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People's participation in planning of soil and water conservation programme in Antisar watershed of Gujarat

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ABSTRACT : The study was conducted during 2000-01 in the Integrated Wasteland Development Project (IWDP), Antisar watershed, to study the people's participation in planning of soil and water conservation programme. The study revealed that 79.1%, 12% and 9% respondents showed moderate, less and high level of participation, respectively in the planning of soil and water conservation (SWC) programme. The overall extent of People's Participation Index (PPI) was found to be high as 72.6% and 72% for male and female farmers, respectively. The variables *viz.* socio-economic status, land holding, farm power, social participation, risk preference, knowledge and attitude were positively and significantly correlated with the participation of male farmers in planning of SWC programme. Whereas, the variables *viz.* socio-economic status, social participation, knowledge and attitude were positively and significantly correlated and income was negatively and significantly correlated with the participation of female farmers in planning of SWC programme.

Key words: People's participation; Planning stage; Soil and water conservation; Watershed

People's participation is a dynamic group process in which all members of a group contribute to the attainment of group objectives, share the benefits from group activities, exchange information and experience of common interest and follow the rules, regulations and other decisions made by the group (Banki 1981). It may also be defined as "concerted efforts by a group of local participants for achieving common goals and sharing benefits" (Bagdi *et al.* 1998).

People's participation in natural resource conservation programme like watershed management is utmost important at planning stage. Because people are the ultimate benefciary of the programme, therefore, it should be according to their basic needs. To identify the basic needs and accordingly to plan the interventions as per existing micro-farming situation, farmers experiences and ideas are sought. It is bit difficult because of peoples are to be well informed about programme objectives and to be educated and motivated to realise their unfelt needs as felt needs. To make the process easy rapport building and entry point activities are taken as requisites to start with. Further, there are number of socio-economic and psychological factors which exert their influence on farmers behaviour in general and on their participation in development programme in particular are required to be studied. Therefore, a study was undertaken to find out the extent of people's participation in soil and water conservation programme at planning stage and identify the factors affecting it.

MATERIALS AND METHODS

The study was conducted during 2000-01 in the Integrated Wasteland Development Project (IWDP), Antisar watershed in Kapadwanj Taluka of Kheda district in Gujarat, to assess the extent of people's participation in planning of soil and water conservation (SWC) in watershed development programme. The watershed is spread over an area of 812 ha, out of which 736 ha belong to individual farmers and 76 ha is owned by Panchayat community/Government. Total 392 farmers (male 284 and female 108) were taken as the respondents. The socio-economic traits were measured with the scale suggested by Pareek and Trivedi (1963) with site specific modifications. The psychological traits were measured with the scales developed by the investigators. Responses were recorded on the three point continuum scale *viz.*, great extent, some extent and least extent and scores were assigned as 3, 2 and 1, respectively. All the respondents were grouped into three categories based on total score obtained by them for people's participation in planning stage of SWC programme as less participation category (scores < mean - SD), moderate participation (scores between mean - SD to mean + SD) and more participation (scores > mean + SD).

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Statement Intensity Index (SII)

Intensity indices were calculated for people's participation in planning of soil and water conservation programme as follows:

$$SII = \frac{\sum_{i=1}^{N} X_i}{N}$$

where, SII - statement intensity index

$\sum_{i=N}^{N}$ - sum of total scores of i^{th} respondents towards a statement

N - total number of respondents

The level of participation for each activity or statement was categorized as less participation level (SII score between 1.00 to 1.59), moderate participation (SII score between 1.60 to 2.59) and more participation (SII score between 2.60 to 3.00).

The overall extent of people's participation in planning stage of SWC programme was measured by the People's Participation Index (PPI) developed by Bagdi (2002). To measure the interrelationships between socio-economic and psychological traits with people's participation in planning, the Pearson's coefficient of correlation (r) was estimated.

RESULTS AND DISCUSSION

People's participation

Results revealed that majority of the respondents (79.1%) exhibited moderate level of participation while 12% and 8.9% respondents had less and more participation levels, respectively (Table 1). The gender-wise comparison showed that 81.7% male respondents were found with moderate level of participation followed by 11.3% with less participation and only 7.0% with more participation levels. In case of female respondents, 72.2% had moderate participation followed by 13.9% each of less participation and more participation levels in planning of SWC programme. The reasons for moderate level of participation by majority of male and female farmers, in planning of soil and water conservation programme may be attributed to the lack of exposure and understanding about the concept and objectives of programmes based on people's participation in the early stages. Inspite of rapport building measures, they hesitate to express their views and opinion because they possess age old perception about development programmes and think that rural development programmes are government programmes and the project inplementing agency is responsible for different development activities in the watershed area.Similar findings on people's participation in rural development programme have also been reported by other workers (Sen *et al.* 1986 ; Suresh 1990 ; Kulkarni and Nandapurkar 1991). Therefore, all possible efforts may be made to educate the people on various aspects of the SWC programme and their significance to enable them to participate significantly in planning of rural development programmes.

Table 1. *Distribution of respondents according to level of participation in planning of SWC programme*

N=392

Participation levels	Respondent (%)		Overall (%)
	Male (N=284)	Female (N=108)	(N=392)
Less participation (<18.22 scores)	11.3	13.9	12.0
Moderate participation (18.22 to 25.27 scores)	81.7	72.2	79.1
More participation (>25.27 scores)	7.0	13.9	8.9
Total	100.0	100.0	100.0

Mean = 21.747 SD = 3.524

The intensity indices of the male respondents ranged from minimum of 1.80 in contact to Programme Implementing Agency (PIA) about primary needs to maximum of 2.7 each in planning meetings of the SWC programme and suggestions in planning of check dams (Table 2). The male respondents showed moderate intensity indices in most of the remaining

Table 2. *Intensity indices according to extent of people's participation in SWC programme planning*

Statements	Intensity indices	
	Male	Female
Participation in planning meetings of SWC programme	2.70	2.53
Suggestions during planning of check dams	2.69	2.67
Motivation of fellow farmers to participate in planning	2.42	2.11
Suggestions for inclusion in planning	2.07	2.11
Suggestions in planning of land leveling works	2.07	1.80
Sharing of experience of soil and water conservation with fellow farmers after participation in planning meetings	2.07	2.13
Suggestion in crop planning	2.01	2.16
Participation in planning of fruits plantation	2.01	
Suggestion in plantation of forest trees	1.99	2.00
Contact to Programme Implementing Agency (PIA)	1.80	2.05

activities *viz.* motivating fellow farmers to participate in planning (2.42), suggestions in planning of the SWC programme (2.07), land leveling works (2.07), sharing experiences with other farmers after participation in planning meetings (2.07), planning of fruit plants plantation (2.01), planning of agricultural crops and forest tres (1.99). The overall extent of people's participation by the male farmers in the programme planning was found to be 72.6% showing high extent of participation.

The intensity indices of people's participation in programme planning stage by the female respondents ranged from minimum of 1.80 in suggestions for land leveling to maximum of 2.67 in the activity of suggestions for planning of check dams. The female respondents also showed moderate intensity indices of participation in most of the other activities *viz.* ; planning meetings (2.53), suggestions in planning of crops (2.16), sharing experiences with other farmers (2.13), suggestions in planning of the SWC programme (2.11), motivating other farmers to participate in planning (2.11), contact with PIA (2.05), suggestion of planning forest trees (2.00) and fruit tree plantations (1.97).

Like male farmers people's participation index (PPI) of female farmers also was found to be high as 72.03% in SWC programme planning stage.

Relationship between the people's participation and independent variables

The results revealed that the socio-economic status, land holding, farm power, social participation, risk taking ability, knowledge and attitude were positively and significantly correlated with the participation of male farmers in planning of SWC programme (Table 3). Whereas, age, education, family size, income and adoption were positively and non-significantly correlated with the male's participation in planning of SWC programme.

Table 3. *Coefficient of correlation (r) between the people's participation in the planning of the SWC programme and the selected independent variables*

Independent variables	Correlation coefficient('r' values)	
	Male farmers	Female farmers
Age	0.121	-0.110
Socio-economic status	0.645**	0.680**
Land holding	0.219*	-0.053
Education	-0.154	0.063
Farm power	0.253*	0.006
Family size	0.181	0.147
Income	0.035	-0.417**
Social participation	0.278*	0.230*
Risk taking ability	0.568**	0.160
Knowledge	0.402**	0.525**
Attitude	0.467**	0.273*
Adoption	0.177	0.060

* Significant at 5% level and ** Significant at 1% level of probability

In case of female farmers, socio-economic status, social participation, knowledge and attitude had positive and significant correlation while income had negative and significant correlation in planning of SWC programme. Whereas, age, land holding, education, farm power, family size, risk preference and adoption were insignificant attributes for deciding the female's participation in planning of SWC programme.

The socio-economic status of the farmers reflect on the resources in their possession. The farmers of high socio-economic status and possessing more resources mobility are capable to cultivate more contacts and extend higher participation to the project implementing agency. Irrespective of male or female, farmers with the high socio-economic status participate in planning meetings with greater confidence and power and maintain their dominance in the village. They take more interest in decision taking process as need arises in order to derive more benefits and advantages from the SWC programme. Large size of land holding is also a vital factor to enable farmers to participate more significantly. Large size land holdings are conducive and more suitable for adoption of different SWC structures. Big farmers show active interest in decisions making during planning phase, in hope to derive maximum benefits from SWC programme.

Farm power also had significant correlation with participation in planning by male farmers. Farmers (male and female) who takes interest in agricultural development usually keep and maintain more farm power to carry out different operations on thier fields. They also participate to take decisions to adopt improved SWC activities on their fields.

Social participation paves the way for farmers' involvement in the affairs of rural institutions. Both, male and female farmers, who have more contacts with officials of rural institutions and extension agencies could contribute with more meaningful participation in planning of SWC programme.

Farmers showing higher risk preference are usually oriented to maximization of income from agriculture by doing something different from others *viz* ; adopting innovations in SWC. Therefore, the farmers with more risk taking ability assure higher contribution and more active participation in planning of SWC activities and its adoption on their land as well as on a land owned by the community.

Farmers' knowledge of SWC technologies was also positively and significantly correlated with male and female farmers' participation in planning of SWC programme. High level of knowledge among male and female farmers faciliates exchange of free and frank ideas during interactions and discussions in meetings.

Farmers with positive attitude towards SWC programme are more likely to allow project-implementing agencies to implement SWC programme on their land. They will also have more meaninful contribution and participation in planning.

CONCLUSION

It is clear from the study that irrespective of male or female farmers, improved level of socio-economic status, land holding, knowledge, risk taking ability and positive attitude were positively and significantly correlated with the farmers participation in planning phase. Thus, right from beginning (report building phase), care should be taken, to involve those who are low on various independent variables, to get the valuable ideas and experiences from every strata of the village society, a prime requisite for perfect participatory planning.

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