

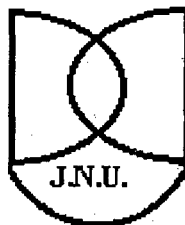
**PARTICIPATORY WATERSHED MANAGEMENT:  
AN ANSWER TO DROUGHT AND EROSION OF  
COMMON PROPERTY RESOURCES**

*Dissertation submitted to the Jawaharlal Nehru University in partial  
fulfillment of the requirement for the award of the degree of*

**MASTER OF PHILOSOPHY**

*By:*

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### Certificate

Certified that the Dissertation titled "PARTICIPATORY WATERSHED MANAGEMENT: AN ANSWER TO DROUGHT AND EROSION OF COMMON PROPERTY RESOURCES" submitted by Rajiv Verma in partial fulfillment of Master of Philosophy degree of this university. This dissertation has not been submitted for any other degree to any other university and is his own work.

We recommend that this dissertation be placed before the examiners for evaluation.

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***DEDICATED TO MY FAVOURITE TEACHER***

***LATE SHRI A.K. VARMA***

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## Preface

The objective of this research is to explore the possibilities of participatory watershed management in combating drought and at the same time controlling the erosion of common property resources.

This dissertation contains five chapters followed by a conclusion.

Chapter I is the introduction to the basic problem of drought and ecological degradation with its relation to common property resources as well as local governance.

Chapter II deals with the various aspects of drought, its socio-economic dimensions and the brief look at the government's efforts regarding it.

Chapter III talks about the common property resources and how it can be effectively managed by watershed management.

Chapter IV deals with the participatory approach to watershed management.

Chapter V deals with the case study of two successful watershed programme.

Chapter VI carries concluding remarks and expresses the merit of participatory watershed development.

This research is based on primary as well as secondary resources.

It is my modest attempt to research in this topic and any shortcomings are my own.

## **Chapter I**

### **Introduction**

India is one of the countries affected by serious and vast land desertification in the world. Such areas are characterised by severe ecological degradation with denuded forests and poor protective vegetative cover causing soil erosion and decline in the productivity of the land. The increase in human and cattle population has only added to the immense pressure on the already fragile eco-systems. Some scholars have started predicting a 'water-less' future and environmental collapse. The crisis of ecological disaster forces attention to serious, long standing issues on natural resource management, which needs to be focused on and studied.

A research on the issues of sustainable development and natural resource management demands inter-disciplinary approach. Students of social ecology and agrarian economics have enriched the sustainability literature during the last three decades. However, we feel that the students of politics and governance are still left with a lot of space. Their contribution towards enhancing the literature on sustainable development is long-awaited. During the last decade, we have witnessed interconnections between nature, culture and society vis-à-vis state. The idea of 'social capital' and 'local governance' is a direct outcome of this process of interaction. Herein, the students of politics can broaden the knowledge base through providing theories on participatory management of natural resources. Further, asking the largest of questions about development is not just a matter of intellectual curiosity – it is a matter of survival.

Drought is one of the few problems where we find that technological solutions are known and are within the reach of the administration, but at the same

time due to sociological and political reasons they are most difficult to implement. The most tragic part is that water is a finite natural resource and no technology, till date, has successfully contributed to making or producing water for the mass consumption. The crisis about water resources development and management thus arises because water is characterized by its highly uneven spatial distribution. Environmentalists like Sunderlal Bahuguna are not wrong in saying that the acute scarcity of water may force the powerful nations to wage a new global war for the control of the depleted sources of water.

The drought conditions in several parts of the country like Gujarat, Rajasthan, Orissa and Telangana are unfortunately on rise. In one-third of India's agro climate regions, there is water scarcity already in terms of per capita demand and supply of water. This imbalance is bound to lead to conflicts at the local, state and the national levels. Thus, water management to fight drought must take an innovative course – a course that recognises water as both a basic and as a scarce resource. It is very simple to know that if there is scarcity of water, the ability to develop economically is limited. One had not heard of river water disputes till about the middle of the 20<sup>th</sup> century. Disputes and riots over river water are of a recent origin. And quite possibly, rivers and the distribution of their waters will become one of the most politicised ecological issues in the near future. How the government of India and the states respond to drought and water scarcity, needs to be examined.

Almost 35-40 percent of the total population of India is dependent on dry-land farming. Recurrent droughts left this population in utter misery. Further, this population satisfies its fodder and fuel requirements through Common Property Resources (CPR) i.e. the resources accessible to the whole community of a village. We have observed that the significance of Common Property Resources consists in their potential to meet the basic needs i.e. fuel-wood, fodder and green manure,



food, fencing, timber etc. of the rural economy outside the market framework without adding to direct costs of cultivation, and personal consumptions. Common Property Resources product collection is an important source of income especially during the periods when other opportunities are non-existent. Environmental stress (e.g. droughts and rain-failure) have led to the decline in the area, productivity and upkeep of Common Property Resources. 'Free-rider' tendency and neglect on the part of the government has led to the erosion of Common Property Resources. To protect this productive asset, we need a paradigm-shift in the management of our natural resources. The shift is represented in the participatory approach to Common Property Resources management, where people are not just beneficiaries of development process but they also become the basic engine of development process.

More than two hundred years of colonial rule has created a frame of mind which is obsessed with over-bureaucratisation and centralised regimes. The policy-makers failed to understand the importance of local governance and indigenous knowledge in dealing with community resources. The Britishers had come from foreign land, determined to be the rulers of a colonised country and deeply entrenched in the mould of superiority, they were very firm in their own vision, understanding and experience of English Society back home. They failed to realise that Indian Social fabric, culture, tradition of society, relationship of the people with the state was different and beyond the comprehension of this alien rule. Hence the indigenous institutions of land and water harnessing, the system of independent control and responsibility, the self reliance of the indigenous communities and the role of the state in its participatory spirit and support was lost. The colonial state from 1865 onwards introduced privatisation at one hand and statisation on the other. The people engaged in conserving their water and land resources slowly diminished. The new regime of record keepers, gazetteer makers neither harboured the insight nor the knowledge of the undercurrents of the society

that evolved and managed these institutions. Despite raising new institutions and symbols of knowledge, and scientific know-how, it did not employ these new scales of measurement for assessing the wide range of work, efforts, institutions that had been evolved by the generations before them. These categories were pushed into the categories of obsolete, traditional and non scientific backward.

In the mainstream of earlier society everybody from a householder to a farmer, to a king, participated and engaged in harnessing their resources and the skills and the version of the entire society got highlighted. But the winds of change dispersed these. They were condemned as illiterates, unskilled with no respect or place in the modern society. In the 19<sup>th</sup> century the colonial state introduced privatization. In 1863 PWD (Public Works Department) came and all the water resources like the pond, the johads were usurped from the control of the society. 'Reserved Forests' protected forests revenue lands came to be the new name of common lands. Their wealth ceased to be available to the people.

The Common Property Resources was with the society from the ancient time. The indigenous communities had been dependent on their resources of land, vegetation, water and mineral long before the emergence of the state power and market forces. These comprised 80-90% of the resource available to the community. The produce of commons was linked to the local economy and was not generally sold or brought in the market. The relationship of the people with the commons was also based on customs and traditions evolved over many centuries of access and use. The people established the relationship with their commons on bond of trust, faith and reverence.

This trust is broken, on account of the things like the new forest laws, and agricultural process have all been responsible for it. The forced destruction and conversion of pasture lands and other areas used for grazing as revenue and forest lands, the precedence of private agriculture over commons used for pasture, have

all been enforced without the consent of the local people. The customary rights of the people on the Common Property Resources were not recognised. This alienation of the people from their resources and the alienation of the indigenous committees from their bearings eroded the moral, social and cultural fabric of our society.

The people lost their resources while the government gained bureaucratic control. The process of recording, settlements, adjudicating, administration and politics played havoc with the commons and the community. It then became increasingly clear to the government that decentralisation was the need of the hour. The conservation, protection and regeneration of shrinking natural resources required the participation of the people who were linked to these resource base.

There is an unfortunate equation in most governmental and even some non-governmental circles that assumes that money spent equals development done. Development is something that must be created and sustained by the people themselves, recognising that certain kinds of external assistance can spark and nurture this process of development, particularly if it comes in a catalytic manner. Although having money is a necessary condition for many, if not all such changes, it has never been a sufficient one. Frequently, the most useful assistance from external sources is in the form of ideas, information, inspiration, and encouragement, which often require only modest funding. The development and spread of new ideas, the forging and nurturing of stronger social relationships, the creation of organisational capacities and the mobilisation of internal resources are all essential elements in the process of management of natural resources.

Recently, one of the most successful attempt of making rural life more productive, has been made through participatory watershed management. Watershed is a geo-hydrological unit and it is accepted the world over as scientific unit for overall area development. The long term objective of watershed

management is the rational utilisation of natural resources of soil, water and vegetation for increasing the productivity of land on a sustainable basis. Some intangible benefits of watershed management are institution building, rejuvenation of 'gram sabhas' and mutual trust, as people get together to manage the watersheds.

Successful case-studies like Tarun Bharat Sangh (non-governmental organisations working for integrated watershed development in Rajasthan) provides an alternative approach to management of natural resources and combating drought. The participatory nature of these programmes makes them worthy of study by the students of politics of development.

## Chapter II

### Drought and Its Dimensions

#### **Introduction**

The total geographical area of India is 329 million hectares out of which 173 million hectares is under cultivation. It is estimated that as much as 65% of the net sown area in the country is rainfed. A major portion of rainfed areas in the country is prone to the recurring droughts.

The term 'Drought' is generally understood as a period of abnormal dry spell of weather, sufficiently prolonged due to lack of water. The word is however, interpreted differently by persons belonging to different disciplines. To a meteorologist drought is absence or severe deficiency of rainfall; to an agronomist, it is the inadequacy of moisture in the soil; to a hydrologist, it is the shortage of water in streams, lakes and reservoirs. It is found that apart from the absence of rains many other human activities like poor management of land and water resources, overexploitation of nature resources, have greatly added to the ills of the drought. Low rainfall may often lead to drought conditions but these man made aspects aggravate the conditions. It can be said that by taking care of all these aspects the severity of drought can be reduced to a minimum. Since very little can be done about the failure of rainfall, efforts should be made to put a check on the activities which aggravate the drought conditions. This chapter deals with the conditions that leads to man-made drought. Herein, we have considered its social and economic implications and the government's response to it.

## **Man Made Drought**

The Report of Sivaraman Committee 1981 has emphasised that:-

“The economic backwardness of the drought prone districts outside the desert area is due to not only the limitation of natural advantage but also to the manner in which the existing endowments have been put to use by man. But unplanned and over exploitation of natural resources and neglect of conservation measures are responsible for substantial imbalance in the ecology of these areas”.

### **(a) Meteorological drought:**

If rains do not arrive in time or is inadequate in quantity then it could be termed as the meteorological drought. Human activities of deforestation and overexploitation has great impact on this kind of drought. Jodha pointed out that in terms of the rainfall 13.2% of the India's total geographical area has a drought frequency of less than three years. Similarly 11.6%, 36.5% and 30.9% of India's area have a drought frequency of three, four and five years respectively.<sup>1</sup> Meher-Honji has shown that as the rule larger the area of deforestation, more are the number of criteria showing diminishing tendency of rainfall and rainy days.<sup>2</sup> Salati estimated that as much as 75% of the year's rain in the Amazon Basin returns from the forests directly back to the atmosphere.<sup>3</sup> Forests effectively increases the possibility of rainfall in the immediate vicinity. Salati also warned that the destruction of the natural forest cover of the Amazon would reduce rainfall and the incident-solar energy, instead of being used for water evaporation, would heat the air contributing to the expansion of the desert. Hence the scarcity of water can not be only explained on the variation of rainfall, because change of the pattern of vegetation also has great impact. Hence deforestation contributes to the scarcity to water resources.

**(b) Groundwater droughts:**

Olsen (1987) has pointed out that greater use of groundwater resources led to the confusion about the symptoms of drought.<sup>4</sup> The reason why wells and tanks dried up was not because there was less rainfall or a significant climate change but because the ground water was used indiscriminately. According to Saksena (1989) the ground water accounted for 42% of the India's irrigation potential and nearly 42% of the net area actually irrigated. It is also the most important source for the drinking water in almost all parts of rural India.<sup>5</sup> It also plays a regular source of supply and plays a critical buffering role during periods of drought when surface flows are limited. Dadlani (1990) wrote that the use of ground water has grown explosively since the 1950. Nationwide the number of diesel and electrical pump sets jumped from 87,000 in 1950 to 12,581,000 in 1990, a continuous growth rate of over 12%.<sup>6</sup> Hence all these has led to overexploitation of ground water and the falling of water table. As the table declines the farmers have no other option but to return to rainfed agriculture. Hence there could be reduction in the crop production and increase in the drought exposure. Under the current situation droughts are more permanent and pervasive not because water is not dropping from the sky but because water has gone down deep below. With the shallow aquifers totally exhausted, the dug wells and tanks will not store water for very long, creating a pseudo drought condition.

The intensification of this pseudo drought is due to the encouragement to groundwater based irrigation sometimes with the declared objectives of "drought relief".<sup>7</sup> Electricity subsidies and well developed credit schemes for buying pumping sets have also aggravated the situation. Moreover wells and pumps tend to be located on the private hands and the only barrier in access to ground water is the expense of well contribution.

Individuals also tend to feel that they have a right to as much water as they need and can extract. Hence individuals extract water without any barrier. In the state of Maharashtra, the depletion of ground water can be directly linked to the expansion of pumpsets, on account of which the state has no recovery from the drought since 1972. Here the water demanding sugarcane cultivation has become the primary cause for the growing scarcity of ground water.

In the state of Karnataka, drought conditions are on the increase because of the unscientific use of groundwater for irrigation of cash crops like vegetables and grapes. Hence the excessive use of the groundwater for the commercial agriculture has created serious water scarcity leading to drinking water shortages and scarcity of protective irrigation for subsistence agriculture.

#### **(c) Soil Water drought:**

It refers to the availability level of water in the soil which help in the growth of plants. This kind of scarcity varies from crops to crops because some crops require good amount of water while others do not require that much amount. Organic matters increases the water holding capacity and hence soil rich in organic content do not dry up quickly.<sup>8</sup> Hence droughts are very much depended upon the nature of soil, the nature of organic inputs as well as the nature of crops..

Hence frequent use of inorganic fertilizers and pesticide prove to be unhealthy. Hence water intensive Green Revolution agriculture has affected the productivity and built-in-drought resistance of dryland agriculture that arises from the large scale use of pesticides in wetlands.

Bandyopadhyā and Reddy reported an example from Dharwān district of Karnataka where there is crop loss due to soil water drought. The Green Revolution replaced the indigenous cropping pattern and introduced many crops which required good water supply.



The success of sustainable agriculture depends on the management of the soil moisture reservoir. Hence there is need for activities like mixed cropping and organic manuring.

Buch reports that:

“In place like Jhabua, the so called green revolution is threatening to convert even fairly good land into deserts. It is paradoxical that while the ecosystem of Jhabua almost totally precludes the possibility of desertification, human intervention has in fact created a desert”.<sup>9</sup>

**(d) Surface water drought:**

It refers to the drying up of the surface water source like streams and rivers. It is more related to the destabilization of hydrological stability of the catchment rather than the failure of the rainfall. Destruction of the natural forest is one of the major cause for this kind of drought. It leads to the destruction of the catchment, thus preventing percolation of water to the underground. It also results into the creation of flood immediately after the rainfall where as the water scarcity persists in the rest of the period. Hazardous mining, reckless road construction, overgrazing and growth of non-terraced agriculture have damaged the hydrological stability of the upland watershed. In South India, iron-ore mining in the western Ghats has led to the situation of drought by reducing the base flow and increasing the silt load of the rivers.

The Doon Valley has been under tremendous exploitation on account of quarrying of the limestone. As a result over the last 20-25 years there have been a change in the surface water flow turning many perennial rivers into carriers of monsoon flood only.<sup>10</sup> Narayana and Rambabu (1983) calculated that each 10 metres stretch of Himalayan road contribute 2 tons of debris per year to be deposited in the river bed, reservoirs and the flood plains.<sup>11</sup> The displacement of

mixed natural forest by the monoculture cultivation enhances the flash flood prospects and consequently surface water drought. In one of the reports of FAO it recommended for the accessibility of hill forests to permit better exploitation which ultimately resulted in the exploitation of the catchment forests and their conversion into monoculture plantation of commercial species like pine or eucalyptus which became the major cause for the creation of floods and droughts in India.<sup>12</sup> Hence destruction of natural forest cover proved to be a matter of great concern. It was long before the Chipko Movement that Mira Behn, the disciple of Mahatma Gandhi raised alarm about the threat posed to surface water resources by the replacement of oak forests by chir pine.<sup>13</sup>

Hence apart from rainfall failure there are many other factors which are involved in the occurrence of drought. It is to be seen that the magnitude of the scarcity is disproportionately higher than the variation of rainfall from the normal. During 1960s Uttar Pradesh had 17,000 villages without water but the number got doubled in the year 1985. Madhya Pradesh had 50,000 villages without water in 1982 but it went up to 64,565 villages in the year 1985. Hence the magnitude of scarcity is not only dependent on the variation of rainfall. There has been variations in the annual rainfall but there is no drastic change in it in proportion to the rise in the scarcity. Moreover even high rainfall recovering areas like Kerala and Goa are also experiencing acute water scarcity.

### **Social and Economic Implications**

The impact of chronic drought is deep because it leads to the depletion of the natural resources, erodes agricultural capital, devours livestock and displaces and demoralises human population. People are affected differently to the drought conditions. People differ in their ability and capacity to deal with droughts. Rich and influential people are affected differently by the droughts in comparison to people who are poor and landless. The classes of people who are worst affected in

the droughts are landless labourers, cowherds, shepherds, artisans and crafts people, small and marginal farmers and the disabled and destitute people. In droughts farmers lose their crop over successive seasons. Labourers are disintitiled of agriculture employment. Due to absence of grass and fodder animal husbandry is affected and cowherds and shepherds are disintitiled. Due to absence of trade the category of artisan and craft people suffer. Disabled and destitute people suffer because of the failure of the welfare related state transfers. Women and children are also affected the most. The process of agricultural extraction is accentuated by the groundwater extraction which has taken place in an inequitable manner. Overexploitation of groundwater becomes a source of major social and economic consequences. It has also exacerbate economic divisions in the rural communities. Poor farmers are found to abandon irrigation as the falling water table limits access to those who can afford to deepen wells. It also leads to the increase in the pumping energy consumption. Hence it benefits only the rich farmers. Rest of the people have no option other than returning to rainfed agriculture. In Maharashtra even the small farmers had to return to the rainfed agriculture because the rich farmers pumped out more water with the help of heavy and powerful pumpsets for irrigating cash crops like sugarcane. Hence, as a result public wells and shallow wells belonging to small farmers became dry. Hence equity in irrigation should become essential. The scarcity condition is worst for the animal husbandary as there is no fodder and water for the animals. In many areas people have began to let loose their animals as they can neither support them nor send them to butcheries. It has been the most traumatic feature of the drought. People can migrate to the cities but animals can not. This situation has arisen due to the degeneration of the grassland. The conversion of marginal and fallow lands to agricultural fields has had damaging effect on the sustainability of animal husbandary. The grass land need to be rejuvenated with proper seeding as well as land and water conservation works. Apart from it the population of unproductive

animals also needs to be controlled. The traditional method of managing grass lands by the local community might be fruitful as they would also be able to control the population of the unproductive animals.

The appropriateness of tank irrigation for serving as the protective mechanism for drought would only be there if the inequity associated with the landholding is addressed because the ownership of bahal land underlying most old tank is highly skewed in the favour of socially and economically upper classes in the community. Hence during the drought conditions small and marginal farmers who do not get access to water facility from the tank suffer a lot. If the entire community could be engaged in tank irrigation along with the other water harvesting methods, the effect of drought on the entire village could be minimized. The political economy of tank irrigation specially in west Orissa reflects inequity. The complex issue of preferential allocation of land and water rights to an economically and socially privileged section of the community is intrinsic to an understanding of the stake of the community in the modern context. Without such an understanding the tank irrigation will be counter productive. Green Revolution saw the emergence of large surplus stocks with the government but it was only as a result of large increase in output in certain well-endowed regions of the country. In Green Revolution the states of Punjab, Haryana, Uttar Pradesh, Andhra Pradesh and Maharashtra with the share of 40.5% of India's total cropped area have accounted for the 68% of the incremental output in food grain.<sup>14</sup>

Eastern and Central states where poverty is centered only accounted for 17% of the incremental output. The process of regional differentiation seems to have affected the eastern regions of the country. As Subbarao (1985) argues, "a combination of two factors may be identified (a) a rise in the real price of foodgrains and (b) the eastern states increasing dependence of foodgrains from other states owing to the slow growth of agricultural output in relation to the

explosive rise in population induced demands. During the same period the real price of foodgrains rose substantially".<sup>15</sup>

In addition, there are strong indications that inter-regional variations in labour productivity in agriculture also increased and that the poorer states have witnessed low or even negative rates of growth of labour productivity (Mahendra Dar, 1986).<sup>16</sup>

The marketed surplus from certain well-endowed regions have resulted in the stock piling of food even after the normal operational requirements of the public distribution system have been met. Food surplus originating in certain regions can not be fully realized in the market because of the absence of sufficient demand pull, resulting from the loss in the income of those who need to consume the food.

Prabhat Patnaik (1987,1988) has argued that apart from the increase in the regional differentiation, the unambiguous shift in the terms of trade against agriculture is an additional and equally important part of the explanation for the surplus/underconsumption dichotomy. It is because those who gain from the favourable shifts in terms of trade i.e. the urban middle class-have a marked preference for items of consumption which are less labour intensive and consequently restrict employment growth, whereas those who lose i.e. prosperous farmers and other agriculturists now spend less on the labour-intensive commodities and therefore restrain the growth of labour absorption.<sup>17</sup>

Droughts has also increased the vulnerability of the poor making them greatly dependant on the outside agencies. Moneylenders, traders as well as officials of the government departments take advantage of the situation by exploiting the poor farmers. The scope for corruption also increases as the great amount of money is involved in the relief work. A study of Pratapgarh tahsil in the

Chittorgarh district of Rajasthan has shown how ecological changes affected the social and economic life of the predominantly tribal population of this area (Gupta, 1989).<sup>18</sup> The tribal economy based on commonly shared forest resources has been destroyed, thereby eroding the social and cultural life of the population as well. Bribing the officials for the relief work is a common affair. Preferential treatment of these officials towards certain group also becomes the cause of conflict within the community. Poor management of soil has also resulted into devastating economic loss. The Department of Agriculture has estimated that the erosion of the top soil results in an annual loss of between 30 to 50 million tons of foodgrains which at Rs. 1600 a ton, means a loss of Rs. 6000 crores.<sup>19</sup> Similarly the proper utilisation of our irrigation potential would yield an additional Rs. 8000 crores worth of food grains (Vohra 1985).

Hence, it can be stated that drought can not be seen in isolation as it has great impact on economic and social aspects. Amartya Sen has given one of the most penetrating analysis of droughts and famines. He has looked at the phenomena from the entitlement approach. He says, that starvation is the characteristic of some people not having enough to eat. It is not characteristic of there being not enough food to eat. (Sen, 1999). He mentions that entitlements determine whether enough food is available to a person or not. The entitlement approach to starvation and famines "concentrates on the ability of the people to command food through the legal means available to the society, including the use of production possibilities, trade opportunities entitlements vis-à-vis the state and other methods of acquiring food. A person starves either because he does not have the ability to command enough food or because he does not use his ability to avoid starvation" (Sen 1999). Hence combating drought would mean restoring the entitlements of the classes of people who are severely affected by the drought. For landless labourer who thrives on agricultural employment, a period of drought is a period of unemployment and the only mean to provide entitlement to this class of

people is by assuring wage employment. Hence the government should prepare plans to reduce the impact of drought. Prof. K. Mathur (1993) feels that a distinction needs to be made between a trigger event which may be natural and the associated disaster which may be largely man made.<sup>20</sup> Most policy makers have been slow to make a distinction between a trigger event and a disaster. The result is that 'most of the scientific effort and money devoted to natural disasters have been spent on studying climatological or geological triggers-over which humans have little control -- rather than on studying the wide range of human actions-over which humans do have control' (WIJ KMAN AND TIMBERLAKE 1984).<sup>21</sup>

Hence drought can not be seen and evaluated only in terms of the failure of the rains but any policy on drought needs to integrate in itself its social and economic dimensions.

### **Government's Efforts**

India's association with the drought is a long one. Historians have recorded those famines which were results of the drought. We also get to see certain concrete steps being taken by Muhammad bin Tughluq in combating droughts. Emperor Shah Jahan announced remission of taxes and distributed cash and cooked food for the needy people as famine relief. Famine caused due to drought were generally localised in extent, leading to large scale population migration across the region (Alamgir, 1980). British regime is also accused of the worst famines of 18<sup>th</sup> century in the region of Bengal, Madras and Mysore. It was only in the 19<sup>th</sup> century that a comprehensive policy emerged in the form of Famine Commission headed by Sir John Strachey. He stated that too much dependence on agriculture is the cause of it and therefore there should be development of industries. The Commission also stated about certain principles to be followed for the efficient administration of relief in times of famine, which included activities like providing employment at the cost of the state, relaxing the demand for land

revenue and giving loans. It also recommended for the formation of a Department of Agriculture. It also highlighted the importance of irrigation. The commission however did not interfere with the food trade and did not give importance to increasing the capacity of the poor. The second Famine Commission under James B. Lyall emphasized that there was failure due to the defects in the administration of relief. It did not bother to examine the policy itself. As a result the problem of famine continued and the third Famine Commission under A.P. Macdonneell came up. It gave importance to the preparation of a well-thought out plan for famine relief. It gave importance to irrigation and argued that, the 'recent experience has shown that no part of India, if unprotected by irrigation can be considered free from danger of a deficient rainfall and the consequent failure in harvest'. The commission emphasized on prior preparation. The main feature of its recommendation was that it expressed a trend towards growing decentralisation of relief works from large works situated at great distance from the labourer's homes to smaller village works. Like the other commissions it is also recommended for the grant of loans to the farmers.

The British Government continued with its policy of non-intervention on the question of food supply and control over prices of foodgrains during famine. Since it was a period of colonial rule the people would not have even expected better results from the rulers. However the impact of the policies of the colonial masters can still be seen in certain policies of the independent India. In independent India the nexus between the drought and famine have been broken but the conditions of drought and scarcity continue to occur.

While examining the approach of the government towards drought management, the role of different bodies like the Finance Commission, the Ministries of Finance and Agriculture and specially the Planning Commission needs to be taken into consideration.



The Planning Commission has played an important role in the determination of the policy. The Secretary of the Planning Commission presides over the high level committees that consider the reports of the central teams which visit the states. The first Planning Commission gave importance to increasing agricultural production while assigning some development programmes to the scarcity affected areas. The second planning commission gave attention to the dry farming and soil conservation. An All India Soil Conservation and Land Use Survey was initiated along with forty five dry farming projects. Third Planning Commission emphasized on dry farming techniques and during this time thirteen major multi purpose river valley projects were taken up. All the above three plans could not bring any lasting benefits to the drought-affected areas, even when they had all given importance to irrigation projects. The Fourth Plan took a leap forward and gave emphasis to research on dryland farm technologies. In addition the Rural Works Programme was initiated for the purpose of construction of permanent civil works to facilitate development of that area. The mid-term appraisal introduced the programme called (DPAP) Drought Prone Areas Programme. It was in fact the first systematic effort to give a long term perspective for the development of drought-prone areas. A Task Force headed by B.S. Mihas was formed. It was set up after the drought of 1972 and the sharp rise in expenditure. Its formulation of the problem had two basic components, the first was drought and the other was rise in expenditure. The Task Force determined ways of eradicating drought and also sought to do away with the relief expenditure. It also stated that there could not be a uniform strategy to deal with drought prone areas. It advocated for the modification of the common guidelines to suit the local conditions. The task-force also recommended for restoring ecological balance. Some of the important elements of the strategy for such ecological integrated development were<sup>22</sup> -

(1) Restoration of ecological balance.

- (2) Development and management of irrigation measures.
- (3) Soil and moisture conservation and afforestation.
- (4) Restructuring of cropping pattern and pasture development.
- (5) Changes in agronomic practices.
- (6) Livestock development.
- (7) Provision of drinking water supply.
- (8) Development of rural communication; and
- (9) Development of small and marginal farmers and agricultural labour.

The Task Force also attempted to forecast drought. It stated that drought would occur once in 15 years in Assam and once in 2.5 years in Western Rajasthan. However this statement was made obviously without any reference to the work under taken at a time in the India Meteorological Department. The Drought Prone Area Programme emerged as the administrative unit to implement the recommended strategy. Hence for the first time a long term perspective emerged and the programme by the name of Desert Development Programme also came up by Fifth Five Year Plan to add to that effort. The National Commission on Agriculture (1974) emphasised upon afforestation and livestock development. Hence ecological aspect started being featured. Even the Sixth Plan gave emphasis to the ecological consideration and noted the need for suitable programme for minimising the adverse effects of drought and floods in ecologically handicapped region. It also emphasised on a long term strategy for the anticipatory action in response to early warning about natural disaster. The concept of IRDP (Integrated Rural Development Programme) emerged with the objective of reducing regional disparities and to alleviate poverty. The Seventh Plan emphasized on developing

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dryland technology with development of drought resistant varieties of crops. Hence dryland agriculture was at the centre being based on the green revolution technology.

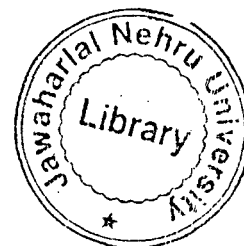
Hence, we find that the major emphasis of the programmes had been the development of agriculture without considering the importance of aspects like regional disparities, rural poverty, rural unemployment and above all the ecological degradation. It also failed to realise that solutions has to be specific to a particular region rather than having an universal plan. National Commission on Agriculture in 1976 also suggested that research on watershed management must be specific to agro-climatic conditions. In 1980, the Government had appointed a Task Force under Dr. M.S. Swaminathan to review the on going special programmes in dry areas. The Task Force stated that the results are not encouraging on account of the failure in developing a resource management system appropriate to the drought prone areas. It felt for the urgent need of establishing linkage among various development programmes. It emphasized upon making watershed as the basic unit of planned development. It urged that, 'instead of trying to benefit as large an area as possible, projects should concentrate on specific watersheds and the programme should aim at full and comprehensive development of that watershed'. It emphasised upon making blocks as the unit of planning for the development of dry regions. It wanted plans to be local specific. Though the sixth and Seventh Plans laid emphasis on the ecological consideration still the poor management of land and water continued. National Committee on the Development of the Backward Areas under the chairmanship of B. Sivaraman, formed in 1981 stated that programmes aim of restoring ecological balance has not been achieved. The fundamental objective of restoring ecological balance has been neglected and it has instead been confined to the development of agriculture and allied sectors. The Committee emphasized upon watershed approach.

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The Ninth Plan strategy of agriculture centred around achieving the objectives of sustainability of employment generation food and nutrition, security, equity and poverty alleviation. It also gave emphasis on raising the capabilities of small peasants and promote sustainable agriculture, conserve and maximize the value from scarce resources. It gave emphasis on projects to encourage organisation of groups of small farmers, artisans and landless labourers. While evaluating the scheme of MWS (Million Wells Scheme) which was linked to JRY (Jawahar Rozgar Yojna) in 1989, it stated that it has not been uniformly successful across the country. It is also hamstrung by inadequate linkages. There has been failure on the part of banks in providing lifting devices under IRDP and other programme, thus rendering the investment in open dug wells infructuous. It advocated for the holistic approach to bring about the development of an integrated farming system on basis of watershed. It also appreciated the World Bank aid projects namely Integrated Watershed Development Projects.

Evaluating the Plans will be incomplete if the implementation aspect is ignored. Though the planners are finally catching up with the integrated and participatory approach but the ground realities are different and there is a huge gap between the strategy and what actually happens on the ground. There is also the problem of lack of co-ordination between various agencies of the government coupled with the non-committed attitude of administrative officials. There is also a great problem of co-ordinating and integrating state and the centre government's efforts. Both of them two blame each other for the failures. The states always complain for the inadequate grants given by the centre whereas the centre always keep pressing for the state's contribution in the finance of the projects. It was the second Finance Commission which advocated for the creation of funds for natural calamities. It recommended that a margin amount should be included in the expenditure of each states which could keep accumulating and could be used at the time of natural calamities. It was found that these margin money was not utilized

with proper care. The expenditure incurred was ad-hoc in nature and were largely spent on relief works rather than on a projects with long-term perspective. The Sixth Finance Commission also stated that the State Governments were concerned with the short-term relief. Apart from it the states were always looking for greater share. The commission felt that the states did not care about the economy of expenditure because they had no incentives for effecting economy of expenditure on relief. Hence it recommended for the expenditure on the development programmes like DPAP rather than on ad-hoc relief works schemes. It also recommended that provision of relief funds to implement schemes of long term value should be a part of the Plan. The Seventh Finance Commission went ahead with making states utilise money properly by providing the provision that in case of expenditure on drought relief exceeding the margin amount, the state government would make a contribution from its Plan for providing relief employment, but restricted it to a maximum of 5% of Annual Plan outlay. It also allowed for more funds through additional central assistance for the State Plan but kept its ceiling at 5% of the Annual Plan outlay. The margin money was not adequate and the states kept demanding for more grant from the centre and very less efforts were made to evaluate the economy of expenditure. However, the Eighth Finance Commission provided for the increase of the margin money by about two and a half times and the centre to contribute the 50% of the margin money. However, the states continue to press for more funds and it has been so regular affair that the perception of drought as an extraordinary event is lost. The Central Government established a regular administrative procedure to access the demands of the state, where the state estimates the extent of the damage occurred. It also determines the required amount for the plans to take care of the damages. The Centre Government do not bother to monitor expenditure after the grant has been released. Apart from it there are many other political considerations involved in the allocation of funds. In the era of coalition politics too much of pulls and

pressures take place, undermining the rational demands. Centre cannot afford to deny good fund to the state government which is supporting it at the centre. Apart from it the state's representation at the Union Cabinet also influences the decision making. Since there is no clear guidelines or norms for deciding objects of expenditure the political manipulation of funds are clearly inevitable. It was the Ninth Finance Commission which recommended for the constitution of an expert group by the centre to monitor the relief work done in the states utilizing the calamity fund where the contribution of centre is of 75%. There has been always differences between the states and centre regarding the granting of money. A comprehensive strategy is completely lacking. The centre is the ultimate arbiter of the immediate financial assistance. The central government holds discussions with the state representatives to decide about the objects and amount of relief expenditure. The discussion does not escape from the political loyalties and the decision taken is not always rational.

Drought is considered as a calamity like an earthquake or a cyclone by the government. It is a very wrong approach because drought is not a contingency but a regular climatic feature of arid and semi-arid regions. The state and the Central Government should treat drought mitigation as the principle strategy of agricultural and rural development and should allocate sufficient financial resources.

### **Looking For Solution**

The solution to drought would be a comprehensive policy which would look at it with all its dimensions including social and economical aspects. An integrated approach including rural development needs to be initiated for combating droughts. It needs to include things like massive wage employment, generating productive capital and social equity. Efforts have to be made to put an end to the ecological degradation. Awareness needs to be created among the people regarding the negative aspects of overexploitation of the natural resources. Drought

can be fought only by an integrated approach with a total war against poverty and deprivation with equal concern for the ecological balance. It is also to be realized that the solutions to the drought conditions should be area based and specific problem oriented. The flexibility is required by the administration while selecting the project, but it should be within the overall framework of planning. The government needs to shift its focus from the relief work to the development work. Efforts to make people deal with drought effectively by providing them with permanent employment or generation of additional resources, is the need of the hour. Traditional knowledge of the farmers regarding the water conservation and allied activities needs to be taken into account while deciding on any project. There is need for proper planning and research experimentation within the formulation of new approach. There must be efforts to encourage community efforts for the self reliance in the face of crisis. The 'planning from below' has to be realized. The development of micro watershed areas can be substantial beginning regarding it. Community has to be mobilized to participate in the implementation of development programmes. It is equally important to organize farmers falling within a particular watershed into groups and persuade and train them to share the irrigation potential in an equitable manner among themselves. There is an urgent need to realise that a comprehensive policy on drought is very much possible but it requires the political will. Many experiments like Relegan Siddhi in Taluka Parver, district Ahmednagar, Maharashtra have shown how the community can be very effective in conserving water.

### **Common Property Resources and the Villages**

Jodha (1986) has made the point that, "An important factor completely disregarded by development policies and programmes in India is the role of the common property resources in the economy of the rural poor".<sup>23</sup> Loss of common property resources is an important factor in drought proneness. The common

property resources is a very important aspect of the village economy. It directly contributes to the people's employment, income generation and asset accumulation. They are a part of the villager's daily routine. In fact, the villagers obtain bulk of their fuel and fodder supply from the common Property Resources. Proper management of the common property resources will greatly help in combating the effect of droughts. In fact, droughts and the depletion of common property resources are in a cyclic relationship. There tend to overexploitation of common property resources due to droughts and again droughts occur due to overexploitation of these property. Hence good governance of common property resources would be an answer to the droughts. Hence, there is an urgent need to realise the importance of common property resources while formulating any drought policy. The next chapter deals with the problems of common property resources and how it can be effectively utilised.



## End Notes

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- <sup>1</sup> Bandopadhyay, J., 1987, 'Political ecology of drought and water society'. *Economic and Political Economy*, XXII, 50, 12 December, page 2160.
- <sup>2</sup> Ibid page 2160
- <sup>3</sup> Ibid page 2160
- <sup>4</sup> Mathur, Kuldeep, and Jayal, G. Nirja (1993). *Drought Policy and Politics in India: the need for long term perspectives*. New Delhi, Sage publication, page 18.
- <sup>5</sup> Marcus, Moench (1992), Drawing Down the Buffer Science and Politics of Ground Water Management. *Economic and Political Weekly*, 28 March, page A-7.
- <sup>6</sup> Ibid page A-7.
- <sup>7</sup> Bandopadhyay, J., 1987, 'Political ecology of drought and water society'. *Economic and Political Economy*, XXII, 50, 12 December, page 2165.
- <sup>8</sup> Kovda, Vector A. (1980), *Land Aridisation and Drought Control*. Boulder, West View Press, Page 117.
- <sup>9</sup> Bandopadhyay, J., 1987, 'Political ecology of drought and water society'. *Economic and Political Economy*, XXII, 50, 12 December, page 2164.
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- <sup>11</sup> Narayana, VVD. And Rambabu (1983). Estimation of Soil Erosion in India. *Journal of Irrigation and Drainage Engineering*, Vol. 109, No. 4, page 409-39.
- <sup>12</sup> Nair, CTS (1985). Crisis in Forest Resource Management in Bandyopadhyay J. et.al (ed). *India's Environment: Crisis and Resources*. Dehradun. Natraj Publishers, page 13.
- <sup>13</sup> Bandopadhyay, J., 1987, 'Political ecology of drought and water society'. *Economic and Political Economy*, XXII, 50, 12 December, page 2161.
- <sup>14</sup> Kumar Gopal Krishna B. (1990). Consumption Disparities Food Surplus and Effective Demand Failures, *Economic and Political Weekly*, March 10. Page 502.
- <sup>15</sup> Ibid page 502.
- <sup>16</sup> Ibid page 502.
- <sup>17</sup> Patnaik, Prabhat (1987). Recent Growth Experiences of Indian Economy. Some comments. *Economic and Political Weekly*, Annual Number May.

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- <sup>18</sup> Mathur, Kuldeep, and Jayal, G. Nirja (1993). *Drought Policy and Politics in India: the need for long term perspectives*. New Delhi, Sage publication, page 18.
- <sup>19</sup> Ibid page 19.
- <sup>20</sup> Ibid page 20.
- <sup>21</sup> Ibid page 20
- <sup>22</sup> Ibid page 43-44.
- <sup>23</sup> Jodha, N.S., (1986), Common Property Resources and Rural Poor in Dry regions of India. *Economic and Political Weekly*, June 5, page 1169.

### Chapter III

## Common Property Resources and Watershed Development

### **What is Common Property Resources?**

The Common Property Resources can be broadly defined as those resources in which a group of people have joint rights over their use. "Exclusive possession (freehold) is one extreme on a continuum of property rights. No property, as in ocean fisheries or the atmosphere is the other extreme. In between lies common property where the rights to exploit a resource are held by persons in common with others" (Robert Wade 1987).<sup>1</sup> Actually it refers to a natural or a man made resource system that is sufficiently large as to make it costly to exclude potential beneficiaries from obtaining benefits from its use. The group members utilizing the benefits of these resources are actually the members of the other groups like a village or a tribe. Hence being a member of a particular village or a tribe makes one also legible to the utilization of the common property resources lying in that area. "In the context of the Indian villages the resources falling in this category include community pastures, community forests, waste lands, common dumping and threshing grounds, watershed drainage village ponds, rivers, rivulets as well as their banks and beds." [Jodha 1990]<sup>2</sup>

Sometimes due to certain incidental reasons the title or legal possession of these resources are given to an outsider or state agency, for example the forests owned by the Forest Department of the State Government, but in de facto sense they belong to the village communities. Certain common property resources like community forest and community pastures wastelands are spread over a large area and they play a pivotal role in the livelihood of the villagers. Hence the role of

these resources are very important in the economy of the villagers. These resources can be broadly categorized into two broad categories.<sup>3</sup>

- (1) Natural Common Property Resources
- (2) Community created Common Property Resources.

Natural Common Property Resources include<sup>4</sup>

**(I) Land Resources**

- (a) Gochar (land left vacant for grazing).
- (b) Banjar (wastelands).
- (c) Gaura (land where milking of cow is done).
- (d) Khaliyan (land where community store their crops produce together).
- (e) Nistar (land left vacant for activities like fairs and markets).

**(II) Forest Resources**

- (a) Kakad bani (plot of land between village boundaries).
- (b) Devbani (plot of forest left to be used during natural crisis).
- (c) Rakhabani (plot of forest land left by consensual decision of the community, use as the last resort).
- (d) Devaranya (plot of forest land for god).
- (e) Waal (forest land owned by Zamindars or temples, may be used for cultivation).
- (f) Beed (mostly private dense forests used by the community at the time of crisis)

(g) Rundh (private dense forests which could be used by the community after paying taxes).

### **(III) Water Resources**

It includes ponds, tanks, bunds, checks, wells, canals, rivers, rivulets, etc.

### **Man-made Common Property Resources.**

These are created by the community for the community and include.<sup>5</sup>

- (a) Village tanks
- (b) Bavdi (traditional ponds)
- (c) Bunds/dams
- (d) Wells
- (e) Chaupal (for community meeting)
- (f) Thanie (platform for judicial meetings)
- (g) Waterways, field channels.
- (h) Paths, roads
- (i) Schools.
- (j) Playgrounds,
- (k) Cemetery,
- (l) Temple or worship place, and
- (m) Dharmshala (Community building).

Hence these resources which refers to the resources which is utilised jointly by the community members. These resources can be seen as the sub-set of public good.

### **Common Property Resources as a Public Good**

A Public Good is defined as one which is not subject to exclusion and is subject to jointness in its consumption. Jointness of consumption means that consumption by one person does not exclude its use by the another person. Hence here the consumption is not subtractible. On the other hand Private Goods are those where there is no jointness of consumption and the exclusion is feasible. Not all the goods that have joint consumption are purely non-subtractible. There are also goods whose use by one person subtracts in part its use and enjoyment by the others. Hence the jointness of consumption varies in degrees. Exclusion and jointness of consumption are independent attributes. The jointness characteristic can be arranged into two classes (Vincent Ostrom and Elinos Ostrom).<sup>6</sup>

- (1) Alternative use which are highly subtractible
- (2) Joint use which are non-subtractible

In the same way exclusion can be arranged into two classes.

- (1) Feasible
- (2) Infeasible

The exclusion is referred to as infeasible if the cost of exclusion is very high and practically there is no technique available to either pack that good on controlling its access by a potential user.

**Table 1: Types of Goods<sup>7</sup>**

|   |            | Alternative Use       | Joint Use    |
|---|------------|-----------------------|--------------|
| E<br>X<br>C<br>L<br>U<br>S<br>I<br>O<br>N | Feasible   | Private Goods         | Toll Goods   |
|   | Infeasible | Common Pool Resources | Public Goods |

Hence the common property resources can not be exclusively termed as the Public good but it can be termed as the sub-set of Public goods. Here the exclusion may be infeasible in the sense that many users can not be denied access. But at the same time use by one user precludes use of some fixed quantity of a good by the other users..

Hence the Common Property Resources accompanies a boundary in both territorial and membership aspect Ostrom (1993) indicates that the Common Property Resources share the first attribute with private goods and the second attribute with pure public goods.<sup>8</sup> Oakerson (1992) draws upon the concept of “impure” public goods those in which jointness is limited by congestion.<sup>9</sup> Once a threshold is crossed individual user begins to subtract from one another beneficial use. It follows that once abundant natural resource and public facilities can become Common Property Resources with increase in congestion.<sup>10</sup> Hence, the overexploitation of these common property resources will greatly affect the future generation. These resources falling under the category of partial public good requires special attention for here the jointness

of consumption is not absolute. It is very important to look into the aspects which are responsible for the depletion of the common property resources.

### **Depletion of Common Property Resources:**

There are two major forms of depletion of the Common Property Resources.

- (a) The decline in terms of area,
- (b) The fall in the production,

The ICRIASAT survey in 1982-85 in 82 dryland Indian Villages revealed that the area under Common Property Resources have decline since 1950-52. It has declined by at least 30% and in some cases by more than 50% in the last 40-odd years.<sup>11</sup> The introduction of land reforms initiated changes in the states and the management patterns of these resources. The reduction in their area had the obvious consequence of overcrowding, with lack of any restrictive mechanism the overexploitation was bound to follow. Apart from it many of the government policies aggravate the situation. The government's policy of providing pattas (legal rights) over forest areas accelerated the privatisation of the Common Property Resources. There was a good amount of encroachment over these areas by the individuals. Hence it favoured the rich and the influential people of the villages. Apart from it many technologies used by the government to improve the conditions of the drought prone areas were lacking appropriateness and resulted into degradation of these resources. Many schemes like tree-cooperative scheme and social forestry were tried by the government but due to the lack of effective community involvement it again proved to be a failure. The people utilising the benefits of the Common Property Resources lacked the awareness about the sustainability aspect of these resources. They used it without any consideration and as a result degradation became inevitable. As a result there is a drastic decline



in the number of products following the disappearance of a number of plant and tree species from the Common Property Resources lands. Over grazing has also contributed in turning lands barren and damaging the overall ecological balance of the area. Hence it can be stated that the physical degradation of the common property resources is the product of over-exploitation and poor upkeep. Apart from it the loss of these resources has resulted into the acceleration of the pauperisation process. The poor villagers greatly rely on these resources and the degradation of these resources would add greatly to their poverty. Jodha has talked about the process of pauperisation due to Common Property Resources. He states that it involves the following process:<sup>12</sup>

“Firstly, in the larger social and ecological contexts, the transfers of sub-contents, the transfers of sub-marginal Common Property Resources lands to crop cultivation, through their privatisation, implies a step towards long term unsustainability of land based activities in dry regions. Secondly, the reduced products and income generation options, following degradation of Common Property Resources, imply increased scarcity and stress for those who depend on these resources. Thirdly, despite the increasingly inferior options available from these resources the rural poor continue to depend on them. This is because the opportunity cost of their labour to harness the inferior options is still lower.<sup>13</sup> Hence, the depletion of these resources will certainly lead to the poverty of the villagers. The major question which comes into light is that what could be done to stop this degradation. For looking into the possible solutions, it is firstly very essential to mention about the Hardin famous essay on the Common Property Resources, titled “The Tragedy of Commons”.

### **Tragedy of Commons**

Hardin (1968) wrote that, “picture pasture open to all. It is to the expected that each herdsman will try to keep as many cattle as possible on the commons...

therein is the tragedy. Each man is locked into a system that compels him to increase his herd without limit – in a world that is limited. Ruin is the destination towards which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a common brings ruin to all”. He assumes that each herdsman as a rational utility maximiser who receives positive utility from selling his own animals and negative utility from overgrazing. All the people keep adding to their cattle population since they have to bear no cost in grazing. Hence it gives rise to the tendency of “free riding”. This free ride tendency will ultimately lead to the complete degradation of the Common Property Resources. Wade (1987) stated that each individual has an incentive to ignore the social costs of his resource use for fear that others will capture the benefits of the resources before he can. Ostrom (1985) stated that the lack of exclusion from the resource thus creates an incentive for a rate of aggregate use which exceeds the physical or biological revenue of the resources. H. Scott Gordon (1954) stated that “There appears to be some truth in the conservative dictum that everybody’s property is nobody’s property”.

Hence according to them the greatest problem with the depletion of the Common Property Resources is the problem of free ride.

### **Prisoner’s Dilemma**

The utilisation of Common Property Resources can be very well understood with reference to prisoner’s dilemma. Prisoner’s Dilemma states that when two suspects are being separately interrogated about a crime they jointly committed, they experience a kind of dilemma regarding their confession. If one stays silent while the other confesses the first will receive a long prison while the other goes free. If both of them confess they both receive medium prison sentence. Their joint interest lies in for both not confessing but again the dilemma always remains alive. Here the choice of the best strategy to save himself and let the other

person suffer the long prison is taken by both the prisoners. In the end both land up in the jail for a longer period. Hence the same dilemma can also be seen with reference to the utilisation of the Common Property Resources. Everyone goes for the maximum utilisation of the resources, thinking it to be the best strategy. At the end there is complete degradation of the Common Property Resources because nobody follows the rule and goes for the maximum utilisation.

Hence looking for solutions to the problem of degradation of the Common Property Resources one has to take into account the problem of free ride and prisoner's dilemma. Finding a suitable way to preserve the Common Property Resources is also very necessary because the villager depend on them to a very great extent. It would also be necessary to examine the importance of these resources on the lives of the villagers.

### **Common Property Resources and the Villages**

Since the historical past these resources have been contributing a lot to the village economies. They directly contribute to the people's employment, income generation and asset accumulation. They provide physical products such as food, fibre, fodder, fuel, timber, water manure and silt. In terms of income and employment generation, it helps by supporting additional animals, rural industries, additional crop activities and many more allied activities. It also helps in maintaining the ecological balance by the way of checking soil erosion, deforestation and siltation. In fact, they are the part of the daily routine of the villagers. It also contributes greatly to the private farming. According to Jodha (1990) 31 to 42% of the total own farm input, used during the pre-sowing to pre-harvest stages of cropping, are contributed by cash or kind inflows from the Common Property Resources.<sup>14</sup> Since it gives support to farm animals, the crop farming also tend to improve because these farm animals contribute greatly by the way of ploughing or in transportation. The following Tables prepared by Jodha

(1990) states the contribution of Common Property Resources to village economy in Dry Regions of India.

**Table 2:**

**Contribution of Common Property Resources to Village Economy in Dry Regions of India**

| Contributions                         | CPRs** |   |   |   |   |   |
|---------------------------------------|--------|---|---|---|---|---|
|                                       | A      | B | C | D | E | F |
| <b>Physical Products</b>              |        |   |   |   |   |   |
| Food/fibre items                      | X      |   | X | X |   |   |
| Fodder/fuel/timber, etc.              | X      | X | X |   | X | X |
| Water                                 |        |   |   | X | X |   |
| Manure/silt/space                     | X      | X | X |   |   | X |
| <b>Income/Employment gains</b>        |        |   |   |   |   |   |
| Off-season activities                 | X      |   |   |   | X | X |
| Drought period sustenance             | X      | X |   |   |   | X |
| Additional crop activities            |        |   | X | X |   | X |
| Additional animals                    | X      | X |   |   |   |   |
| Petty trading/handicrafts             | X      |   |   |   |   | X |
| <b>Large social, ecological gains</b> |        |   |   |   |   |   |
| Resource conservation                 | X      | X |   |   |   |   |
| Drainage/recharge of groundwater      |        |   | X |   |   |   |
| Sustenance of pool                    | X      |   |   | X | X |   |
| Sustainability of farming system      |        | X | X |   | X | X |
| Renewable resource supply             | X      | X | X |   |   |   |
| Better micro-climate/environment      | X      | X |   | X | X |   |

Notes: \* Table adapted from Jodha [1985b]

\*\* CPRs: A – Community forest, B – Pasture/waste land, C – Pond/tank, D – River/rivulet, E – Watershed drainage/river banks, F – river/tank beds.

Table 3:

Extent of Peoples Dependence on Common Property Resources (CPRs) in Dry Regions of India<sup>a</sup>

| States (With Number of Districts & Villages) | Household Categories <sup>b</sup> | CPRs' Contribution to Household Supplies, Employment, Income, Etc. |  |                                   |                                 | Value of Gini-Coefficient of Incomes from <sup>h</sup> |                        |                            |
|--|-----------------------------------|--|--|-----------------------------------|---------------------------------|--|------------------------|----------------------------|
|  |                                   | Fuel Supplies <sup>c</sup> (Per Cent)                              | Animal Grazing <sup>d</sup> (Per Cent) | Per Household                     |                                 | CPR-Income as Pro-Portion <sup>e</sup> (Per Cent)      | All Sources (Per Cent) | All Sources Excluding CPRs |
|  |                                   |  |  | Employment Days <sup>e</sup> (No) | Annual Income <sup>f</sup> (Rs) |  |                        |                            |
| Andhra Pradesh                               | Poor                              | 84   | -                                      | 139                               | 534                             | 17   | 0.41                   | 0.50                       |
| (1, 2)                                       | Others                            | 13   | -                                      | 35                                | 62                              | 1  | 0.41                   | 0.50                       |
| Gujarat                                      | Poor                              | 66   | 82                                     | 196                               | 774                             | 18   | 0.33                   | 0.45                       |
| (2, 4)                                       | Others                            | 8  | 14                                     | 80                                | 185                             | 1  | 0.33                   | 0.45                       |
| Karnataka                                    | Poor                              | -  | 83                                     | 185                               | 649                             | 20   |                        |                            |
| (1, 2)                                       | Others                            | -  | 29                                     | 34                                | 170                             | 3  |                        |                            |
| Madhya Pradesh                               | Poor                              | 74   | 75                                     | 183                               | 733                             | 22   | 0.34                   | 0.44                       |
| (2, 4)                                       | Others                            | 32   | 34                                     | 52                                | 386                             | 2  | 0.34                   | 0.44                       |
| Maharashtra                                  | Poor                              | 75   | 69                                     | 128                               | 557                             | 14   | 0.40                   | 0.48                       |
| (3, 6)                                       | Others                            | 12   | 27                                     | 43                                | 177                             | 1  | 0.40                   | 0.48                       |
| Rajasthan                                    | Poor                              | 71   | 84                                     | 165                               | 770                             | 23   |                        |                            |
| (2, 4)                                       | Others                            | 23   | 38                                     | 61                                | 413                             | 2  |                        |                            |
| Tamil Nadu                                   | Poor                              | -  | -                                      | 137                               | 738                             | 22   |                        |                            |
| (1, 2)                                       | Others                            | -  | -                                      | 31                                | 164                             | 2  |                        |                            |

- Notes: a This ~~table is based on~~ <sup>is</sup> based on village/household data from study villages reported by Jodha (1986).  
b Numbers of sample households from each village varied from 20 to 36 in different districts. "Poor" are defined to include agricultural labourers and small farm (<2 ha dryland equivalent) households. "Others" include large farm households only.  
c Fuel gathered from CPRs as proportion of total fuel used during three seasons covering the whole year.  
d Animal unit grazing days on CPRs as proportion of total animal-unit grazing days.  
e Total employment through CPR product collection.  
f Income mainly through CPR product collection. The estimation procedure underestimated the actual income derived from CPRs (Jodha 1986).

Hence it can be seen that good management of Common Property Resources can really help the villagers, especially the poor and the landless farmers during the time of crisis situation like the drought. It would also lead to stabilisation of ecological balance. Hence a good management of these resources requires an urgent attention.

### **Looking for alternatives**

The goods which are subject to joint consumption, where the exclusion is difficult to attain, poses a great challenge to their effective management. It is so because individuals have incentives to take advantage of things which are freely available to them without paying any price. At the same time if some individuals are indulging into free ride it also motivates the others to follow. The state has proved to be a failure regarding the efficient management of these resources. The state officials non-committed attitude reflects it all. Market institutions could have been as one of the contenders for the better governance of these common property resources but it also has its own limitations. Since exclusion is not possible with these kind of resources, private ownership will have distributional consequences. Apart from it, the access of large number of vulnerable sections to these resources will be limited. One alternative can be of the collective action but it also has one major drawback that in a very large group there will be difficulty of taking care of everyone's contribution. Certain development efforts under "Integrated Watershed Development Projects" have shown some fruitful results. Various experiments of participatory watershed development is seeming successful. Tarun Bharat Sangh in Rajasthan, Anna Hazare in Maharashtra and many more successful experiments have really made policy makers to seek the answer of drought and degradation of common property resources to the integrated watershed management.

## **Watershed Management**

Watershed is a topographically delineated area draining into a single channel (Brooks 1985). It is a geohydrological unit draining at a common point by a system of streams. Watershed is all the land and water area whether contributes runoff to a common point. It is a land area that capture rainfall and conveys the overland flow and runoff to an outlet in the main flow channel. A watershed has depth also because the depth of the watershed extends from the top of the vegetation to the confining geologic strata beneath.<sup>15</sup> Every land is a part of one or the other watershed. It is to be seen that every watershed in the world is a unique one because no watersheds are same. The term watershed strictly refers to the divide separating one drainage basin from another. Watersheds have been identified with drainage basin or catchment area. A watershed may be nearly flat or may include hill or mountains. Each and every water and land area is a part of one watershed or the other, and hence it affects soil, water and vegetation which are the most vital resources. It can be said that watershed affects the sustained productivity of food, fuel, fodder, forage fibre, fruit and small timber because these are dependent upon the effective management of soil, water and vegetation. The watershed has great effect on the community life because degradation of resources like soil water and the vegetation make people more prone to drought like conditions. Hence, watershed development has been accepted the world over as a scientific unit for area development. The long term objective of watershed development is the rational utilization of natural resources of soil, water and vegetation for increasing and stabilizing the productivity of land on a sustainable basis. The benefits that would flow from the development of watersheds would include increase in the sub-soil water regime, recharge of wells along the down stream of watershed and augmentation of drinking water availability. The agricultural production would be enhanced and there will be greater availability of fodder, fuelwood, small timber and raw materials for the rural industries. In the

process some intangible benefits like institution building, as people get together to manage the watersheds and increased bio-diversity of the watersheds can also be expected.

### **Objectives of Watershed Development**

The broad objectives of watershed development can be seen under the following heads:

#### **(A) Ecological Balance**

To encourage restoration of ecological balance in the village through sustained community action for the operation and maintenance of assets created and further development of the potential of the natural resources in the watershed and simple, easy and affordable technological solutions and institutional arrangements that make use of and build upon, local technical knowledge and available materials.

#### **(B) Economic Development**

To promote the economic development of the village community which is directly or indirectly dependent on the watershed through optimum utilization of the watershed natural resources like land, water, vegetation, and that will mitigate the adverse effect of drought and prevent further ecological degradation and promote employment generation. To promote savings and other income generation activities to increase the economic resources of the people.

#### **(C) Promotion of Equity**

To improve the economic and social conditions of the resource poor and the disadvantaged sections of the 'watershed community', such as the assetless and the women through more equitable distribution of the benefits of the land and the



water resources development. To promote income generating opportunities for all along with human resource development.

### **Watersheds in India**

Approximately 170 million hectares in India are classified as degraded land.<sup>16</sup> The half of these land lie in the undulating semi-arid areas where people depend on rainfed farming. In India micro-watersheds are generally defined as falling in range of 500-1000 hectares.<sup>17</sup> A mini-watershed comprises a number of micro-watersheds and covers around 5000 hectares. A macro-watershed is equivalent to a river basin and may encompass many thousands of hectares.<sup>18</sup> The micro-watershed concept aim is to establish an enabling environment for the integrated use, regulation and treatment of water and land resources. Long term experiments by a number of research organizations in the 1970s and 1980s confirmed that the introduction of appropriate physical barriers to soil and water flows together with vegetation, could generate a considerable increase in the resource productivity. Thus it stimulated the formation of a number of government projects, schemes and programmes in support of micro-watershed development. Some of the important watershed management programme initiated by the government were:-

- Integrated Watershed Development Programme (IWDP).
- Drought Prone Area Programme (DPAP).
- Desert Development Programme (DDP).
- National Watershed Development Programmes for Rainfed Agriculture (NWDPA).
- NABARD Watershed Programmes.

In the last decade the Government of India has set aside substantial budgetary provisions for micro-watershed rehabilitation and development. There has been strong growth in both governmental and non governmental institutional capacity to implement wasteland and watershed development projects. The Government is investing over 500 million dollar per year into rehabilitation of micro watersheds. National Watershed Development Programme for Rainfed Areas was formulated in 1990 with the prime focus on the rehabilitation of the agricultural land. This programme had a budget of Rs. 133,800 million under the 8<sup>th</sup> Five Year Plan. The Ministry of Rural Areas and Employment administers the Drought Prone Area Programme, the Desert Development Programme and the Employment Assurance Scheme, a part of which was allocated to the watershed development.

A committee under Dr. C. Hanumantha Rao was established in the year 1993 to make specific recommendations on the implementation of the Drought Prone Areas Programme and the Desert Development Programme with a watershed approach. On the basis of its report in 1994, a new set of guidelines for Watershed Development were formulated by the Ministry of Rural Areas and Employment. Generally, known as the "Common Guidelines". They mark the beginning of a new era in public sector rural development programmes. They want the planning process to be on bottom up planning approach. It would be possible through NGOs and the community participation as a central principle. The guidelines setup cost norm of Rs. 4000 per sector hectare for each watershed of about 500 hectares. It provides for a new arrangement for channelling funds and managing projects. The DRDA (District Rural Development Agency) or Zilla Parishad have overall responsibility for the programme implementation in the district. They appoint a "Watershed Development Advisory Committee" to advise on issues such as the selection of villages, training and monitoring. Project implementation agencies are selected by the DRDA or the Zilla Parishad, they are responsible for appointing a watershed development team of four members representing disciplines such as

agriculture, engineering, life sciences and social works. The watershed development team works with communities in planning and implementing watershed programmes. Each team is expected to handle 10 micro watersheds. The "Watershed Association" represents all members of the community who are directly or indirectly dependent on the watershed area. The association appoints a "Watershed Committee" consisting of representatives of user groups, self help groups, the gram panchayat and the watershed development team. Each committee has a paid secretary who maintains the records and accounts. In the 9<sup>th</sup> Plan the Government of India has placed emphasis on watershed management and it proposes to make watershed programmes a National Movement. The Government of India has accorded the highest priority to the holistic and sustainable development of rainfed areas through integrated watershed management approach.

### **What Went Wrong?**

The government policies were heavily weighed in favour of surface irrigation and the government canals under major and medium irrigation. The maintenance of these irrigation canals and systems were heavily subsidized. Apart from it all sub-systems relating to the input subsidies, agricultural extension, procurement operations, credit system were all concentrated in the irrigated areas. Arid, semi-arid and sub-humid areas constitute nearly about half of the cultivated area of the country but these areas were neglected. These areas were under invested, since the bulk of agricultural subsidies, input arrangements, extension machinery, credit procurement and marketing mechanism are more or less non-existent in these areas. Hence, the government failed to give utmost priority to the dry farming regions while making the investments in the watershed development projects.

The two main categories of degraded lands, private and government received different treatments in the official programmes. Whereas the soil and

moisture conservation measures were attempted by the Agriculture Departments on private lands, social forestry plantations were undertaken on government wastes by the Forest Departments of the state government. These two programmes suffered from two common weaknesses. First, there was no integrated land management. The two programmes ran in isolation to each other. Secondly, these affairs had no participation of the local people. Apart from it policy makers attributed the degeneration of village wastelands only to the people's demand for fuelwood and fodder. Hence, the programmes concentrated only on the production of fuelwood. They failed to realise that the loss was also due to lack of control of run-off water. They also failed to realize that it was very difficult to rehabilitate degraded lands without introducing moisture conservation and water harvesting measures. Great emphasis on the afforestation of the wasteland would never be sufficient enough to rehabilitate degraded lands. The emphasis should have also been on the activities like pasture development and water resource conservation for the entire watershed. Apart from it user groups and other people depending directly on the watershed should have been also involved.

Apart from it the implementation of watershed projects also suffered due to certain administrative problems. There was no involvement of senior state Government officials and line agencies. It was left totally to the district level officials whose capabilities were very limited. At the district level the horizontal linkages between various line agencies were also very weak. There was also very little impact assessment or evaluation of physical progress after the scheme ran for a couple of years. The officials also lacked the desired training for implementing these programmes. The most important and major drawback of these projects were that the government functionaries had neither time nor training to nurture democratic leadership. Hence, it hindered the effective community participation. There was lack of specialised services with regard to watershed development. There were no trained professionals to work on these aspects. There urgent need

for the introduction of watershed management as a course in different training institutes as well as in the various colleges and the universities were also not met. The entitlements to the land held by the state were denied to the local communities. It led to the encouragement of encroachments of common lands and it proved destructive for the community institutions and values needed for local self governance. Presently the status of land held by village councils is similar to that of state owned lands. They are typically encroached and there is little evidence of effective community management. Apart from it, the better-off farmers have large encroachments on the commons, and retain them on the strength of economic influence and close ties with the local government officials. It leads to disempowerment and social fragmentation. Hence, there is a need to address the asymmetry of power and stake in any kind of watershed development. Even though the poor are large in numbers they lack ties of solidarity to enable them to assert their community's rights. They remain disempowered and socially fragmented.

Hence, it can be stated that although the government has framed policies and guidelines to implement the Watershed Development Programme and allied activities, there are gaps in their implementation. There seems to be a need of taking urgent steps to either re-iterate or revise the policies and guidelines so that important programme is implemented in an effective manner.

### **Sustainability Factors**

Watershed Development aims not only to conserve the land and water resources but to ensure optimum production from these resources. There are various factors that affect the sustainability aspect of the watershed management. They can be seen under the following heads:

**(1) Organizational factors:**

It refers to the local level implementing agencies. The leadership style adopted by them and their adaptability plays a key role in it. There is also the need for transparency and accountability. There should be leaders possessing good skills to bring out good results.

**(2) Social factors:**

This results to pattern of functioning of the organization. It should also provide greater opportunities to provide improved incomes. There should be social cohesion, social justice, democratic functioning and equal opportunities to all the people to improve their income.

**(3) Financial factors:**

An organization can function effectively only when it is sound financially and all the transactions are transparent. There should be less reliance on external agencies for funds and resources needs to be built mainly through internal resources.

**(4) Legal factors:**

The organization so far as possible should have a legal status not only to provide democratic functioning but also be accountable. There should be timely and fair elections to different bodies and committees along with proper record keeping and democratic functioning.

**(5) Technical factors:**

The maintenance and utilisation of resources are very important. There should be development of the activities based on local needs and experience. There

should be maintenance of the works done followed by maximizing production and incomes.

**(6) Adaptability:**

Watershed Management is a dynamic process where factors like shortage of rainfall, soil erosion, depletion of vegetative cover, poor crop yields are very common conservative measures and changes in land use patten will therefore have to be tackled by adding suitable changes.

**(7) Transparency:**

It is essential in all activities. It is achieved when members participate in general body meetings and other fora to discuss important activities.

**The way out for effective Watershed Management Projects**

The effective watershed management approach would be one which would be able to establish ecological balance, enhance the economic development of the people and establish equity in their respective watershed area. Based on the experiences and lessons learned during the last two decades by various agencies, the following are some of the major points raised and discussed in a series of workshops between 1997-1999 organized by agencies such as Ministry of Rural Areas and Employment, World Bank, Department of Watershed Development and Indian Social Institute.

- There is an urgent need to harmonize guidelines, which should be acceptable in principle, irrespective of source of funding and must be flexible enough to suit the changing situations and resources.

- There must be a continuous process of consultation and interaction between the various implementing and funding agencies. This will strengthen the process of learning and sharing from each other's experiences.
- There has been no systematic effort to exchange and learn from success and failure stories between various agencies. Based on the past experiences, an attempt has to be made to highlight the important issues and acceptable approaches to address these issues.

The best possible way to achieve the objectives of these programmes would be effective community participation. It must be realized that watershed development projects are essentially participatory in nature. These projects are bound to fail if there is lack of effective participation of the people. Apart from it awareness needs to be created among the people so that they could consider these projects as their own projects. The knowledge of local people regarding various conservation methods should be extracted and appreciated. Experiences reflect that local people tend to know better about their surroundings. The government agencies should ensure that there will be regular flow of fund for the projects linked to watershed development.

### **Actions to be taken**

There are different institutional systems used by different agencies for different programmes. Usually the groups are formed on village basis on the basis of beneficiaries (user's group) and communities (social group). With the coming up of 73<sup>rd</sup> and 74<sup>th</sup> amendment it is now very essential to link these groups with the Panchayati Raj Institution to ensure long term sustainability. There is also urgent need to review and publish the community's rights on forest or common land. There is also the urgent need to broaden the scope of watershed management. Apart from managing natural resources it should also include things like drinking



water, building rural link roads and other related activities to ensure visible development in the project area. There is a need for the capacity building of implementing agencies and the communities involved for the successful implementation of watershed projects. There is also need for using locally respectable and acceptable leaders and social organization.

Hence, it can be stated that watershed management could become people's movement. It is also true that no one would be more interested in natural resources upgradation than local people. Hence, the participation of the community is very essential for the effective implementation of watershed management.

The next chapter deals with the participatory approach.

## End Notes

- <sup>1</sup> Wade Robert (1987), The management of Common Property Resources: collective action as an alternative to privatisation or state regulation, *Cambridge Journal of Economics*, page 96.
- <sup>2</sup> Jodha (1990) Rural Common Property, Resources – Contribution and Crisis, *Economic and Political Weekly*, June 30, page A-65.
- <sup>3</sup> Rajora Rajesh (1998) Integrated Watershed management – Jaipur, Rawat Publications, page 470-71, 4-Ibid, 5 Ibid.
- <sup>4</sup> Ibid page 470-71.
- <sup>5</sup> Ibid page 470-71.
- <sup>6</sup> Ostrom Vincent and Ostrom Elenor – Public Goods and Public Choices in Savas Es, 1997, (ed.) Alternatives for Delivering Public Services. Towards improved performances, Boulder Colorado, Westview Press, page 12.
- <sup>7</sup> Ibid page 12.
- <sup>8</sup> Sen Gupta Nirmal (1995) Common property Institutions and markets *Indian Economic Review* vol. XXX, No. 2, page 189-90.
- <sup>9</sup> Ibid page 189-90
- <sup>10</sup> Ibid page 189-90
- <sup>11</sup> Rajora Rajesh (1998), Integrated Watershed Management, Jaipur, Rawat Publication, page 474-77.
- <sup>12</sup> Jodha N.S. (1990), Rural Common Property Resources – Contribution and Crisis, *Economic and Political Weekly* , June 30, Page A 68-69.
- <sup>13</sup> Ibid Page A 68-69.
- <sup>14</sup> Ibid A-66.
- <sup>15</sup> Rajora Rajesh (1998), *Integrated Watershed Management* Jaipur, Rawat Publication, page 1.
- <sup>16</sup> Forrington John, Furton Cathryn, James A.J. *Parliamentary Watershed Developments, Challenges of 21<sup>st</sup> century*. New Delhi. Oxford University Press 1999, page 6.
- <sup>17</sup> Ibid page 7.
- <sup>18</sup> Ibid page 7.

## Chapter IV

### Participatory Management

#### **Introduction**

Participation has a long history in development projects. It involves people in certain aspects of planning and implementation in a programme. Community participation is defined as people acting in groups to influence the direction and outcome of development programmes that affect them [Paul 1987].<sup>1</sup> Here the key aspects of this definition are people acting collectively and influencing the outcomes.<sup>2</sup> Participation at the basic level is to share and to own [Picciotto 1992].<sup>3</sup> It is a process of mutual adjustment and orientation of behaviour among participants not one doing what the other wants. [Lief 1998].<sup>4</sup> Hence, participation is something which is a voluntary process which may take place in several stages beginning with appreciations in which various parties listen to each other, share perceptions and validate each other's information [Picciotto 1992].<sup>5</sup> It is now widely accepted that to enhance and sustain the productivity of the natural resources, those engaged in and affected by managing the resources at the most basic level and its users must participate in planning, its rehabilitation and management. Their participation will generate a stake in the process and enhance the prospects of both institutional and ecological sustainability. Participatory development is a new socio-economic force aiming for sustained development at the village level. There is a close link between resources and the community. Resources are used by the community with a great deal of interaction among individuals. Allocation of resources based on an individualised basis does not add to the development of sustenance but if it is based on a community approach it adds on the element of sustenance to the development process. Participatory development requires and encompasses evolution of non-market, non-

governmental people's organisation in the management of Common Property Resources.

A key concern for micro watershed development is to identify approaches which ensure that the interface between rural people, local organisations and the state is managed in a way which is most likely to enhance efficiency, effectiveness and accountability (Carvey and Farrington 1998).<sup>6</sup> In India, national policy on watershed development has recently been characterised by a concern that decisions should be taken in ways which support the livelihood of poorer groups and are institutionally sustainable. The publication in 1994 of the Guidelines on Watershed Development by the Ministry of Rural Areas and Employment marked a significance step towards approaches that are participatory and involve a high degree of decentralised decision taking and allocation of funding. With many watersheds under implementation it is being realised that if community based organisations are able to play their role and if the administrators are able to provide space to the partners to grow, then perhaps it is possible to scale up the initiatives required and perhaps reverse the trend of desertification.

### **What is the Nature of Participation in Watershed Development Programme**

Participation in the watershed development programme should involve the communities in doing various activities ranging from analysing soil and water conservation problems to identifying strategies to take care of it. Hence the member of community must have the will and the ability to participate and take collective action followed by the implementation of that decision. The members should also be ready to share the cost occurring at the implementation of these programmes. Hence participation of the community entails planning, financing as well as the execution of the project by the members of the community. It is seen that the nature of community participation observed in various projects reflected diverse perception of participation held by development organisations.

Baumgartner (1989) suggested that for some participation is persuading communities to accept whatever is being proposed to them. At the other extreme a small minority of implementing organisations view participation as a fundamental right of the communities, as a means to empower them. Hence though the perception about the nature of participation might vary but it would always be the best form of participation if it involves planning, financing as well as the members of the community. The greatest challenge in the participatory approach are how to mobilise the community members, how to involve them in the planning process and effective participation of women

### **Community Mobilisation**

The mobilisation of the people is a very tough task. People will never participate if they do not see any gain out of it. The most observable situations in which participation emerged is the existence of the common problems, which forces the people to come together to take decisions regarding common action. The people rely to a very great extent on the Common Property Resources for their livelihood and hence it could really motivate all the members to participate in the area which is of their great concern. Hence to start with, it would be very necessary to create awareness among the people regarding the problems and their solutions. It could be done by mobilisation of the people by organising meetings and discussing the problems concerning the declining state of the Common Property Resources. It would also serve as the platform to discuss and share information of the participating individuals. Endeavour has to be made to make the members feel that by their collective action, the problems concerning the erosion of natural resources could be taken care of. Members should start perceiving community participation as an answer to their growing concern of water problems and that it would benefit them in economic terms as well. Participation may emerge either as a consequence of the conscious collective action of rational

economic agents or evolving organically out of individual behaviour (Merger 1983).

### **Participatory Planning Process**

It is the most important aspect of micro-watershed development programme. To begin with any kind of participatory approach will require mobilisation of the people on the issues on which there is a total consensus. Apart from it the area selected for the work should be the one which is important to all the members and is relatively simple to implement. Hence for it effective participation of the people in the planning process is also required. Planning with people will also increase more participation and also bring better results. Participatory planning can be seen under the following steps.

#### **(a) Preparation of the planning meeting with villagers**

The very first move would be to inform the villagers regarding the planning activity and invite them for their opinion and suggestions. The members should be informed well in advance and should also be convinced to come for the meeting. In the meetings questions related to their response and queries regarding the project should be dealt with in a very convincing way. Members should be made to feel comfortable and endeavour should be made to include as many elderly people as possible for the meetings.

#### **(b) Organising the planning meeting**

Here the community members should feel so comfortable to start the discussion regarding their perception about the subject of the project being planned. Women and especially members of the disadvantaged section of the society should not be ignored. They should be made to feel that they are also an

equally important participants. The members are to be encouraged to share their knowledge regarding the concerned activity.

**(c) Analysis of discussion held during the meeting with the villagers**

During the discussion the members should be encouraged to talk about their past experience regarding economic, social and political issues. Things should be planned in accordance to the priorities of the members of the community. Villagers are also to be helped in using their skills, ideas and knowledge with respect to planning and implementing them. All the objectives of the planning should be explained to each member. There should be great emphasis on the importance of sharing and collective decision making.

**(d) Developing micro plan in the meeting**

Here the villagers should be reminded of the importance of the planning exercise. The confidence of the villagers should also be boosted. It should always be kept in mind to involve the women and not to marginalise the poor people. Discussions regarding the identification of the problem area should take place. There should be prioritisation of these problem areas. Budget and the resource mobilisation should also to be discussed.

**Participation of Women**

Participation in development activities depends on the extent to which these activities address the most immediate concerns of the participants. Such an understanding is an important pre-condition for successful implementation of the watershed development programme. Out of 168 million people estimated to be living below the poverty line 60-80 million are women. Poor women in India suffer from triple disadvantage of poverty, social backwardness and of being women. Hence, among the poor, women are the most disadvantaged. In most

parts of the country their situation is characterised by lack of education and lack of access to resources, both of which are required to enable them to work their way out of poverty and for upward economic and social mobility. The problem is made more acute for women due to low social status and social biases. Women access resources from common lands and forest lands for three main reasons namely fuel, fodder and raw materials which they use in producing items which bring them additional and often independent income. The dependence of women on common pool resources is often influenced by their socio-economic status. Women from poor households and landless families show a greater dependence on common pool resources than women from land owing families. Hence participation of women is very necessary.

Women should be encouraged in the community meetings because they are integral part of the community and they rely on the natural resources more than men, but women's needs and priorities are overlooked regarding the utilisation of Common Property Resources. These resources provide women with livelihood options that are not always visible. Restricting access to them increases drudgery in fuel and fodder collection and reduces the livelihood options available to women. Assessing the interface between livelihood and the resource base can help keep in focus issues related to the economic survival of women resource-users through the planning and implementation stage of the project. But very little attempt has been made to involve women in decisions making related to Common Property Resources.

Traditionally women have been excluded from community activities and the village panchyats have been always male dominating. The cultural norms made it difficult for women to participate in any local institution set up for the decision making. Women are often unable to participate in community activities without the support of their families. It is the responsibility of the project



implementing agency to facilitate the participation of women in community activities by setting up support system.

The women have also suffered because of change in various other factors including change in technologies and implementation of various projects. Due to deforestation multipurpose tree species are becoming increasingly scarce on account of which the women have to undertake longer walk to collect fuelwood and other forest products. Hence, more working hours are added to already stretched working hours. Apart from it women have additional burden to carry out jobs which were earlier done by men because the lack of opportunities in the villages have led to the migration of the men to the towns. Women depended more on the minor forest products as a source of additional income but due to introduction of new technologies the availability of these forests have been reduced. It is seen that all the development projects often improve the conditions for men, and women are always left out.

Hence, there is an urgent need to restore the balance between women's needs and the natural resources available to them. A participatory programme concerning a sector in which women are major actors needs to be sensitive to gender disparities. It should also address the constraints which prevent women from participating as co equals. To ensure that women's specific needs and interests receive equal attention in a development programme. Their direct participation in decision making is a prerequisite.

A number of strategies for mainstreaming the participation of women were discussed at the April 1998 National Workshop on watershed approaches for Wasteland Development.

They are<sup>7</sup>:

- Begin with a livelihood-resource survey rather than a technical survey.

- Study access/control dynamics in resource management in the community.
- Form homogenous groups of resource users, containing both men and women based on the livelihood-resource survey.
- Introduce activities that motivate the formation of these groups.
- Explain project activities so that men and women are able to identify the contribution they can make.
- Ensure that the time and venue of meetings are convenient for all members of the community.
- Set up support systems in the community to enable women to participate.
- Make technical training available to both men and women.
- Identify both men and women leaders as motivators.
- Sensitise project implementation agency staff to gender dynamics in the community.
- Make 50 percent representation of women in the Gram Sabha compulsory.
- Make equal representation of men and women in the watershed committee compulsory.
- Maintain a continuous dialogue with the men to gain their acceptance towards equal participation by women in the participation.

A workshop in October 1996 to assess how effectively gender issues were being considered in CAPART projects generated a number of recommendations (Lokur-Pangare 1996).

These included the need for<sup>8</sup>:

- a resource survey at the pre-proposal stage which would outline how women's access to and control of resources and the benefits they obtain would be influenced by the projects.
- Consent for major decisions from a two-third majority of the adults in the community, of whom initially one third and ultimately one-half should be women.
- Recognition of women's rights over private and common resources.
- Facilitating the participation of women resource-user in decision making.
- The payment of equal wages to men and women for equal work.
- The provision of training for women to meet their needs and
- The establishment of a monitoring system capable of identifying how these measures had performed and indicating where corrections might be necessary.

Hence, it can be said that though women were given low states but in reality they are strong contribution to the economic and social well being of rural areas.

Hence, equal representation of women at the various committees dealing with the watershed development is very essential. There is urgent need for the enhancement of women's participation.

### **Methods of facilitating women's participation**

- (1) There should be women staff among the change agents who will play the strategic role in making at least the initial contact with the women of the communities. Local village women can also serve as local change agents.

- (2) There should be training on the issue of gender equity. Members of the community also need to be informed about the what and why of gender equity, apart from the change agents. The community members must understand that gender equity is not a separate activity but an integral part of every activity.
- (3) Meetings must be organized on the days considering the availability of the time of women. It must be organized at the times of day and at locations when and where it will be possible for women to attend easily.
- (4) The most pressing need of poor women is for a source of income to reduce their poverty. They are usually willing to take on the extra burden that it may involve. The wage-labour available under the watershed Development Project should not be considered as an employment opportunity. There should be generation of genuine income creating opportunities.
- (5) Women should be organized as a group because they will derive strength from numbers.
- (6) There should be training of women to help them to build self esteem and self confidence. They should develop leadership qualities and accept responsibilities. They should also be functionally literate and acquire technical skills.
- (7) It is also important to set aside a quota starting from 33 percent and working up to 50 percent for women on all decision making bodies.

The experience of Tarun Bharat Sangh regarding the participation of women and its achievement is worth mentioning. In the Bheekampura Village it is customary to restrict income from agriculture to males and income from animals to females.<sup>9</sup> Hence, women maintain the grazing lands with lots of care. After the active participation of women it is found that these women keep checks on each

other and restrict each other from cutting off green branches. There is also the provision of fine for the offender. Earlier the women who were busy with their daily routine simply refused to join the women's group but with lots of encouraging effort they finally started attending the meetings of Gram Sabha. It is found that once women feel free to talk, they participate very actively. They started discussing about their problems and finally learnt to use their resources very effectively. Females are playing a very great role in promoting these development programmes.

The Tarun Bharat Sangh has a Governing Body of seven members, five of them are male and two female. The workers are distributed as follows<sup>10</sup>:

| Area                           | Co-ordinator | Field Workers | Male | Female |
|--------------------------------|--------------|---------------|------|--------|
| 1. Natural Resource Management | 1            | 14            | 9    | 6      |
| 2. Training Programme          | 1            | 2             | 3    | 1      |
| 3. Agriculture                 | 1            | 2             | 3    | -      |
| 4. Women's Development         | 1            | 2             | -    | 3      |
| 5. Health                      | 1            | 3             | 4    | 1      |
| 6. Organizing new programs     | 1            | 6             | 4    | 3      |
| 7. Village Industry            | 1            | 4             | 5    | -      |
| 8. Administration              | 1            | 6             | 7    | -      |

Hence, it can be stated that the participation of women is very necessary in the proper management of Common Property Resources. In the village like Bheekampura where certain areas are especially looked after by women (animal husbandry as in the case of Bheekampura), it is very fruitful to have active participation of women.

## **Constraints and considerations in the Participatory Approach.**

There are many factors which influences the effective planning and implementation of the participatory watershed management for effective participation it is very necessary to examine these factors which hinder the participatory process. These factors are as follows:

- (1) People are often not inclined to do anything by themselves. As majority of the development programmes are taken up by the government, people have the feeling that its always the responsibility of the government to take care of things. Since, the participatory watershed management regards people as the main actor, it adds suspicion in the people regarding these participatory programmes.
- (2) People are in habit of recognizing the boundaries which are man made. They recognize village, revenue units and many more man-made boundaries. The boundary of a watershed is not man made but it is determined by the nature. Apart from it, quite often people stay in one village but their landholdings lie on some other watershed. Hence, it creates a major problem.
- (3) The social demography of a place also has a good impact on the participatory approach. Rich farmers and the rich landlords are always exploiting the poor and disadvantaged group. Selfless participatory watershed management will always have selfless leadership.
- (4) People always look for solutions which are immediate. Participatory Approach requires a good amount of time. Hence, there is lack of participation on the projects which take long time to yield results.
- (5) The Government functionaries are often very authoritative and insensitive to the people's needs. They do not encourage participation.

- (6) In Government's programmes there is very less accommodation of things like people's needs, values and perception.
- (7) The participatory approach includes in itself the concept of bottom up approach. It is always not necessary that people's ideas and preferences will always be compatible to the technical considerations. Hence, mismatch between the technical considerations and the social choice hampers the participation.
- (8) It is seen that skills and knowledge always leads to better results but the personnel of implementing agencies lack them. Hence, they fail to motivate people for their active participation.
- (9) Women are not provided with equal opportunities because of the prevalent socio-cultural conditions. Even if they participate they play a marginal role in decision making due to their lack of necessary training and confidence. Hence, lack of effective participation of the women make the participatory process incomplete.
- (10) Local institutions set up for a project is usually not established through a consensus involving the entire community. Hence, these institutions become project specific and cease to exist after the project if over. These institutions often bring no benefits to the poor and the marginalized people.
- (11) There is great evidence of ignoring the local technologies. Farmers tend to develop local technologies over centuries but it seems to be neglected. Hence, it makes farmers reluctant to participation in the programme.
- (12) People avoid anything which has to do with paying money. One of the reason why people may not participate in the programme might be the fear of

paying contributions. Apart from it, it becomes very difficult for the marginal farmers to pay even the minimum contribution.

- (13) From the experience of many of the successful watershed programmes it is seen that committed local leaders inspire the people to come forward and work in unity to take proper care of natural resources.

### **How to encourage participation?**

The most important aspect of local participation is that people must realize that there is a good linkage between watershed management and their livelihood. They must be convinced that with effective watershed management, they can make their life more comfortable. Hence, there is great need for the awareness building among the people. If women are not able to participate in the general meetings then efforts must be made to organize separate meetings for them. All sections of people be it poor or rich, should be encouraged to participate in the meetings. Apart from it the entire community must be organized into different groups based on their interest or the activity they perform. Every member of the community should become either the member of Self Help Group (SHG) or the User Group. Self Help Groups are formed more readily if the people realize its importance in achieving their needs. If Self Help Group of an adjoining village is successful it helps in the effective formation of Self Help Groups in other villages. There would be active participation of Users Group if their purpose and benefits are very clear. Hence, there should be organization of periodic meetings so that the User Groups Members could discuss among themselves regarding their benefits. There could also be the formation of watershed committee and watershed association with the consent of the people with Self Help Group and User Group members nominate their representative. Hence, for effective participation the establishment of the Community Organization is a must.



Since, people lack in capacity, efforts must be made to enhance the capabilities of the local people. This should be on a continuous process. The people should be trained to carry out their programme. In fact, different groups should be trained in different subjects keeping in mind the requirements of the programme. People from successful watershed villages should also help in training the people. Hence, capacity building is very essential for effective participation.

Watershed Associations and the Watershed Committee must meet regularly. Here the members would get an opportunity to talk and discuss about their grievances and conflicts. There should be discussion on the prioritization of the activities which is to be under taken. Things like wages, method of payment, mode and time of contribution collection, should be discussed in the meetings. Local decision making builds a feeling of ownership or responsibility and promotes accountability. The formulation of maintenance and monitoring mechanism should also be done by these committees and associations. Apart from it, the participation of these committees and associations in the development planning process is very essential. The level of awareness of the members of these groups affects the success of the planning process. Efforts must be made to prepare the plan which is agreeable to all the individuals of the community. Awareness of the members can be increased if they are told about the entire activities of a successful watershed programme.

### **Agencies involved in the Participatory Watershed Development.**

In the NWDPR (National Watershed Development Programme for Rainfed Agriculture) programme the Ministry of Agriculture, any department like agriculture, watershed development, soil conservation, land development corporations, autonomous Agriculture Technology Management Agency (MTMA) can be identified as the nodal agency which further selects the Project Implementing Agency (PIA). Project Implementing Agency can be any agency

ranging from NGOs, Panchayats, to a registered voluntary body under societies or charitable Act.

It is seen that in majority of experience with multi-agency partnership, it has been NGOs with the government. The common Guidelines<sup>11</sup> made provision for a wide range of organizations to be engaged as 'project implementing agencies' including NGOs, universities, agricultural research, training institutes, corporations, cooperatives, banks, public and private commercial organizations, panchayati raj institutions and the government departments. The relationship between the project implementing agencies (PIA) and the District Rural Development Agencies (DRDA) or Zilla Parishads through which the Ministry of Rural Areas and Employment funding for watershed development is channelled remains a contractual one. There is also no provision for an implementing agency to be made of two or more collaborating organizations. The working of this kind of formation was evaluated by UK Department of International Development commissioned ODI. It identified a number of further administrative conditions that would need to be place for partnership to function effectively.<sup>12</sup>

These include<sup>13</sup>:

- The need for specific criteria for the selection of directors of DRDAs, emphasizing the need for them to have experience in participatory approaches to rural development.
- The need for clear criteria for the selection of both NGO and government project implementing agencies, and for de-selection where necessary, and to ensure that project implementation agency staff are full-time.
- The need to develop the social and community development skills of the government technical staff. This would help in engaging with NGOs where

partnership are possible, but also help ensure that these skills are available, if for whatever reason, it proves impossible to work with NGOs that have such skills.

- The need to ensure that adequate financial provisions are made to cover NGO overheads, that provision is made for a preliminary period of work in group formation, and that the possibility exists for NGOs (possibly in partnership with technical agencies) to provide continuing support of a technical or institutional kind beyond the end of the implementation period.
- The need to revise the Guidelines to provide greater scope for the formulation of joint government – NGO project implementing agencies.

In India different NGOs are working on the watershed development. It is usually stated that NGOs are strong in social mobilization but are weak in technical competence. The example of the Indo-German Watershed Development Programme in Maharashtra reflects the possibility of overcoming this weakness of the NGOs by providing technical skill by much larger NGO which draws technical expertise from elsewhere. However, with the progress of Tarun Bharat Sangh which realized the importance of indigenous technologies to improve the conditions made us to think otherwise.

In order to get a closer situation of Participatory Watershed Management and its effectiveness in restoration of rural economy, it is pertinent to look at some of the case studies. The next chapter deals with those successful water-harvesting projects which have brought reasons for hope and belief.

## End Notes

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- <sup>1</sup> Kolavalli L. Shashi, Kerr John (2000). Mainstreaming Participatory Watershed Development. *Economic and Political Weekly*, January 19, p. 226.
- <sup>2</sup> Ibid. p. 226
- <sup>3</sup> Ibid. p. 226
- <sup>4</sup> Ibid. p. 226
- <sup>5</sup> Ibid. p. 226
- <sup>6</sup> Farrington John, Turton Cathryn, James A.J., 1999, *Participatory Watershed Development challenges for the 21<sup>st</sup> century*. New Delhi, Oxford University Press. p. 4.
- <sup>7</sup> Source Lokur-Pangare (1998) taken from Farrington John, Turton Cathryn, James A.J., *Participatory Watershed Development challenges for the 21<sup>st</sup> century*. 1999, New Delhi, Oxford University Press p. 123.
- <sup>8</sup> Ibid., p. 124.
- <sup>9</sup> Khalakdina Margaret (1998), *The Promotion of Community Self-reliance – Tarun Bharat Sangh in Action*, Ahmedabad, India Trust, pp. 44-45.
- <sup>10</sup> Ibid., p. 48.
- <sup>11</sup> Guidelines were formulated by the Ministry of Rural Areas and Employment in 1994.
- <sup>12</sup> Farrington John, Turion Cathryn, James A.J., 1999, *Participatory Watershed Development challenges for the 21<sup>st</sup> century*. Oxford University Press, pp. 162-163.
- <sup>13</sup> Ibid., pp. 162-163.

## Chapter V

### Case Studies

#### **Lapodia: Coming Back To Life**

##### **Introduction**

This case study is of a village called Lapodia which lies in the semi-arid zone of Rajasthan. Its people survived on rainfed agriculture but the land was not so fertile. It was also devoid of the network of irrigation canals which were fed on water of the perennial rivers. To make situation worse it even escaped the notice of policy makers. By early 1970's the life in the village was very hard and it was moving towards total destruction. By late 1970s the government records described Lapodia as a village of 189 families in drought prone area, with barren, highly saline landscapes, denuded pasture lands and agriculture lands capable of producing only one, low-value monsoon crop. The advent of summer months meant 40% migration of the human population to the cities, in search of employment with 75% of livestock migration to the nearby towns in Madhya Pradesh and Uttar Pradesh, due to the lack of adequate fodder for the cattle in Lapodia or in the neighbouring villages. The migration of both cattle and people, outside the safe havens of their homes was linked to their livelihood. The native agro-pastoral society, needed a strong agricultural and vegetative resource base to survive within its habitat. The state of barren, degraded and encroached pasture land could barely supply the cattle with fodder in the monsoon and pre-winter months. The highly silted, old pond of the villages was in no condition to store and conserve the rainwater which soon drained off towards the monsoon stream, running parallel to the village lands, at the low-lying feet of the village.

## **Coming Together of the People**

It was the efforts of Laxman Singhji and his fellow villagers whose efforts helped to restore life and prosperity of the village. A decade interaction of Laxman Singhji with people led to the formation of the Gram Sabha. To ensure the participation, interaction and involvement of the entire village, in regenerating their own resources and life support systems, the council of village elders had eleven members. These members were accepted, respected and unanimously recognised by the people. This council had the responsibility of ensuring the cooperation of the community members to regenerate the lost vegetative cover and restore water in the pond. A strict code of conduct and regulations were unanimously decided and enforced by the people. Illegal felling and cutting of trees on the pasture land was to be immediately curtailed. If an individual was caught stealing or cutting any tree, the felled wood was to be deposited with the Gram Sabha. In the lieu of the felled tree the culprit was expected to plant five trees and deposit 5 bags of grain as a penalty with the Gram Sabha. Besides rendering a written apology, promising to never repeat the offence was to be made. Hunting was totally banned on the pasture lands. Efforts were made to repair the old pond. Half of the work of repairing of the pond was in the shape of voluntary work of the villagers. Apart from it, the workers were paid for their half of the work, but it was also in the shape of foodgrains. For monitoring, planning and executing the work there were fortnightly or monthly meetings of the Gram Sabha was activated. Within a year the labour of the people bore fruit. The fodder output doubled in the next year itself and 50% of the forced migration of the pastoral communities with their livestock, to the neighbouring areas of Madhya Pradesh and Uttar Pradesh were avoided. It also eased out the irrigation conflict among the people. The pond was also improved. Apart from it no foreign, exotic flora were planted. Most of the seeds were collected from the available resources at home, ensuring the participation of the entire village and promoting a better

understanding awareness and love for one's own environment and indigenous flora.

The community work continued for the entire year. The most important activity begins at the early days of December. At this time, people start their village march "Padyatras". It is the time for the villages to pledge their protective vows. This procession attains a festive colour due to drum beats and folk songs. The priest performs the worship and the trees are anointed with the 'tilak' (holy symbol). Even rakhis (bracelets) are tied to the trees. The entire area of gochar is marked by the Kar ( a holy boundary line sprinkled with holy Gangal and milk) establishing the boundary of the pasture land and ensuring its safety as a protective eco-zone. Hence lots of importance is given to the trees and the gochar land. In the activity of seed collection children play a major role. They travel with their cattle for grazing and collect the seeds from the bushes of and the trees. The people have adopted five trees for their own homes. The success of the Lapodia village also encouraged other villages to follow the similar pattern of community participation.

The awareness generation reached its peak by the year 1993. In January 1993, the entire Lapodia village had gathered to chalk out the work schedule for the entire year under the aegis of the Gram Sabha. A system of having two annual meetings of the entire village ensuring the participation of the maximum people from each household had evolved. This was in addition to the fortnightly meetings of the Gram Sabha. This general meeting of the entire village enhanced the involvement and participation of the people, providing an informal platform for open debates, dialogue and interaction of individuals from all walks of life. Besides, it strengthened the spirit, the enthusiasm and direct bonding of the people with the work in their village.

## **Land and Soil Water Conservation**

It was in the year 1993 when the planned task of the year consisted of the construction of culvert for the easy passage of the overflow of the pond. The construction of another percolation pond called 'Dev Sagar' was also planned. A well to provide drinking water to the village, a canopy to ensure the cleanliness and safety of the drinking water was also planned. Apart from it the construction of a "Khel-kote" or drinking water trough for cattle was also to be constructed near the ponds to provide adequate drinking water facility for the domestic cattle. The land lying in the upstream of the percolation and irrigation pond survived mostly on rainfed agriculture. These areas were also too far away from the irrigation pond. Rainfall on these lands caused heavy surface run-off owing to its natural slope. Hence to stop the great volume of water from running waste, a deep channel was constructed along the circumference of the fields to collect all the surface run-off. Served with a steep, strong, earthen embankment on the outer side of the channel, it almost resembles a long, semi circular wall lining the field limits. This 6 km long drain has come to be recognised as a fodder canal, collecting and diverting the excess water from the fields to the bed of the percolation pond. This canal has also helped in increasing the moisture levels in the fields, checked soil erosion and restored and ensured the fertility of the agricultural land. These ongoing activities made Lapodia the hub of many environment camps, training workshops and field visits. One day some 250 people from 80 villages participated to discuss about the people's role in safeguarding their environment. This strong collective voice of the people converged into the first Environment Council (Paryavarna Panchayat) held in the region and reinforced the will, the commitment and the strength of community action.



There was also urgent need for the planning of Lapodia pasture land. The boundary walls had suffered due to monsoons. Hence an immaculate and indigenous systems of soil and water conservation was evolved.

The overflow channel from the waste weir of the restored pond vertically dissects the pasture into two parts. 90% of the gochar bhumi lies, directly below the western arm of big, irrigation pond. Hence the gochar land lies sandwiched between the pond and its head and the monsoon drain at its feet. Hence work was initiated on the entire land area of 50 hectares to integrate the ravaged land into a single composite and protected unit. The entire pasture land was divided into equidistant, horizontal rows of 'chaukas' or open-ended rectangular dimensions of earlier bunds. Enclosed within the bund lies the 'Santra' or trench at a distance of about five feet from the earthen walls. The construction of this bund and trench changed the course of the surface run-off. The flowing water now had to follow a checkered path. The water retained in the trench helped in storing water on the ground, facilitating increased infiltration, restoring the moisture in the land and arresting, the rampant top soil-erosion in the quick retreat of the rainwater along the sloping face of the earth. Efforts were also made to conserve and divert the water which drained out of the village houses. This water made its passage along the dusty tracks, from the southern part of the village and was collected in a small johad (small earthen dam) located in the fields downstream .

This system of drainage linked even the smallest house to the planned drainage pattern of the village. Efforts were initiated in raising boundary walls in the agricultural fields and raising johads (small earthen dam) on the farmlands to increase the moisture level in the soil and conserve the rain water in the fields.

The efforts in land and water conservation in Lapodia is an integrated and multi-project approach to make interventions and changes at every step, weaving the village as a composite unit. Their efforts have shown good results. In one year

the fields irrigated with waters of the pond gave bumper crops and the village recorded an increase of Rs. 35 lakhs in its annual income.

### **Schools as a Part of the Community's Effort**

Lapodia had a formal government primary school but the prevailing education in the villages with the absentee teacher, lack of proper school buildings and the infrastructure had left many children out of the reach of the children. Apart from it children generally belonged to cattle rearing work on account of which they avoided the school. The people of this village came forward to impress the interest in supporting education for their children. Hence the school opened after dark and with the last bell ringing almost after two hours of study, children between ages of 6-14 years who did not get the opportunity to study during the day, put their minds into reading and writing every sunset. The syllabus was designed by the young teachers, in keeping with the demands of the formal education system. The nominal contribution of Rs. 10 by each household supported the honorarium for the educators and the books, the chalk and black board costs of tools for the education. The success of these village schools won recognition even from the state departments. The Panchayat Samiti visited the village and incorporated the schools in the non-formal education centres, under the government. After few years of success, the spreading fame of these non-formal schools invited a review by the education department of the Rajasthan government. Later the government linked all the fifty night schools to the Non-Formal Education system of the children, and the duration of the classes were extended and there was also an increase in the contribution from the parents. It helped in recruiting more teachers. Hence, it helped in the growth of learning activities of the people of the village.

### **Women as fruitful partners**

The contribution of women was also no less. They became the active part of the society. It was seen that for the first time, a woman won the 'Panchayat' elections in 1995 to become the first woman Sarpanch of Nagar. They joined hands and put lots of efforts in the humble *shramdaan* (voluntary labour). It all began with the adoption of twenty bighas of gochar land for afforestation at the foothills of an old Doongari (hillock), dedicated to an ancient temple of the goddess Chawda Mata', a sacred deity in these parts. The land at the base of the hillock had been home to a lush forest that exercised its way up to the temple at the top. The forest had long gone. Only a few, old gnarled trees stood there. The women's group planned to convert twenty bighas of the depleted land at the base, into an orchard of many indigenous species of trees, medical plants and shrubs. Contribution poured in from all the households. All the expenditure was borne by the villagers. The stock of payments, money collected and expenditure occurred was maintained by the women themselves. The women groups has been active in evolving a system of regular contribution. Each member of the group makes a contribution of Rs. 10-15 every month. The collected sum serves the salary and credit system, managed by the women. The money is deposited to the local bank and ensures credit facilities for women to take loans from the bank, in times of need. The economy of the households is streamlined and the women enjoy greater control over their monetary resources. All these activities are planned, discussed and decided upon by the women in their fortnightly meetings. Apart from it they are also involved in health activities. These women groups are served with a health minister (a honorary post in the women's group), who co-ordinates with the local primary health center and the village midwife. Proper vaccination of young children is also co-ordinated by them. In the women's group all decisions are collectively taken under the supervision of the core group. The core group is an

informed representative body of women's group. It is headed by a chairwomen, deputy chairwomen, alongwith treasurer communication workers, health worker, and environment worker, all serving as honorary members of the core group. These members are elected by women themselves for a fixed tenure. Decisions pertaining to their selection, sharing of responsibility and account ability are all handled by the women independently. The environment workers play a responsible role in co-ordinating the collection of seeds, their distribution. The schedule of the shramdaan activities (voluntary labour), planning the days for it, the number of people to be employed and all management skills are seen by the women and they are proving to be expert in it.

Hence the participatory community effort of the village proved to be very fruitful. It seems that, it has not only improved the economy of the village but has also put a halt to the migration of the people. The participation of women reflects that with community's effort the old practise of keeping women away from the decision making can be challenged. The integrated approach took care of not only the revival of pond but certain allied activities like education and participation in the village activities as a part of the culture. The problems of lack of good crop, drinking water supply and deforestation is taken care of by the people themselves. Hence it brings people of the village more close to local democracy. The success of village in stabilising the ecological degradation coupled with economic gains for the villagers really puts light on the relationship between participatory community involvement and the aspects of ecological degradation which gives rise to things like mass migration, famine and drought like conditions.

### **Gopalpura**

The Gopalpura village is a small village located in a small valley at the foot of the Arvalli hills, in the Thanagazi Tehsil of the Alwar district. Its inhabitants were primarily cattle rearing, agro-pastoralists with small land holdings and relying

on the rainfed harvest. Most of the land in the village was characterised by hilly, rocky terrain with highly denuded forest cover and barren expanse of pasture land. The community which had once prided itself on its large cattle herds and milk, ghee and curds which overflowed in the village, was forced into abandoning their homes and migrating with much their cattle to distant areas in hope of survival. There was four consecutive years of famine which wrecked the lives of many villages.

Then the Tarun Bharat Sangh members came here with a great vision of progress. At first the communities were suspicious of their motives. They thought that TBS was another NGO that came, saw and then disappeared. But that was not to be. This group came and stayed.

In the initial stages, the money-lender in Gopalpura village, where they were involved in the first water-harvesting project, tried to oust the TBS as he felt threatened that these activities were liberating the villagers from his clutches. Government officials also initially refused to financially help in rebuilding the water systems in the villages. Even some administration people who were sympathetic to the cause were either reprimanded or transferred. The mining barons under the patronage of politicians and bureaucrats, harassed the village leaders and encroached upon community land and forest reserve for mining purposes. The 'mining mafia' was encouraged and forest preservation laws were flouted. The TBS on the other hand, used Gandhian means like undertaking protest (dharnas), marches (yatras) and networking with other NGOs in searching for peaceful solutions.

In all these situations, the focus remained firmly on rebuilding 'johads', and on generating and managing their flow. From this activity all other progressive activities flowed. Rejendra Singh, Director of TBS, stressed that from villagers'

perspective, it is evident that their village habitat should be in an ecological balance.

### **Interaction with the communities in the early phases:**

How did it all began? In retrospect, it is a process of cementing a bond between a Gandhian institution and a poor rural segment of the population in Rajasthan. This is a process of constant hardship, constant barriers as well as of constant pursuit to build the inner strength of the people who are poor, illiterate and unskilled in modern ways.

The task must have seemed enormous when TBS came and settled down in Bhikampura. They were outsiders, unknown, and thus were looked upon with scepticism. The group, however, stayed and began talking to the villagers about anything, everything, including their joys and sorrows. TBS workers visited the village houses, spoke to the elders, even while they were trying to understand themselves, as to what they as a band of workers could do, armed mainly with the Gandhian philosophy. They had no money, no political backing, and still they persisted day and night. Their role is one of counselling and objective-advocacy with the group in whatever is perceived as the common good by them.

### **STRATEGIES USED BY TBS**

The TBS strengthened by constant contact with the villagers and began to evolve a method of working with the people. Their strategy gradually crystallised into five themes.

- (1) The first was that the effort had to be a collective one from the villagers in which all would benefit proportionately from the improvement that would be planned.

- (2) The second was that this collective wisdom could be conceived in an atmosphere where informal communication took place, and everyone had an equal opportunity to be heard.
- (3) The third was that all decisions would be strictly enforced, and the community would be its own self disciplinarian.
- (4) The fourth was that each person in the collective community would be individually responsible to carry out the tasks.
- (5) The fifth was that the community would only use outside help as a catalyst for their guidance and for the facilitation of the work processes.

### **The Informal Bonding – The Gram Sabha**

The gram sabha, where the villagers could meet and discuss, was the focal point of TBS's attention. It was not always easy to persuade villagers to commit their labour, or to bear part of the expenses. It would not be correct to say that there is perfect harmony in the communities. There are differences and will continue to be so. Sometimes divisive forces operate within the gram sabha, but they are brought out in the open. Women leaders are a great help in this. They know that the benefits will improve their family conditions, so they lend support in trying to bring about consensus. Caste differences still influence the village power structure. There is one major difference however, the villagers have been able to separate the concept of community economy from the concept of the community social structure.

### **Impact Of Johad: On Socio-Economic Issues**

Most of the villages in this zone were either inhabited by Gujjar or Meena community with an average family size of 6-7 members. Not many differences exist between these two communities in terms of socio-cultural values. Johad has

made visible impact on the socio-economic scenario of the region. Within a year of the construction of Johad, things changed as far as water availability for drinking and irrigation is concerned. Livestock rearing being their life-line, increased water and fodder availability brought about an improvement in their economic status. The material benefits through JOHAD have also brought about a change in motivation levels and willingness to pay. The significance of collective effect has united them further, in terms of strengthening Gram Sabhas, setting a new code of ethics to prevent and deal with any violation of common property resources.

### **On Women**

It is well established that women in this region have suffered a lot on account of fetching water for the family. They, who are responsible for procuring fodder, fuel-wood and fetching water, were most affected by these scarcities. All these activities are referred to as women's chores, and the average time spent on them was 18 hours a day (UN-IAWG-WES, 1998). Therefore, creation of the water harvesting structures has benefited women immensely. Even during the construction of the Johad, they participated in terms of providing labour. Liberated from the back-breaking work of fetching water they now find time for themselves. With the material gains through Johad, their spirit of enterprise has further been strengthened. As a result, women are seeking further sources of empowerment such as, livelihood schemes and social sector development, in the areas of education, health etc.

One should take into account the gender division of labour in production and management of resources. This will help in understanding the tasks that women perform and the consequent knowledge they possess of the relevant processes.



It is important that in any participatory watershed management, gender equity, gender concerns, gender knowledge as well as gender roles should be common denominators for programming. In this area, a traditional practice of handing over the money (locally known as Pallu system) to the women in the family is practiced, thus the increased income also goes to her and she has the discretion to decide on how it will be spent.

#### SIGNIFICANT FACTORS FOR DEVELOPMENT

The persistent efforts by the Sangh, and the dividends they have paid in terms of the self development of the community, offer some significant factors which could be lessons for other development agencies.

- i) Engendering basic trust by the change agent with the community:

The Sangh has been living in the midst of the Community, adopting its systems of behaviour which gradually dispelled distrust by the community, when it tested the Sangh for its sincerity of purpose.

- ii) Optimising social cohesion and the emotive bonding in the community:

TBS increased the potential of the community by strengthening its social structure, and by helping them realise that the members were responsible for not only individual but also collective action.

- iii) Understanding the process of cognitive learning in the transference of new initiatives:

TBS in its interactional process worked on the basis of stimulating recognition of the community's problems, whenever they introduced new ideas for further workable strategies.

- IV) Utilising the familiar ecosystems for practical learning processes.

- v) Modifying peripheral values while respecting hard core values embedded in socio religious norms:

TBS did not attempt to change hard core values like religious beliefs. Instead these were used to create an understanding of how little changes in the environment could be rationalised on the basis of these beliefs, and so strengthen new initiatives.

**Source:**

1. Ripples of the society, People's Movement in Watershed Development in India. June 1998. Gandhi Peace Foundation, New Delhi.
2. Kualakdina, Margaret (1998). The promotion of Community Self-Reliance. Tarun Bharat Sangh In Action. Ahmedabad. Indian Trust.

## Conclusion

The Aristotle's contention that the goods or property shared in common by "the greatest number has the least care bestowed upon it is proving to be the greatest reality of the day. Population growth and poverty on one hand and the drought conditions on the other are exerting powerful pressure on the eco system. People's uncontrolled activities regarding over exploitation of natural resources poses a great question on the survival of natural resources. Degradation of natural resources have a great impact on the draught conditions. The droughts and ecological degradation are in cyclic relationship to each other. The occurrence of drought compels the people to heavily depend on the natural resources, which ultimately leads to overexploitation of natural resources. The severity of drought increases because availability of natural resources, especially the Common Property Resources which act as the shock absorber to the impact of droughts decreases.

The faulty policies of the government and the lack of committed officials have added to the degradation of the natural resources. The government has always failed to integrate social and economic aspects of the problem while formulating the policies on it. Apart from it the government's policies have always tend to ignore the criteria of equity among the people. It simply reflects the effect of colonial legacy on the minds of our policy makers. They failed to revive the indigenous methods and always looked towards the west for the development policies. The macro-eco policies which provided for the inducement of overexploitation of natural resources have greatly added to the denudation of the environment. The government focused on large river basins development. Tapping and sourcing large watersheds implied large scale river valley development project pegged on the big dams theory. Big dams for irrigation were centrally managed with a clear separation of responsibilities between water

authorities and water users. An evaluation of this scheme of things revealed a wide gap between the potential created and its realization, coupled with poor management. Apart from it the bureaucratic mould and vision of the post independent power structure and institutions was so involved in establishing state control, that much of ideals and motivations only led to greater monopoly and centralization. The new bureaucratic officials were too far removed from the vision of home grown, time tested truths and wisdom. In an effort to integrate the country in one stroke of colour, the spectrum varied hues had turned pale. The welfare policies of the modern state could not strike root in the growing dismal and alarming exploitation and ecological decline of the past few decades. The launching of Panchayat Raj and Community Development Programme paid only lip-service to the indigenous social fabric and rural societies. An artificial corporations cutting across existing communities and their commons were foisted on the people. These state moves were unable to foster either co-operation or responsibility for the use and maintenance of common resources. In general a regime of “free for all” and “benefit to the powerful” got enforced.

The kind of resources which suffered the most in the process is the Common Property Resources. The policies of the government did not cater to the needs of the landless and marginal farmers. As a result, these people had to increase their dependence on the Common Property Resources which ultimately resulted into its overexploitation. Common Property Resources contributes heavily to the economy of these people in terms of cattle, fuel, fibre, water, manure and many more allied things but over-exploitation like increasing the population of cattles also increased the vulnerability of the ecological imbalance. The Harder’s Tragedy of Common was found to be very common phenomena of our villages. The depletion of Common Property Resources was both in terms of reduction in its area as well as reduction in its production. The depletion of these resources have

affected the people greatly. In fact, it is greatly adding to the pauperisation process.

The need of the hour is the proper management of the Common Property Resources. People have no control on the occurrence of rain but with proper management of the Common Property Resources the effect of the draughts can be minimized. It can be stated that though man's relation with the nature is centuries old, the nature seems to be in no mood to tolerate the exploitative behaviour of human beings. Hence a new shape has to be given to this relationship.

The concept of integrated watershed management is well accepted as a unit for area development. It came with the objective of ecological balance coupled with economic development and promotion of equity. It can be the most effective way to link natural resources to the human beings. For the successful implementation of the watershed programme, it has to be a people's movement. This movement holds the key to solve the problems of employment, economy, ecology and equity.

Decentralisation seems to be urgency today. The conservation, protection and regeneration of shrinking natural resources required the participation of the people who were linked to this resource base. The policies of the government failed majorly because it left no space for the community's participation. The centrality of the state has failed and the focus has shifted to the people, their communities, associations, and mode of relationship with the management of Common Property Resources. The success stories of various villages reflects that people have organised and evolved such resilient yet versatile institutions of innovative planning and management that even the complex sounding principles of integrated watershed management got resolved in the spontaneous and dynamic process of people's participation. The revival of the vitality of the people has prospered in combination with the facilitated support of some of the voluntary

organisation. Here the people were made to realize about the potentials in dealing with the creation of productive environment which would be beneficial for all. In the case studies (Chapter IV), it is seen that people came together to revive and strengthen the village Gram Sabha.

The identification of the problem for possible resolution lies with the people. Communities have a customary and indigenous basis of organisation and functioning. For the effective management of the Common Property Resources the community organisation takes a variety of forms but it must have the fundamental requirement of Common interest in sustained activity and effort. The Gram Sabha, as an informal body with representation of individuals from all the households, serving as members, is a representation of common interest. Here all the individual members actively participate in the working of the Gram Sabha and all decisions are taken by consensus. Hence strengthening of this representative body is a crucial link in strengthening people's participation. Apart from it, the co-operation of women is also very essential. Democratic decisions and equitable distribution can only be achieved when everyone is allowed to voice his or her opinion. Hence the participation of women is very essential, if the proper management of these kind of resources has to be effective. The initial appraisal by the group, the community for identifying the common problems and their status forms a key participatory process. For genuine community management and sustainability the people have to regain confidence in their own capabilities and responsibilities as a participatory group. The decision-making and responsibility taking element of the people has to be nurtured continuously to prevent the selection where community may abdicate its powers to the external agencies.

Successful community managed regeneration of commons is on account of internal mobilisation of solidarity, mutual aid, self help, participatory decision making and accountability where as the external inputs and means are conducive to

equitable and sustained self-management. The guiding force behind self management mechanism, enforced, by people's participation is that the community controlled common resources are protected and developed as the community's own property, owned, accessed and used in common. This sense of ownership is a very crucial aspect of facilitating people's participation. The democratic system is the focus of the village meetings and the consensus ensures that the ownership of the entire programme is in the hands of the people themselves.

Participatory Watershed Management is a vehicle of rural development. it does not only help in sustaining the ecological balance but also leads to the economic development of the people. It has also helped in formation of community based institution which reflects the true colour of democracy. It also negates the dominant paradigm of development which considers development as merely the transfer of technology from the developed countries to the developing countries. It clearly reflects that indigenous technology and strong will of the people can bring true development. It has made us realise that no programme aiming development and conservation can be effective without the public support and participation. Hence the need of the hour is to change top-down elitist programme approach and explore ways of empowering communities to become equal partners in conservation and productivity building on their traditional knowledge and practices, and ensuring their livelihood security.

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