8.0.0 PROBLEMS, PROSPECTS AND PLANNING

This chapter deals with the statement of the problems faced by the human community of the study area concerning their life, economy and their social aspects; specification of the development of the target groups which need share of the benefits of the dam and of the resource like water, land and forests; and planning for the amicable solution of those problems. Planning is a methodological course of action aiming at the accomplishment of several explicit goals, and at the same time, is a procedure to appraise the prospective of an area for its best possible development. Therefore it is obligatory to accentuate on the specification of the targets; stipulation of the prospective variants to reach the targets; finding out the best possible variant; organization of the mechanisms best fit to ensure operational implementation of the variant finally chosen and management of the processes of accomplishment. Selection of the procedures to be adapted by the area concerned is formally the task for the local Implementing authority. But the fact is that planning to solve peculiar problems specific to an area is not task for the professional planners; actually it is the task for the local human community seeking development most suitable to themselves which means development from within, presupposes planning from within.
8.1.0. OBJECTIVES OF PLANNING

In present perspective, the objectives of planning are;

1) To identify the tracts of land and forests discriminately affected by the Dam and to suggest necessary measures.

2) To identify the economic discriminations imposed by the dam and to formulate measures to bring balance;

3) To recognize the human groups displaced but still rehabilitated and to suggest alternatives for their satisfactory rehabilitation;

4) To promote equality in the distribution of water from dam;

5) To detect the pockets of water storage and to suggest measures for supplying dam water to those areas;

6) To explore the mechanisms to promote regular water flow through the basin without decommissioning the dam;

7) To detect the pockets of lands experiencing water logging and to suggest amicable measures;

8) To delineate the waste lands around the dam and its command area for their best possible reclamation;

9) To explore the segments of forested lands around the dam where regeneration of indigenous tree varieties are essential;

10) To prevent misuse and overuse of dam water;

11) To identify physical, social economic and political constraints responsible hindering the desirable development of the area.
Characteristically the area under investigation is a rural area where production from land, mainly agriculture is principal occupation and the biophysical environment and obviously the dam are the controlling factors. Therefore the physical environmental and the direct and indirect influences of the dam are explored in detail. Keeping in view the future planning for best possible utilization of land, water and forests of the study area, problems are identified and analyzed in detailed. Comprehensive exploration of these problems has equipped the researcher to arrive at some suggestive solutions for the better utilization of land and water and sharing of the dam water in the area.

8.1.1. THE PROBLEM AREAS IDENTIFIED FOR PLANNING

The area of investigation possesses a number of problems. The problems of the immediate upstream area may differ with the problems of the immediate downstream area in intensity and magnitude, but they may seem identical in several aspects. This work emphasizes mainly on major problems concerning more important areas.

i. Problems related to the dam

Most of the large dam projects have been characterized by certain problems of which substantial environmental and social costs are very important (WCD, India Country Report 2000). The Kangsabati Dam is mainly an irrigation dam. Thus important problems related to this dam are persistent gap between the created irrigation potentials and its utilization, failure to achieve the projected benefits in full, inequities and injustice in the incidence of costs and benefits and above all, the problem
of 'the distribution of benefits' (WCD, ICR 2000). Actually 'the benefits of large dams are overstated and the costs understated. Large dams 'do far more harms than good;' many adverse impacts are irremediable. Even the beneficiaries living in the command area are gradually becoming free from illusion. The storage capacity has been decreased and the dam is now unable to supply water in time of the utter need which invites a series of problems.

ii. Problems of soil erosion

The Kangsabati dam is founded on a slopping terrain formed of granitic schists. Severe soil erosion is evident in the catchment area of the dam. The thin soil is easily eroded by rain and runoff water and ultimately deposited under the bed of the reservoir. This deposition increases the height of the dam bed and decreases the storage capacity. Unabated erosion of soil has created sizable zone of wasteland on the periphery of the reservoir. Sheet, rill and gully erosion contribute sedimentation in the reservoir bed. Soil erosion is also clearly evident in the downstream section and command areas also. Loose unconsolidated top soil move downslopes with the water for irrigation. Silts deposited in the canal beds raise the height of the canal beds and it reduces the capacity of canals. Erosion of soil ultimately changes the quality of soils which in turn affects crop fields.
iii. Problems of waterlogging

This problem is prominent in the low-lying pockets of the command area and in the lower reaches of the valley. These areas get inundated by the water spilled over of leaked from the canal walls. Water logging on the other hand changes the structure of soil and is mainly susceptible to salinization. Once fertile low lying parts just below the dam and in the command areas are now gradually experiencing low yields.

iv. Problems of deforestation

An extensive tract of the area has been deforested to give space for the Dam. The forests of the upstream section have been submerged and simultaneously cleared out. These tropical deciduous forests had direct beneficial effect not only on the physical environment and biodiversity, but also upon the local people supplying food and fodder. The processes of deforestation were accentuated by the construction of the dam and once symbiotic, the local people become instrumental to deforestation. A large tract of forest surrounding the dam has been degraded with little possibility of regeneration of indigenous species. To meet the utmost need of the local poor, arrest of deforestation is very tough. Deforestation on the other hand has enhanced the rate of soil erosion. Deforestation in the command area is still in program in purpose to bring more areas under plough when this is fair chance of irrigation.
v. Problem of land utilisation

Land is considered as most precious resource by any agrarian society. Wise and optimum utilization of this precious resource thus needs special attention. The people of both the upstream and downstream section of the Kangsabati dam, is mostly dependent on land for agricultural crop production and other uses. On an average, almost 70% of the people are directly related with land for agriculture. The problems of land utilization concerns overutilization, underutilization and abuse and misuse of lands. The problems of the two sections may not be identical in all cases, but it needs planning for the benefit of all people. For example the small holders, landless and semi-landless people can get opportunity to earn from land through seasonal labour.

vi. Problems of poverty

Poverty is the most extreme problem of a large section of the people living in the upstream and the downstream section. Majority of the poor are the landless people and very small holders and a certain number of them include the displaced people who have lost their means of earning. Large people living in the upstream section of the dam, about 70% live Below Poverty Line (BPL) and for downstream section the share is 60% who earn only Rs. 156.25 per capita per month, whereas, the poverty Line has been fixed as Rs.350.17 per capita per month. According to caste structure of the population, S.Ts and S.C.s dominate the population. 80% of the S.Ts and 70% of the S.Cs in the study area live Below Poverty Line.
vii. Problem of unemployment

There is very little provision of employment of people in sectors other than agriculture. The people of the area, in accordance with the census 2001, are divided into worker, marginal worker and non-worker. All these three groups do not get job for the whole year. Fragmented, less fertile and little irrigated lands have no such capacity to offer jobs year around. Majority of the people become unemployed for most part of the year. As the area is predominantly a rural one, employment in tertiary sector is irrelevant. Unemployment just intensifies their poverty. Further, the S.Ts and S.Cs suffer more regarding unemployment than the general caste people having land and other means of income.

viii. Problems of illiteracy

Literacy enables a person to think rationally and helps find ways of earnings even in places out side this place of living. In some Blocks of the study area the literacy rate for male is only 55% and for female is only 36%. Despite some programmes launched by the Union and the State Government, attendance of all children to primary schools still unsatisfactory.

ix. Problems of social justice

The area is inhabited by a heterogeneous group of people. Sociologically they are categorized into three classes- General Caste, Scheduled Tribes and Scheduled Castes. The first group dominates over the other two. This domination is not only economic, but societal domination is more effective, severe and deep rooted. Those who to leave their lands for the Dam, majority of them were S.Ts and S.Cs. They are
deprived of land, forest, share of water and even religious and social rights. Provision for these people has been done by the governments through reservation, but these people of this weaker section can not avail any opportunity, even the schemes of jobs extended to them. Even the avenues for their self-provisioning have been closed. They need social justice for their survival and development.

x. Problems of crop failure

This is a problem common to both the upstream and the downstream sections. The agricultural fields of the immediate downstream section also follow the same fate. The agricultural fields in the command areas far from the dam get delayed irrigation which cause crop failure.

xi. Problems of inequality in the distribution of irrigation water

This problem is peculiar to the command area. The agricultural plots contiguous to the branch canals get sufficient water for irrigation, but those which are adjacent to the main canals get little or no irrigation because the main canals are deep enough and crop fields lie above the water surface of the canal. Rich farmers avail irrigation from main canal through diesel pumps.

xii. Problem of flooding

Lands in the downstream section are flooded sometimes in the rainy season. The dam authority releases water through canals when the crop fields are already filled with water. This is done for safety of the Dam but the safety of the farmers is neglected. Flooding due to
uncontrolled discharge of water through canals do not only destroy crops but enhances the rate of soil erosion, even breach the canal embankments.

**xiii. Problem of ensuring water storage and supply**

Unpredicted siltation in the reservoir bed has gradually reduced the capacity of water storage which in turn has reduced the life of the Dam. Gradual reduction in the depth of the bed of the Dam is consequent upon the reduction in the volume of stored water. Reduction in volume of storage results in the reduction in volume of water supply.

**8.1.2 PROSPECTS**

On the basis of the rigorous, detailed and conscious field study, the researcher has observed cautiously that though there are several problems in the physical, economic and social environment of the area, yet there are enough potentialities to overcome those problems. Development and prosperity depend upon the political will and active participation of the people of the study area in the development programmes. Every problem has some solutions which could be achieved through the cautious exploration of the prospects contained in it. The most precious resources basic to the betterment of the life of the people in the study area are land, water and forests. The effects of the Dam on these resources and the people of the upstream and the downstream sections are perceptible, but magnitude and intensity of the problems differ in these two areas. Planning for developing the area must consider those prospects. Most important of these are: the topography, climate and surface runoff provide enough possibility to harvest rain water and its supply as alternative to the large scale irrigation system which can
further be integrated with micro-watershed management; there are enough possibility to develop land quality with application of various measures and the prospects of community forest management will help most the weaker section in their development. These can be placed below as humble suggestions.

8.1.3 HUMBLE SUGGESTIONS

Detailed and intensive field observation, the area convinces that the area needs some plans for its development. Following plans may humbly be suggested in this regard.

i. Rain water harvesting

The area receives 1350-1400 mm of annual rainfall and this figure is not so less compared to the other parts of the state. The area is characterized with undulations and slopes enhancing the rate of run-off and speedy flow through the channels. Rainwater harvesting in drier parts of Rajasthan and Maharashtra (The Hindu, 1996, 1998) has now become common practice. Thus, the problem is not the amount of rainfall, but its conservation and storage. As the area is characterized with innumerable first order streams, gullies and rivulets, small cross dams, inundation ditches, and series of small cross dams may be constructed to harvest rain water and its preservation. Small ponds and crescent shaped depressions may be made on the margins of scarps which will harvest water and recharge the ground water table. This type of rainwater harvesting storages may be constructed with little efforts, voluntarily and cooperative systems. In some parts of the state, harvesting of rainwater in the
village ponds or tanks is an age-old technique. This may be used both for drinking and irrigation purposes. The local panchayat may play active role in rainwater harvesting. Harvesting tanks may be made in the inter-canal sections of the command area also-wherein water can be preserved for use in the time of crisis. “informal or small-scale systems” of rain water harvest “can account for large areas of irrigation: in the Philippines, about half of the irrigated area, and in Nepal, around three quarters. In India, although traditional forms of water harvesting and ‘tank’ irrigation were pushed into obscurity and disrepair for decades by state provision of public works, these has recently been a determined renaissance in their favour. This has been pioneered by figures such as Anna Hazare, whose introduction of water harvesting techniques - percolation tanks, check dams, building of nullahs (streams), contour building, additional dugwells, aquifer recharge “ (Black 2005: 65) can transform a water scarce area into thriving agricultural area.

ii. Micro watershed management

The area is endowed with a number of small rivers with first and second order tributaries. The whole area has the prospects to be divided into a number of meso and micro-watersheds. Watershed management is an integrated approach concerning extension of agriculture, provision of gravity irrigation from small reservoirs stored with harvested rain water, afforestation, crop rotation, animal rearing and co-operative farming. Various schemes of micro-watershed management are already functioning in plateau areas and hill tracts of south India, particularly in Palghat area of Kerala. The topography of
the study area is especially helpful for micro-watershed management which will make possible the lands from the crest to foot of the watersheds to be used efficiently with various productive activities, which, on the other hand, can open the opportunity for the weaker section to get employment throughout the year.

iii. Land Quality Development

The land quality of the study area may be developed through the applications of various management techniques, such as plugging of gullies with check bunds, contour bounding afforestation on the wastelands, controlled irrigation, avoiding unscientific tilling, green and compost manuring of soil, selection of less water demanding crops and application of well planned land utilization techniques. The relative uplands with them soil cover may be used for afforestation along with growing of grasses. The leaf litters added to the soil help enhances the soil fertility. Cultivation of more water demanding crops in the parts covered with less humid soil should be avoided. Boro (summer paddy) should grown only in the low lying land rich in moist fertile deep and fine textured soils.

iv. Community forest management

Forest management in this context means afforestation in the unused open lands and reforestation of the degraded forest areas. Once the whole area was covered with luxuriate dense forests. Building of the dam and extension of agriculture destroyed the forests of this area. Community forest management is related with the programmes of Joint Forest Management (JFM) and Participatory Forest Management (PPM).
In the JFM system, committee elected or selected by the local people acts as care taker of the forest which is administered by the Government officials of the forest Development and a share of the price of the forest produce is given to the committee in PFM, this local people participate selection of tree species, keep vigil the forest affairs and participate in decision making and management of the forest. This programme is extended even to the forests in the private lands.

A sizeable section of the local people is inherently or instinctly related to the forests, and they are mainly the indigenous tribal people of the area. This section will be mostly benefited with the community forest management through getting jobs and resources from the forests. Thus this is considered as social security scheme (Chambers et al 1991: 154) The suggestions presented above are apparently different but in nature they are integrated. This integrated plans would develop the area in an integrated way.
REFERENCES


