba Medinipur district than Paschim Medinipur.

CHAPTER II

In this chapter the analysis is made on the basic natural resources of Paschim Medinipur district. In Paschim Medinipur district rugged terrain of almost 300m high concentrates in the western part and it gradually merges with the plain alluvial track of east with elevation of 20m. General slope extends from north west to south east direction and it varies from 20 to 50 degree. The district is characterized with variety types of soil. There are 14 types of soil, most of them are unproductive in nature. The district Paschim Medinipur is thickly forested and contains large share of the forest lands of West Bengal. There is 176183 ha of land under recorded forest i.e 18.95 % of the total area of the district. Climatic condition of Paschim Medinipur district is hot and humid type. Average rainfall of the district is 1470mm. Annual range of temperature is 7 ^{o}c to 40^{o}c. The ten years average ground water varies from 8.91 mbgl to 3.76 mbgl during pre monsoon (April –May) in post monsoon (Nov –Dec) and in 2004 average ground water level varies from 9.76 mbgl to 3.49 mbgl.8 blocks were categorized as grey i.e. semi critical namely Keshpur, Kharagpur I & II, Gopivallavpur II, Sankrail and ten block are

identified as dark blocks i.e. Sabong, Pingla, Mohonpur, Debra ,Datan I, Narayangarh on the basis of Ground water condition.

CHAPTER III

In this chapter detail study has been done on the socio economic character of the district. The economic condition of the district is mainly based on agriculture and agro marketing. Potato, vegetables, paddy, jute, oilseeds, fruits are the main marketable products for the agro marketing of the district. Few middle and large scale industries are set up in the district and these are situated in Kharagpur industrial belt, Jhargram industrial belt, and Medinipur industrial belt. Small scale industries are categorized into six groups. Agro based industry, forest based industry, bird animal based industry, cotton cloth based industry, chemical industries and small scale engineering industries, which offer considerable employment opportunities and livelihood options. Average literacy rate of Paschim Medinipur district is 70.41. Percentage of male and female is 81.28 and 59.11 respectively. Female literacy is very much low in Jhargram Sub division (49.74%).Total percentage of S.T population of the district is 14.87 % out of total population. The concentration of S.T population mostly found in the western part of the district. The overall sex ratio of Paschim Medinipur district is 961 female per 1000 male. But the ratio varies from area to area in the district. The eastern side of the district in flat alluvial track work participation is higher. And scope of work is also higher in these regions. Where as in the western side in the rugged terrain area scope of work participation is limited.

CHAPTER IV

In this chapter details literature review about land use along with land use patterns over the whole district has been discussed. Firstly methodology of land use map preparation including (Laboratory work, Ground Truth (GT) collection, Identification of different features in different points, Recode and accuracy assessment) has been studied Land use and land management practices have a major impact on natural resource including water, soil, nutrients, plant and animal. Land use information can be used to

developed solutions for natural resource management issues. Maximum blocks of Jhargram and Medinipur Sadar sub division are under laterite soil, which is unproductive in nature. Where as in Ghatal and Kharagpur sub division most of the blocks are under alluvial track. The district has 62.95% of net cropped area. So maximum land use is under agricultural land. The district has 18.6% forest land. In these areas forest based activity can be developed so that the forest can be used as resource. The district is characterized with 6% wasteland which is completely unfavourable for agriculture. In these areas dry farming is suggested. The district has more than 2lakh hec of degraded land of which 1/3rd is severely degraded. This degraded land includes waste land, half of the forest land and a portion of cultivated land. The district is characterized with 144403 hec land for non-agricultural uses which mainly includes settlements, road and rail networking etc.

CHAPTER V

The district of Paschim Medinipur is the land of agriculture and 80 % population of the district is engaged in agriculture and agro based activities. Major crops grown in the area are paddy (aus, amon, boro), wheat, potato, vegetables, oilseed, mat stick etc and minor crops like maize etc. Net cropped area of the district is 573575 hac. Out of which 52.16 % land is under irrigation. Eleven crop combination zones are identified in Paschim Medinipur district. Crop combination zones are amon, aus amon, amon potato, aus amon potato, amon aus vegetables, amon aus sugar cane, amon potato vegetables, amon potato mustard aus, amon aus vegetables potato, amon aus potato vegetables , amon vegetables aus ground nut. In crop concentration analysis regional concentrations of crops are identified such potato concentration in Garhbata I block, mustard concentration in Chandrakona I and II etc. Crop diversification is very limited here. Mono cultivation especially cultivation of paddy is very much common in the district. Fertilizer recommendation is done for principal crops, such as In Khargapur sub division mustard cultivation can be done by reducing K_2O. More garlic cultivation is suggested in Chandrakona II and Daspur I block by reducing P_2O_5 in the soil. In case of ground nut cultivation little development can be done in the blocks of Keshpur, Ghatal and Daspur by reduced

K_2O in the soil. Potato cultivation can be increased except the northern blocks of the district by the adjustment of soil K_2O, soil P_2O_5.

CHAPTER VI

In this chapter details study has been done specially on the definition and classification of compage and then the whole Paschim Medinipur district has been classified into 95 small units(compages) based on physical and agricultural characteristics such as relief, soil, forest, drainage, ground water level, cropping pattern, irrigation facility etc. After the identification of the compages specified with critical problems some suggestions or alternative way outs are given for the development of the areas. Fodder cultivation is suggested in the dry fallow, excavation of big khas bundhs, excavation of water storage tank, casewnut and jatrofa cultivation, rain water harvesting is also suggested in the dry fallow region. In the laterite track Arhar (a particular type of pulse) cultivation has proved very much successful. Besides this cultivation of various pulses also proved successful in the crop rotation process along with paddy or other vegetables and which also keep soil fertility .In case of high yielding boro variety onion is an alternative crop which revives soil fertility. In the south eastern part of the district is quite favourable for onion cultivation. In the laterite prone areas and low land areas fruit, medicinal plant cultivation can be done to earn the economic benefit. For soil and water conservation creation of water bodies through construction of water harvesting structures is necessary which gives manifold benefits like domestic use, irrigation, pisciculture, duck cultivation etc.

CHAPTER VII

In this chapter the Paschim Medinipur district is again classified into 108 small unites based on socio economic characteristics. The characteristics which are taken into consideration are population density, percentage of S.C and S.T population, literacy rate, work participation, distance from the market, distance from the road. All the characteristics for the all compages are analyzed and accordingly suggestions are given. To eradicate the illiteracy various planning can be in corporate in the district like

arrangement of different training programmes for the teachers, distribution of free nationalized text books, to implements goals of Sarba Sikhya Abhijan, provide grants for science equipments ,mass literacy programme etc.For the development of the tribal communities various schemes can be adopted which are as follows – pre Madhyamik scholarship, provision for educational equipments, provision for land and irrigation, supply of bullocks, agricultural equipments, seeds and manures, development of cottage industry, development of transport and communication, supply of poultry, goats, sheep, pigs, development medical facilities, drinking water supply schemes installation of solar lighting along the village road, construction of village approach road, health awareness camp and awareness camps etc.Forest fringe areas are under JFM in the district has potentiality to generate so many ways of employment. Spreading of tourist industry based on eco tourism can also generate more employment. Maintenance and construction of earthen roads, excavation of ponds, leveling of play ground, training centre regarding handicrafts, waste land development, re excavation of canal, repair of river dyke, removal of sand from the cultivated land, water harvesting system etc may create ample opportunities for rural employments.

CHAPTER VIII

In this chapter three different areas based on different criterion and problems are selected as case study within the whole study area.

In the first case study eight forest villages are selected from Medinipur Sadar block of Paschim Medinipur district. All the study villages having more than 50 % area under forest. And their livelihood is completely depends on the forest. Sal is the main forest product here. Collecting sal leaf, making sal plates and selling them to the market are the main sources of livelihood. In all the villages the forest is maintained by F.P.C (Forest Protection Committee).At present some work is going on by F.D such as Jatrofa cultivation in waste land, soil conservation. In the study villages various schemes like RSVY (Rashtriya Sam Vikas Yojana) and development of eco tourism as in Gopegarh have already implemented. Whole area is poverty stricken and percentage of S.C and S.T is much higher. Economy of the region is completely depends on the forest and the scope of agriculture is also very limited here. At present various political turmoil

is also creating disturbances in this area. The developmental works are hindered in this region. Various developmental works like village resource development, micro watershed development can be integrated into JFM villages as well as to improve the socio-economic status of forest-dependant communities in order to reduce pressure on forests.

The second study has been made on the six villages characterized with low ground water level in Daspur –I Block of Paschim Medinipur district .Average ground water level of the study area is 8.5. In pre monsoon period Baikunthapur shows low ground water level and in post monsoon period Khatbaui registered low ground water level. 30 % of total water is used for irrigation. It is mainly from ground water. Ground water level is directly influenced by the irrigation practices in the study villages. In the villages (Barsimula, Basudebpur, Baikunthapur and Radhakanthapur) where irrigation is totally ground water depended, there in recent years the depth of ground water level is increased from the surface level, where as in other villages (Kalmijhor and Khatbuai),where irrigation is based on surface water ,there the ground water level has not been changed. In pre monsoon period increase of temperature enhance the ground water lowering. So in this period temperature has a direct relationship with ground water lowering. In the month of January and April as rainfall is minimum, so it also shows high ground water depth below surface level that shows huge dependency on ground water for boro cultivation.

The third case study deals with the agricultural prospect in the remote village characterized with rugged topography in Garhbeta I Block. The economy of the study area completely depends on the agriculture and specially the surplus production of potato and vegetables. The study area is characterized by rugged topography and prone to excessive erosion .So attention should be given on the soil and water conservation. This can be done here by construction of bundh, field channel, barren land may be developed by fodder cultivation. Land shaping through cut and fill method may be followed for living the land. The study area is characterized by rugged topography and prone to excessive erosion .So attention should be given on the soil and water conservation. This can be done here by construction of bundh, field channel, barren land may be developed by fodder cultivation. Land shaping through cut and fill method may be followed for living the land.

CHAPTER IX

In the research work three areas characterized with different character and problems, are selected as case studies in the earlier chapter. Now the present chapter has been devoted to determine the possible impacts on environment of the action of plans which are taken over the three selected areas. In the forest fringe villages of Paschim Medinipur various livelihoods are completely forest based and various activities are done here, which to some extend disturbing environmental balances. Besides this J.F.M activity is maintaining the forest management process here in this region. Here also some socio economic impacts are identified like inequality in benefit sharing, inequality in participation on forest based activity in respect to age and sex etc. The FD and NGOs have a major role to play in solving equity issues in the participation of forest based activity and benefit sharing programme. Lowering of ground water is found in some villages of Daspur I block. Some reasons are identified which are really responsible for lowering of ground water level like low amount of rainfall like , maximum use of ground water for irrigation specially in the pre monsoon period. There are some other factors which are responsible for the lowering of ground water like less amount of infiltration, clay loam type of soil characterized with less porosity, use of ground water for domestic and public water supply etc. Villages situated in the undulating track of Garhbeta I block, where rill and gully erosion has created the bad land topography and also responsible for the removal of surface soil cover in the study area. In these undulating villages agro marketing is the main source of income and for this more importance is given to the potato, vegetables and paddy cultivation. In some villages due to excessive use of high yielding variety seeds and fertilizers soil fertility is decreasing and which is also causing soil degradation.

CHAPTER X

After the division of Midnapur district into Purba(east) & Paschim(west) the served settlements are facilitated with favourable accessibility with its central town Paschim Medinipur, still the quality of the three basic resources mainly land, water & soil is not favourable for most part of the newly created Paschim Medinipur district. In the present work an attempted is made for the analysis of existing spatial

distribution of resources, their qualities, uses through human interactions. The optimum human interactions with basic resources yielding the marketable surplus will obviously bring out the complementarities & a proper spatial interaction among the settlements can only make the overall development of the study area. Paddy, potato, oilseed, jute, wheat, vegetables are the main agricultural products of Paschim Medinipur districts which also bring surplus agricultural production. Potato produce large amount of marketable surplus especially in the northern blocks of the district. Binpur I, Salboni, GarhbetaI, Garhbeta II, Garhbeta III, Chandrakona I &II produce more than 50,000 metric ton surplus production of potato and in case of composite weightage the maximum weightage is achieved by the route between Medinipur – Ghatal. The second and third important routes are Garhbata to Medinipur, Medinipur to Lalgarh respectively, which need to draw attention.