

## People's Participation in Soil and Water Conservation Programmes in Mahi Ravines

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People's participation may be defined as "concerted efforts by a group of local participants for achieving common goals and sharing benefits". People's participation in soil and water conservation programmes in different stages of a programme such as programme planning, implementation and maintenance is utmost important. Participation of local people at the time of programme planning of soil and water conservation projects is much needed to take decisions according to their basic needs. The programme should meet the basic need like irrigation and drinking water, fodder for cattle and fuel for kitchen. The participation of local people in programme implementation and maintenance work is also much required because without protection and care of soil and water conservation structures by local village people the programme will not be successful. The village local people will be the ultimate beneficiary of soil and water conservation programme. Therefore, such rural development programme should be made for the local people, by the local people, and of the local people. The study of people's participation in soil and water conservation programmes in Mahi ravine area was taken with two objectives: (i) to assess the extent of people's participation

in soil and water conservation programmes, and (ii) to correlate socio-economic variables with people's participation.

### METHODOLOGY

The study was conducted in Mahi ravine area during 1995-96 near the Central Soil and Water Conservation Research and Training Institute, Research Centre, Vasad. The five villages selected randomly were Angarh, Fajalpur and Vasna from Baroda taluka; Jaspur from Padra taluka, and Vankaner from Savli taluka in Baroda district of Gujarat. In these five villages, the soil and water conservation programmes were carried out by Central Soil and Water Conservation Research and Training Institute, Research Centre, Vasad and Gujarat State Land Development Corporation, Baroda. From each village, 24 respondents were selected with the help of stratified random sampling plan. The respondents were grouped into four categories i.e. marginal, small, medium, and large farmers on the basis of size of land holdings. Thus, in total, 120 respondents were included in the study. A structured schedule was developed to measure people's participation in SWC programmes. The responses of the respondents were recorded in the schedule

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\* Central Soil & Water Conservation Research & Training Institute, Research Centre, Vasad

and scores were assigned as 1 for "Yes" and 0 for "No" response on each statement. An index was developed to assess extent of people's participation in soil and water conservation programmes. The people's participation was also measured in different stages of programme such as programme planning, programme implementation, and programme maintenance. The people's participation was also categorised into three levels such as (i) low level participation i.e. scores less than  $\bar{X} - (S.D. \times 0.5)$ , (ii) medium level participation i.e. scores in between  $\bar{X} - (S.D. \times 0.5)$  to  $\bar{X} + (S.D. \times 0.5)$ , (iii) high level participation i.e. scores more than  $\bar{X} + (S.D. \times 0.5)$ . Where,  $\bar{X}$  is mean of people's participation and S.D. is standard deviation of mean people's participation of respondents.

**People's Participation Index (PPI):**

$$PPI = \frac{\text{Mean participation score (P)}}{\text{Maximum participation score}} \times 100$$

$$P = \frac{\sum_{i=1}^N P_i}{N}$$

where

P = Mean people's participation

N - Total number of respondents

$$P_i = \sum_{j=1}^K (PP_j + PI_j + PM_j)$$

Where,

PP<sub>j</sub> = Total scores of people's participation in programme planning.

PI<sub>j</sub> Total scores of people's

participation in programme implementation.

PM<sub>j</sub> = Total scores of people's participation in programme maintenance.

K = Total number of statements on which responses of the respondents were recorded.

**FINDINGS AND DISCUSSION**

**Extent of people's participation:**

Table 1 reveals that the majority of 51 (42.5%) respondents were having medium level of people's participation, 38 (31.6%) respondents high level of people's participation, and 31 (25.8%) respondents low level of people's participation in soil and water conservation programmes. It was also observed that the large farmers participated in soil and water conservation programmes at low level only 6.6% and at high level 50%. Marginal farmers participated at low level 46.6% and at high level only 13.3%. Therefore, it can be drawn that the majority of large farmers were participating at high level of people's participation and majority of marginal farmers were participating at low level of people's participation.

**People's participation in stages of SWC programmes:**

According to Table 2, it is found that the people's participation in programme planning stage was maximum 20.2% by large farmers and minimum 11.94% by marginal famers. The people's participation was more or less equal in all the four categories of farmers in programme

**Table 1: People's participation in SWC at different levels**

Participation level	Respondents				Total
	Marginal farmers	Small farmers	Medium farmers	Large farmers	
Low level (scores <4.737)	14 (46.6)	8 (26.6)	7 (23.3)	2 (6.6)	31 (25.8)
Medium level (scores between 4.737 to 6.429)	12 (40.0)	13 (43.3)	13 (43.3)	13 (43.3)	51 (42.5)
High level (scores > 6.429)	4 (13.3)	9 (30.0)	10 (33.3)	15 (50.0)	38 (31.6)
Total respondents	30	30	30	30	120

Mean = 5.583

Standard deviation = 1.693

Figures in parentheses indicate the percentage.

implementation stage. In case of programme maintenance, people's participation was also maximum 24.72% by large farmers and minimum 16.38% by marginal farmers. The total people's participation was also found maximum 54.44% in category of large farmers and lowest 37.20% participation in category of marginal farmers. The mean people's participation of all the farmers was maximum 20.13% in programme maintenance stage, followed by 16.80% participation in programme planning stage

and lowest people's participation i.e. 9.58% in case of programme implementation stage. The overall people's participation in soil and water conservation programmes was calculated with the help of People's Participation Index (PPI) developed and it was found PPI = 46.51%

**Regression analysis of people's participation:**

The multiple regression analysis of the eight independent variables i.e. i) age; ii) land holding; iii) education; iv) family size;

**Table 2: People's participation index in different stages of programme**

Programme stages	People's participation index				
	Marginal farmers	Small farmers	Medium farmers	Large farmers	Mean
Planning	11.94	17.22	18.05	20.00	16.80
Implementation	8.88	10.00	9.72	9.72	9.58
Maintenance	16.38	19.16	20.27	24.72	20.13
Total	37.20	46.38	48.04	54.44	46.51

**Table 3: Regression analysis of people's participation**

Variables	Regression coefficient	T Value
X <sub>1</sub> Age	1.4285x10 <sup>2</sup>	1.734
X <sub>2</sub> Land holding	7.4467x10 <sup>2</sup>	2.562*
X <sub>3</sub> Education	5.1723x10 <sup>2</sup>	0.735
X <sub>4</sub> Family size	-6.4799x10 <sup>3</sup>	-0.391
X <sub>5</sub> Income	-9.9944x10 <sup>6</sup>	-1.494
X <sub>6</sub> Social participation	1.0211	5.491**
X <sub>7</sub> Assets	3.6588x10 <sup>1</sup>	7.391**
X <sub>8</sub> Livestock	-3.4758x10 <sup>2</sup>	-0.669

$$R^2 = 0.601$$

$$F \text{ value} = 20.89^{**} \quad D.F. = (8, 119)$$

\* = Significant at 5% level of probability

\*\* = Significant at 1% level of probability

v) income; vi) social participation; vii) assets and viii) livestock with the dependent variable i.e. people's participation was computed. The regression model is given below:

$$Y = 3.368 + 1.428 \times 10^{-2} X_1 + 7.446 \times 10^{-2} X_2 + 5.172 \times 10^{-2} X_3 - 6.479 \times 10^{-3} X_4 - 9.994 \times 10^{-6} X_5 + 1.021 X_6 + 3.658 \times 10^{-1} X_7 - 3.475 \times 10^{-2} X_8$$

It was found that 60.1% ( $R^2 = 0.601$ ) variation in people's participation in soil and water conservation programmes could be accounted due to the independent variables. It was further observed that the social participation and assets possession were found highly significant at 1 per cent level of probability and land holding was found significant at 5 per cent level of probability.

## CONCLUSION

The study indicated that the majority of farmers exhibited medium level of people's participation. Therefore, there is a scope for further increase in people's participation in soil and water conservation programmes. People's participation in programme implementation stage was found lowest. There is need to motivate the farmers for more participation by way of contributing own labour and money in construction and adoption of SWC works on watershed basis. It is also concluded that the farmers with high social participation, more assets possession, and large land holdings participate actively in SWC programmes.