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**SITUATION ANALYSIS OF RESOURCE POOR OF WATERSHED CLUSTER OF WARDHA DISTRICT OF MAHARASHTRA**

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**Abstract**

The geographical area that collects all the water that falls on it into a single stream or river is called a watershed. A watershed is a natural demarcation of the land, and the appropriate unit for many development activities. Augmented natural resources from watershed development are expected to contribute towards improved livelihood opportunities for all strata and stakeholders. Very few studies are based on rigorous benchmarks established beforehand and rely on recall and perception of respondents of change or impact. Also, the multiplicity of studies looking at the short-term impacts is not matched by studies looking at the long-term impacts of watershed programs, whether biophysical or socio-economic. The income of the community members has increased to some extent but watershed activities have been unable to make much visible impact in enhancing employment opportunities. It was found from the study that majority of the households across all the study areas had reported slight improvement in their standard of living. The benefits of WSD have not been fully translated into disposable income or net gains to improve the standard of living. The watershed project has not made a significant impact on improving the socio-economic condition of the resource poor.

**Watershed development**

Watershed development is a series of biophysical and social interventions aimed at restoring a degraded ecosystem to ensure livelihoods for the community depending upon it. Moreover, studies do not deal with crucial questions such as the ability of watershed programs to deal with drought, or the need to integrate exogenous water with what is locally available to create the critical quantum of the resource required in the watershed. Barring certain exceptions like Ralegaon Siddhi, and some of the Indo-German Watershed Program (IGWDP) projects, feedback from the field indicates that by and large watershed programs seem to be successful under normal rainfall conditions of a particular area. The decade of the 1980s saw efforts to mainstream successful experiments like Sukhomajri and Ralegaon Sidhi. Today the major programs also include the Integrated Wasteland Development Program or IWDP, River Valley Projects or RVP, and Watershed Development Projects in Shifting Cultivation Areas or WDPSCA, among others. These MoRD guidelines were further revised in 2001 and again in April 2003 as guidelines for Hariyali project. Key features introduced in the course of the evolution of watershed development included community participation, participatory planning and implementation, NGO-participation as project facilitating agencies, capacity building, social capital formation and issues related to livelihoods, gender, equity and sustainability. Also, the watershed approach has the potential to improve the level of living of the poor by providing more sustainable livelihood/employment generation opportunities.

Hence, the objective of all land based intervention should be, to enable rural people in rainfed regions to prevent arrest and reverse the degradation of life support systems, particularly land and water.

The current study aims on looking on the watershed development programs from a definitive perspective of employment/ livelihood generation and thereby creating a progressive difference in the lives of the resource poor. Hence this study focused on personal and socio-economic profile of the resource poor. This study tries to analyse the performance of such projects in enhancing the socio-economic conditions of especially the resource poor, assessing people's participation for the success

of such projects, creating up of a coping mechanism in situations of distress and suicides by farmers in Saheli and Chincholi villages of Wardha district of Vidarbha region, Maharashtra. The term 'resource poor' is used to refer to the marginal farmers, landless, women, SC's/ST's/NT's, lower income groups, people with less accessibility to education, material and livestock possession, food, nutrition, good health, due to poor economic conditions.

Several authors stated the Concept of livelihood ( Ellis, 1998, Batterbury, 2001; Chambers and Conway, 1992; Carney, 1998; Bernstein, 1992; Francis, 2000, 2002; Radoki, 2002 ). A livelihood denotes the means, activities, entitlements and assets by which people make a living. Assets, are defined as: natural / biological (land, water, common-property resources, flora, fauna); social (community, family, social networks); political (participation, empowerment-sometimes included in the social category); human (education, labour, health, nutrition); physical (roads, clinics, markets, schools, bridges); and economic (jobs, saving, credit). A livelihood is sustainable when people cope with and recover from shocks and crises (e.g. seasonal, environmental and economic) and can maintain or enhance their capability and assets both now and in the future, while not undermining the natural resource base.

### **Research Methodology**

The study was conducted in Wardha district of Maharashtra. This watershed was started during the year 2007 under the NABARD Holistic Watershed Development Program (NHWD) in a phased manner. The respondents were chosen by method of stratified random sampling taking into account the total number of households, population, and different sections of the village community. Wardha district was purposively selected because the program was already implemented in this district. Arvitaluka was selected based on maximum population of resource poor among the six clusters.

## RESULTS AND DISCUSSIONS

**Table 1 Distribution of the respondents as per their personal profile**

Particulars	Category	Frequency	Percentage
Age	Young Age (18 to 30 yrs.)	17	28.8
	Middle Age (31 to 50 yrs.)	18	30.5
	Old Age( 51 yrs. and above )	24	40.7
Gender	Male	24	40.7
	Female	35	59.3
Category	SC	11	18.6
	ST	28	47.5
	OBC	6	10.2
	Nomadic Tribes	7	11.9
	Others	7	11.9
Educational status	Can Read and Write	5	8.5
	Primary	7	11.9
	Middle	11	18.6
	College	15	25.4
	Graduate	13	22.0
	Illiterate	8	13.6
Family Type	Nuclear	22	37.3
	Joint	37	62.7
Family Size	1 to 5 Members	45	76.3
	6 to 10 Members	10	16.9
	10 to 15 Members	4	6.8

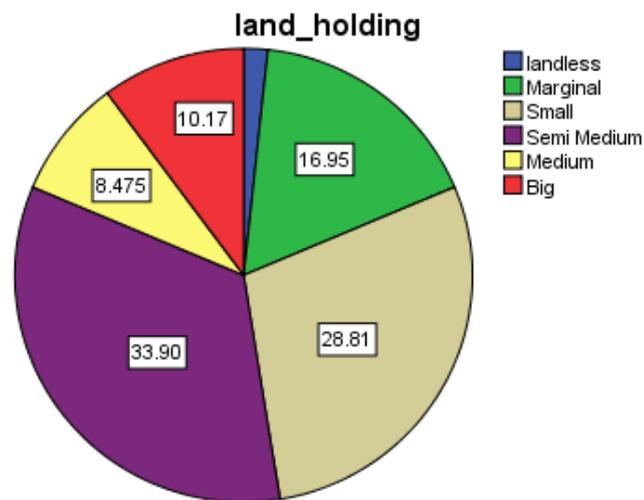
The results in **Table 1** showed that majority of the respondents (40.7%) were of old age group followed by 28.8% were young and 30.5 % belongs to the young age group. Further, individuals of 30 to 50 years of age group have more physical vigour and have more family responsibility than the younger ones. These might be the important reason to find majority of the respondents in the age group of 30 to 50 years. Similar kind of results reported by **Joshi (1992)** and **Sai Krishna (1998)**. Regarding caste category majority (47.46%) of the respondents belonged to Scheduled Tribes. While 18.64 % of respondents belonged Scheduled Castes followed by 11.86 % to Nomadic Tribes and 11.86 % to others (Forward Community). Only 10.17 % respondents were from OBC category. Majority of the ST category respondents were small and marginal farmers and landless peasants. The Scheduled Caste respondents were mostly dependent on agriculture, cow/buffalo rearing, small shops, agriculture labour for their survival.

Regarding education level, it is revealed that 22.03 % of the respondents were graduate followed by 18.64 % had middle school education and 3.56% were illiterate. Only 8.47 per cent of them have the ability to read and write. The trend of education level indicates that they have the urge to come out of the existing unfavourable socio-economic condition of the resource poor. Regarding their family type results revealed that majority of the respondents were in joint family system. But with the changing trend, some of the newly married couples choose to live separately from their family. While results of family size revealed that majority of the respondents have small family size.

**Table 2 Distribution of the respondents as per their socio economic profile**

Particulars	Category	Frequency	Percentage
<b>Landholdings</b>	Landless	3	5.1
	Marginal	10	16.9
	Small	17	28.8
	Semi Medium	19	32.2
	Medium	5	8.5
	Big	5	8.5
<b>Sources of irrigation</b>	Well	36	61.0
	Bore-Well	12	20.3
	Tank	5	8.5
	River/Nala	6	10.2
<b>Annual Income</b>	5000 to 10000	18	30.5
	11000 to 25000	28	47.5
	26000 to 36000	9	15.3
	36000 and Above	4	6.8
<b>Livestock possession</b>	Cows	49	80.03
	Buffaloes	47	79.66
	Bullocks	31	52.5
	Goat /Sheep	18	30.5
	Poultry Birds	15	25.4
<b>Farm implements possession</b>	Wooden Plough	52	88.13
	Iron Plough	23	38.98
	Seed cum fertilizer drill	16	27.11
	Tractor	3	5.08
<b>Material Possession</b>	Bicycle	43	72.4
	Bike	15	25.4
	Television	31	52.5
	Television with DTH connection	24	40.7
	Radio	18	30.5
	Mobile	44	74.6
<b>Social Participation in GramSabha</b>	Regular	31	52.5
	Occasional	17	28.8
	Never	11	18.6
<b>Social Participation in farmers union</b>	Regular	15	25.4
	Occasional	31	52.5
	Never	13	22.0
<b>Social Participation in Watershed Sangaha (VWC)</b>	Regular	28	47.5
	Occasional	19	32.2
	Never	12	20.3

The results from above mentioned Table 2 revealed that majority of the respondent families belong to the semi-medium category of land holdings (5- 10 acres of land) followed by small land holdings ( 2.5- 5 acres of land). The activities of watershed development and financial support for self-employment have focussed towards this segment of society because they do not have livelihood dependency on agricultural activities only. The next vulnerable category after marginal farmers was the landless people in the watershed area who do not have land of their own. Their source of income was labour work, self-employment, agricultural work on rented land, dairy, poultry, and other income generating activities etc. They were more vulnerable to conditions of unemployment, unavailability of work; unavailability of agricultural work due to less production of crops in the village, etc.



Irrigation has been a major concern in the rainfed areas where the agriculture is totally dependent on seasonal rains. Well is the common source of irrigation for majority of the respondents in the selected locale of study. Some of them were having bore well facility on their fields. The water in the wells was not sufficient in the summer season that's why farmers were unable to take any crops during the season. During field observations it was found that the trend towards bore well is getting more prominence due to availability of loan. But very less number of farmers can avail loaning facility, because of problems in accessibility or having other loan already. Very few farmers were depended on river/nalla as sources for irrigation. Due to the watershed development programme initiated since the inception of the project in 2007, the ground water level was found increased. It was a good sign for improving the agriculture related activities as livelihood opportunities.

Regarding annual income of the respondents, results showed that majority of them belong to medium level category. Most of them are engaged in agriculture and allied activities, self-employment, labour work and other income generating activities. Unavailability of sufficient irrigation facilities in summer and dry seasons are the reason. Very few respondents found in medium and high level annual income due to large land holdings, good irrigation facilities, small business/shops, access to high credits from banks and the likewise. Regarding livelihood possession, it mainly consists of cows, bullocks, goats, buffaloes and poultry birds. It was found that majority of the respondents (80.03%) were possessing cows while, 79.66 and 52.5 per cent of the respondents possessed buffaloes and bullocks respectively. The buffaloes and cows were taken care of by almost all respondents since they are an integral and essential part of their day to day activities and provide additional income to the family in terms of milk and manure. Especially, cows and buffaloes are looked upon as an additional source of income and efforts are more for their possession as compared to other livestock by the resource poor. Regarding farm implements possession it was found that, almost all the respondents having lands possess wooden plough. Very few large farmers were having tractors. Result showed that majority of the respondents possess mobile phones irrespective to the categories of caste and economical background. The next material possession to this is the bicycle which was the **main mode**

**of movement** in the villages.

Regarding social participation, It is evident from the table that more than half (52.54 %) of the respondents had regular participation in the gram sabha followed by 28.81 % occasionally participated and remaining 18.64 % of respondents never participated in the gram sabha. It is also revealed that more than half (52.54 %) of the respondents had occasional participation in the farmer's union activities followed by 25.42 % regularly participated and remaining 22.03 % of respondents had a never participated in the farmer's union activities. Regarding participation in watershed sangha it was found that majority (47.50%) of the respondents had regular participation in the VWC activities followed by 32.20% occasionally participated and remaining 20.34% never participated in the VWC activities.

From the results, it can be inferred that majority of the respondents (52.54 %) had a regular participation in the gram sabha. The reason is that gram sabha is meant for addressing the overall issues of the villages and looks into the socio-economic matters of all the residents. The regularity in participation next to the gram sabha is found in village Watershed Committee meetings (Watershed Sangha) due to, watershed development program was developed based on the farmers felt needs and it had involvement of farmers in planning and implementing stages of the project.

**Table 3- Distribution of respondents on the basis of Income from various allied activities**

Particulars	Category	Frequency	Percentage
<b>Agriculture Income (including horticulture and vegetable cultivation)</b>	1000 to 10000	35	59.3
	11000 to 20000	24	40.7
<b>Income from Dairy</b>	0 to 3 Buffaloes/Cows	44	74.6
	4 to 5 Buffaloes/Cows	15	25.4
<b>Income from Goat/Sheep Rearing</b>	0 to 5		
	6 to 10		
<b>Income from poultry</b>	1000 to 2500	35	59.3
	2600 to 5000	24	40.7
<b>Income from Wages</b>	10000 to 20000	43	40.7
	21000 to 30000	16	27.11
<b>Income from Watershed works</b>	1000 to 5000	29	49.2
	6000 to 10000	30	50.8
<b>Income from Self-Employment</b>	1000 to 2500	26	44.1
	2600 to 5000	33	55.9

The data in Table 3 revealed that the main source of annual income of respondents comes from agriculture; especially for the resource poor. Most of the respondents were rearing cows/buffalo. But very few of them were selling milk (if it was surplus) to earn income, while others used for their consumption. So the contribution to the annual income from such activity is meagre for the resource poor. But, it definitely cut their additional burden on spending for the same. It was found that some of them were rearing 0-5 Goats/Sheep in number; its contribution in the annual income was very less. While those having more numbers of goats/Sheep (6-10 and above) they derive a considerable part of their annual income. It was not the source of regular income for the resource poor but it works as a financial security.

It was also found that Poultry was a livelihood option started with the financial help of the NABARD bank linkage to help the resource poor in the watershed project. The ST/NT's are found to be

engaged in such activity and the share in annual income was found up to the level of subsistence for those involved. This contributes to a considerable part of their annual income for the resource poor. Majority of the respondents in this category are the marginal farmers and the landless. Initially, with the availability of more amount of work in the project, the share of this activity in the annual income was maximum. But after 3 years, when the project was in the stage of completion, the share in annual income declined manifold due to lesser amount of work available.

Due to the social development aspect related with the watershed development, the PIA/financial institutions are taking initiatives for creating awareness about self-employment among the beneficiaries of the watershed cluster. Measures were taken on part of such institutions/agencies for the access and availability of finance/loans to start small shops/business which should be viable taking into considerations the needs for the same in the vicinity. The results in this regard showed that more than half of the income derived from such activity belongs to the range of Rs. 1000 to Rs.2500 and the remaining belongs to the range of Rs. 2600 to Rs.5000. Field observations showed that the trend is increasing towards self employment as a much better livelihood option among the respondents. Most of the respondents involved in such activity belong to OBC/ SC/ST categories. Few of the NT category respondents are involved in the activity of self-employment.

The initiatives taken on part of the PIA/ financial institutions are limited for grant of loans for small shops/ small business. Not much attention has been given on providing loans/finance for small enterprises of agro processing units or small scale industries which can be set in the villages. This type of initiatives is highly beneficial for the income generation of the resource poor and has the potential to address the issues of livelihood on a larger scale. The results gained the support from the findings of Hanumanaikar (1995).

## **Conclusion**

Watershed development has emerged as a key strategy for rural development in the state of Maharashtra since the early 1990s. This paradigm shift in rural development was facilitated by some pioneering examples of watershed development being undertaken in the state by motivated individuals and organizations in vilages like Ralegaon Siddhi, Agadgaon, Pimpalgaon Wagha, Hivre Bazar etc. And the 1990s witnessed a large number of watershed projects being implemented throughout the state supported by government agencies, bilateral organizations/ agencies, NGOs etc.

This is not to deny the importance of watershed development as a rural development strategy, but to initiate a critical look at the experiences, so as to reformulate strategies and approaches to improve the efficiency, effectiveness and outcomes of watershed interventions. The problem with a 'watershed development program' or WDP begins with the fact that the notion of development that underpins the concept of 'holistic watershed development' is rather narrow, i.e., focused on production or income gains.

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