Participation Pattern of Rural People in Watershed Development Programme in Haryana State

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ABSTRACT

People's participation is very important to make the watershed development programme successful at different stages i.e. planning, implementation and continuance. The present study was conducted in Panchkula district of Haryana to find out the level of participation of respondents about recommended practices in watershed development programme. Twenty six recommended practices pertaining to watershed development were identified. A total of 240 farmers from eight villages were interviewed personally and also conducted group discussion. Majority of respondents had moderate level of participation in different stage, of watershed development programmes. The participation level in planning stage was 70.0 per cent, whereas in implementation stage and maintenance stage were 60.83 per cent and 60.41 per cent respectively. The overall participation level of the respondents in all the three stages of the programme was moderate i.e 51.25 per cent, whereas only 18.75 per cent of the respondents had higher participation.

Key words: *Watershed development programme; Participation level; Management, constraints;*

People and his environment are interdependent. The changes in the environment directly affect the lives of the people depending on it. A degraded environment means a degraded quality of life of the people. Watershed management in the broader sense is informed by an undertaking to maintain the equilibrium between elements of the natural eco-system or vegetation, land or water on one hand and human activities on the other hand. Water and land are the most vital natural resources of the nation and these are under stress due to ever increasing biotic pressure on it. The optimal management of these resources without affecting environmental is needed for the human survival. Rainfed agriculture contributes about 44 per cent of the total food grain production in the country and supports 40 per cent of the population. Bulk of pulses, oilseeds, millets, coarse grains and commercial crops like cotton and groundnut etc. are rainfed crops. Thus, dryland holds great potential of contributing substantially to country's food production and unless the production from these areas increases, the real breakthrough in agriculture may not be possible.

The International Food Policy Research Institute, Washington, opined with the rising demand for food in the coming decades that India will depend on the rainfed area to help increase supply. Thus, watershed development programme (WDP) in rainfed areas is a step in this direction. Natural resources *viz.*, soil and water need to be conserved, developed and utilized efficiently due to ever depleting ground water which is the only feasible solution for conserving fresh water. The water tables are not getting recharged due to more run off (approximately 46%) of the annual precipitation during the monsoon season which lasts only for three months (from July-September). Since more than 80 per cent of the annual rainfall is received in a shorter span of three months, it becomes rather impossible to check this runoff water. Thus there is a need to manage this running water so as to use it for irrigation and other productive purpose. There is a vast potential to prevent rain water from moving down into the streams and rivers and ultimately into the sea. Efforts are continuously being made in this direction to conserve rain water. The water harvested during the rainy season can be used for one or two supplementary irrigations for the *rabi* crops. This practice is important, both for recharging the ground

water and for irrigation purposes. Even fisheries can be promoted in this harvested rainwater. Runoff collection and recycling, inter terrace land management, farm ponds, percolation tanks, check dams and agro-forestry have been found efficacious in increasing production and productivity of these lands. This could further be made attractive to dry land farmers by integrating animal husbandry with crop production and providing subsidiary income generating activities. To integrate all these activities there is a greater need to develop dry land areas on watershed basis. Conceptually, watershed is defined as "a geographical area that drains to a common point". Watershed management is a holistic approach, which aims at optimizing the use of land, water and vegetation in an area, to alleviate drought, moderate floods, prevent soil erosion, improve water availability and increase fuel, fodder and agricultural production on sustained basis.

Watershed management is overall development of a particular region including water conservation, maintaining soil fertility, pasture land, agriculture, horticulture, forestry and allied aspects.

The concept of efficient management of soil and water on watershed basis was adopted for the drought prone areas programme, which was started in 1974-75 by the Government of India in 74 districts of the country. Later in 1994-95, focusing on participatory and decentralized process of planning and implementation of watershed project, the Government of India made guidelines for watershed management. Villagers were empowered to implement watershed project by forming watershed association and committees at the village level. Voluntary agencies, government departments and research institutes were involved in participatory watershed projects in groups of villages. The role of these organizations, project implementation agencies were to motivate and provide technical guidance and management inputs to villagers for participatory watershed.

METHODOLOGY

The present study was conducted in Raipurani block of Panchkula district of Haryana state, because maximum area of the district covered under watershed development programme in order to facilitate the selection of villages whose WDP was implemented was obtained from the project office of the Raipurani block. There were 8 village selected for study. A list of beneficiaries was obtained village wise from district head office and 10 per cent beneficiaries from each village were selected randomly using proportionate sampling procedure. Thus a total of 240 farmers (beneficiaries) constituted the sample of the study. Keeping in view the objective of the study, data were collected using structured interview schedule prepared for the purpose. Statistical tools such as frequently, percentage and correlation were employed to analyze the data.

RESULTS AND DISCUSSION

People's participation in watershed development programmes is very important at different stages viz. programme planning, implementation and maintenance because it is a collective and co-operative effort of the people for sharing common benefits, it is necessary for success of any development programme.

The involvement of beneficiaries in the planning of watershed development programme is presented in Table 1 and it reveals that majority (70.00%) of the respondents had moderate level of participation in the planning stage of the watershed development programme and 30.00 per cent respondents had lower level of participation. While, none of them contributed higher level of participation in planning stage of the watershed development programme.

The observations, recorded during personal interview with the beneficiaries, clearly indicates that 60.83 per cent of the beneficiaries had moderate level of participation in implementation of various watershed activities. However, 20.41 per cent had less participation and 18.75 per cent had more participation level at implementation stage (Table 2). The guidelines recommended by Ministry of Rural Development regarding National Watershed Development Project for Rainfed Area (NWDPRA) clearly laid down parameters for involving people to the extent of having total control over planning and implementation of activities. However, the outcome of this study is indicative of the fact that the guidelines are not being followed properly.

It is evident from Table 3 that majority of people participated in watershed development programme was up to moderate level percentage being 60.41 per cent followed by 20.83 per cent having less participation level of participation and 18.75 per cent having more level of

Table 1. Distribution of respondents based on their participation level in programme planning stage (N = 240)

Categories	No.	%
Less participation (<18.43)	72	30.00
Moderate participation (18.43-39.30)	168	70.00
More participation (>39.30)	0	0.00

Table 2. Distribution of respondents based on their participation level in programme implementation stage

Categories	No.	%
Less participation (<20.62)	49	20.41
Moderate participation (20.62-29.16)	146	60.83
More participation (>29.16)	45	18.75

Table 3. Distribution of respondents based on their participation level in programme maintenance stage.

Categories	No.	%
Less participation (9<25.76)	50	20.83
Moderate participation (25.76-38.54)	145	60.41
More participation (>38.54)	45	18.75

Table 4. Distribution of respondents based on their overall participation level in watershed development programme.

Categories	No.	%
Less participation (<67.66)	72	30.00
Moderate participation (67.66-104.25)	123	51.25
More participation (>104.25)	45	18.75

Table 5. Relationship between dependent variables and independent variables with people participation pattern

Independent variables	'r' values
Age	-0.558 (**)
Caste	0.534(**)
Educational status	0.541 (**)
Source of irrigation	0.383 (**)
Land holding	0.640 (**)
Family type	-0.048
Family size	-0.236 (**)
Housing pattern	0.712 (**)
Material Possession	0.635(**)
Social participation	0.027(**)
Mass media exposure	0.764(**)
Annual income	0.195 (**)
Social capital	0.649 (**)
Risk orientation	0.806 (**)
Economic motivation	0.210 (**)
Value orientation	-0.191 (**)
Scientific orientation	0.796 (**)

** significant at 0.01 level of probability

participation. The moderate level of participation at different stages is attributed to the fact that the farmers have been acquired various roles and responsibilities monitored in the implementation of watershed and that is the reason the farmers have sufficient stake in various activities being implementation in the watershed area.

It is evident from Table 4 that maximum of 51.25 per cent of the beneficiaries participated moderately followed by 30.00 per cent less participation land 18.75 per cent were having more participation level at different stages of watershed development programme. This might be due to initial awareness of the programme and efforts of implementing agencies, official's interaction with beneficiaries through appropriate way like group discussions and to clear their doubt and create sufficient participation in watershed development programme.

Table 5 reveals that age, family size and value orientation of the watershed beneficiaries were negatively and significantly correlated with their participation in the watershed development programme with the correlation coefficient at r = 0.558 , -0.236 and -0.191 respectively. It showed that the participation pattern of the respondents towards watershed development programme increased significantly with the decrease their age, family size, and value orientation.

Table 5 also shows that in caste, educational status, source of irrigation, land holding, family type, family size, housing pattern, material possession, mass media exposure, social participation, annual income, risk orientation, economic motivation and scientific orientation among respondents were positively and significantly related with their participation in the watershed development programme with the correlation coefficient value at r = 0.534, 0.541, 0.383, 0.640, 0.712, 0.635, 0.764, 0.195, 0.806, 0.210 and 0.796 respectively. It shows that the level of participation pattern of respondents was increased with the increase in their caste, education level, and source of irrigation, land holding, housing pattern, material possession, mass media exposure, annual income, risk orientation, economic motivation and scientific orientation.

Table 6 indicated that the independent variables accounted for a highly significant variation in the people's participation pattern. The 't' test of significance indicates that the regression coefficient (ß-value) were

Table 6. Multiple regressions with selected independent variables related to people's participation pattern towards watershed development programme

Variables	Std. Error	ß values	't' values
Age	0.178	-0.033	-0.344
Educational status	0.638	0.069	0.890**
Source of Irrigation	0.764	0.047	1.043**
Land holding	2.259	0.136	1.430**
Material possession	1.040	0.114	1.479**
Mass media exposure	0.282	0.490	3.558**
Social participation	0.197	-0.007	-0.344
Annual income	0.466	-0.078	-2.419
Economic motivation	1.280	0.628	14.915**
Value orientation	1.238	-0.448	-8.200
Scientific orientation	0.486	1.023	21.294**

$R^2 = 0.502$, F value = 34.051

** Significant at the 0.01 level of probability

found to be significant for educational status, source of irrigation, land holding, material possession, mass media exposure, economic motivation, and scientific orientation which elucidates that the utilization of these parameters can and certainly in making sound strategies of watershed development plan. It can therefore, be concluded that these variables have a definite role to play in the level of people's participation pattern influencing in watershed development programme. The remaining variables under this study do not affect people's participation pattern in watershed development programme.

CONCLUSION

The findings of study indicated that majority of the respondents (51.43%) were found to have moderate participation in watershed development programme. Hence independent variables were positively and significantly related with the people's participation pattern in watershed development programme. The result of the study revealed that, the WDP has made significant impact due to enhanced participation, increase no. of trees and production level (including livestock) in the watershed area. Hence the implementation of WDP needs to be continued and extended in other needy areas.

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