CHAPTER 4

FINDINGS

The findings of the study are presented in this chapter as follows:

4.1 Profile of the respondents.

4.2 Risk preference of rural male and female farmers towards adoption of soil and water conservation technologies.

4.3 Knowledge level of rural male and female farmers regarding soil and water conservation technologies.

4.4 Attitude of rural male and female farmers towards soil and water conservation programme.

4.5 Adoption behaviour of rural male and female farmers towards soil and water conservation technologies.

4.6 Overall people's participation in soil and water conservation programme.

4.7 People's participation in planning of soil and water conservation programme.

4.8 People's participation in implementation of soil and water conservation programme.

4.9 People's participation in maintenance of soil and water conservation programme.

4.10 Relationship between independent variables and dependent variables.

4.11 Constraints faced by rural male and female farmers in development of Antisar watershed programme.

4.1 Profile of the respondents:

The people's participation in integrated watershed development through soil and water conservation programme is influenced by different characteristics of rural male and female farmers. It is beyond the scope of the present study to include all the characteristics of the rural male and female farmers. However, on the basis of the review of literature and observations carried out during the pilot study, some important characteristics are identified and analyzed. The findings related to characteristics of rural farmers are presented in the following pages.

4.1.1 Gender:

The table 2 reveals that little less than the three fourth of the respondents were male, whereas, little more than the one fourth of them were female (figure 2).

Table 2: Distribution of respondents according to their gender.

N=392

Sr. No.	Gender	Respondents (%)
1.	Male	284 (72.45)
2.	Female	108 (27.55)
	Total	392(100.00)

4.1.2 Age:

Table 3: Distribution of respondents according to their age.

N=392

Sr. No.	Age group	Respondents		Overall (%) N=392
		Male (%) N=284	Female (%) N=108	
1.	Young age (18 to 30 years)	19.01	47.22	26.78
2.	Middle age (31 to 50 years)	72.53	50.00	66.33
3.	Old age (>50 years)	8.46	2.78	6.89
	Total	100.00	100.00	100.00

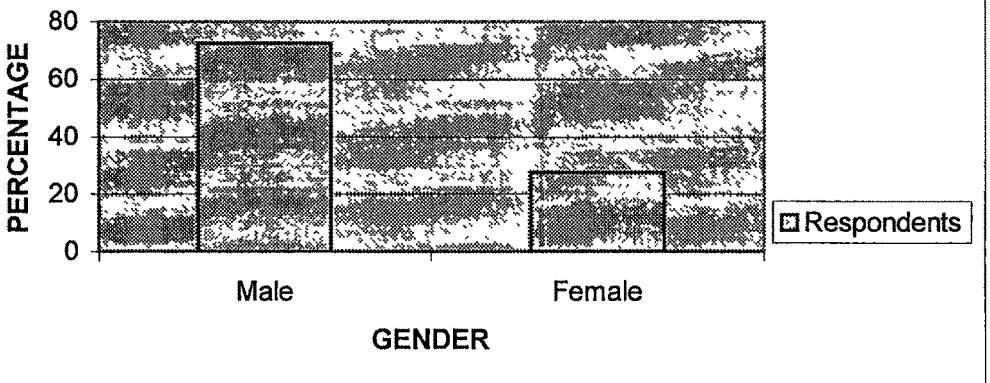


Fig. 2: Distribution of Respondents According to Gender

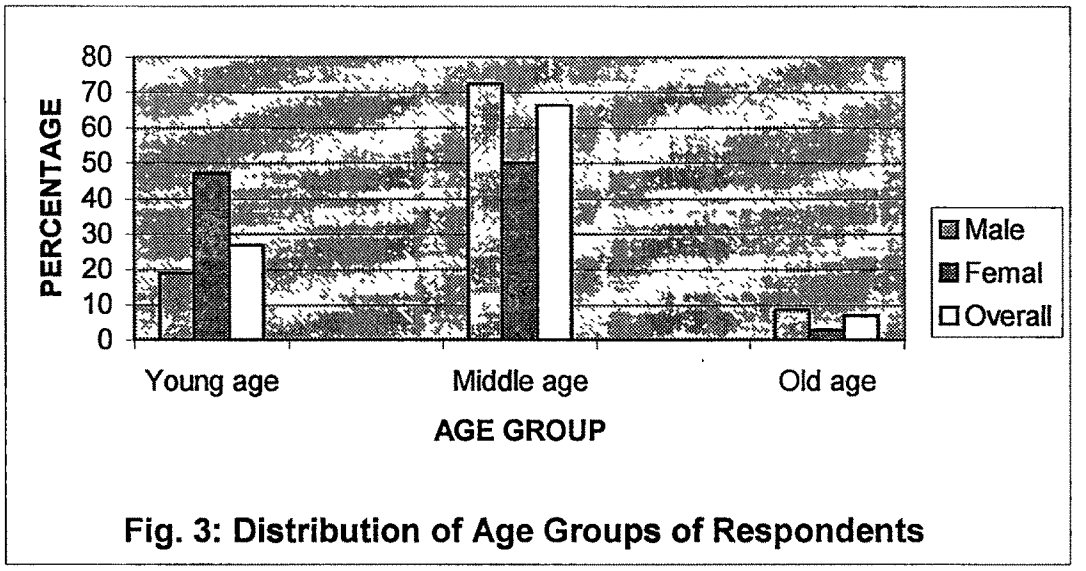


Fig. 3: Distribution of Age Groups of Respondents

The table 3 shows that about the two third of the respondents, both male and female belonged to the middle age and little more than the one fourth of them were young and few of them were in their old age.

The table 3 further reveals that more than seventy per cent of the male respondents were in their middle age and about the one fifth of them were in their young age. Hardly 8.46 per cent of the male respondents belonged to old age group. Whereas, fifty per cent of the female respondents were found to be in their middle age and little less than fifty per cent of them were in their young age. A few of the female respondents belonged to old age group (figure 3).

4.1.3 Socio-economic status:

It is seen from the table 4 that as the study revealed about three fourth (75.51%) of both male and female respondents belonged to a medium socio-economic status, while the remaining one fourth of them belonged to low or high socio-economic status (about 13.78 and 10.71 respectively).

The table also gives percentage of the male and female sections of the respondents separately. According to it, 72.53 per cent of the male respondents belonged to the medium socio-economic status. They were followed by 16.90 per cent of them belonging to the low socio-economic statues and 10.57 per cent of them belonging to the high socio-economic status. Among, 83.33 per cent of the female respondents belonged to the medium socio-economic status. They were followed by 11.11 per cent of them belonging to the high socio-economic status and 5.56

per cent of them belonging to the low socio-economic status (figure 4).

Table 4: Distribution of respondents according to their socio-economic status.

N=392

Sr. No.	Socio-economic status	Respondents		Overall (%) N=392
		Male (%) N=284	Female(%) N=108	
1.	Low status (<25.571 scores)	16.90	5.56	13.78
2.	Medium status (25.571 to 51.821 scores)	72.53	83.33	75.51
3.	High status (>51.821 scores)	10.57	11.11	10.71
	Total	100	100	100

Mean = 38.696 SD = 13.125

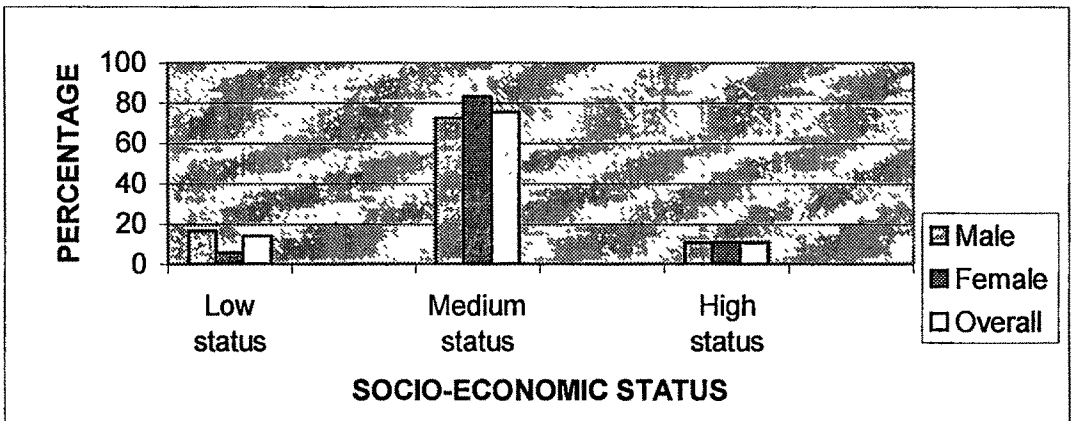


Fig. 4: Distribution of Respondents Socio-economic Status

4.1.4 Land holding:

Table 5: Distribution of respondents according to their size of land holding.

N=392

Sr. No.	Size of land holding (acres)	Respondent		Overall (%) N=392
		Male (%) N=284	Female (%) N=108	
1.	Marginal land holder (<2.5 acres)	14.08	5.55	11.73
2.	Small land holder (2.5 to 5.00 acres)	30.28	33.33	31.12
3.	Medium land holder (5.1 to 10.00 acres)	45.07	52.78	47.19
4.	Large land holder (10.1 to 20.00 acres)	6.34	2.79	5.36
5.	Very large land holder (>20.00 acres)	4.23	5.55	4.59
	Total	100.00	100.00	100.00

The table 5 above shows that overall, among the respondents, both male and female, some 47.19 per cent of them were medium land holders. Next to them were one third small land holders who were 31.12 per cent of the total. One fifth of them belonged to either marginal, large or very large categories of land holders, 11.73%, 5.36% and 4.59% respectively.

However, according to the gender-based picture as laid down in the table 5 and projected in the figure 5,

little less than fifty per cent of the male respondents were medium level land holders, while 30.28 per cent i.e. less than the one third were small land holders, 14.08 per cent of them were marginal land holders. Group of large and very large land holders comprised hardly ten per cent of the total (6.34% and 4.23% respectively). Among the female respondents, more than fifty per cent (52.78%) belonged to the category of medium land holders. They were followed by small land holders as one third of the total (33.33%). Hardly, ten per cent of them belonged to the category of marginal, large and very large land holders (5.55%, 2.79% and 5.55% respectively) (figure 5).

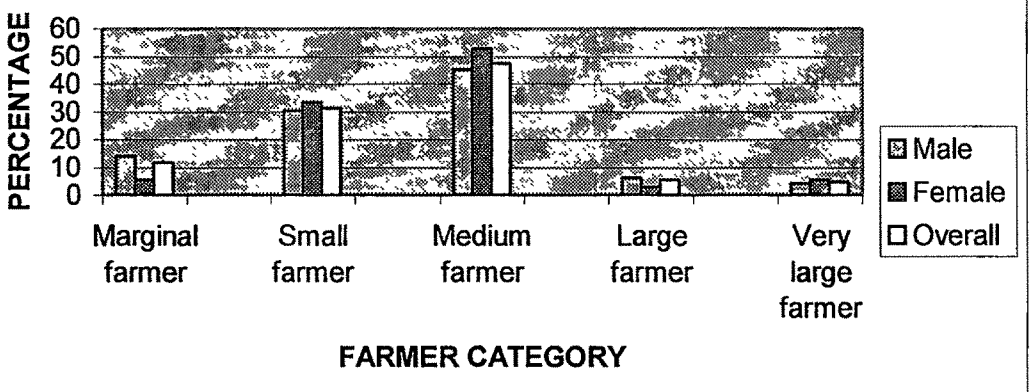


Fig. 5: Distribution of Respondents According to land holding

4.1.5 Education: Since education is a vital determinant in the study, the level of education among the respondents was studied. The data are presented in the table 6 below and the figure 6.

Table 6: Distribution of respondents according to their education.

N=392

Sr. No.	Education level	Respondent		Overall (%) N=392
		Male (%) N=284	Female (%) N=108	
1.	Illiterate	14.79	13.88	14.54
2.	Primary	47.18	30.56	42.60
3.	Secondary	33.88	50.00	38.27
4.	Graduate	4.23	5.56	4.59
	Total	100.00	100.00	100.00

The table 6 shows that of the total little more than forty per cent of male and female respondents (42.60%) had obtained primary education. Those with secondary education were less than forty per cent (38.27%). Whereas, the illiterate comprised 14.54 per cent and the literate with graduation were hardly 4.59 per cent of the total.

To put the data on the educational level gender wise, the table 6 above shows that less than fifty per cent of the male respondents had obtained education upto primary level (47.18%). Those having education upto secondary level were almost the one third (33.88%). The illiterates among the male respondents were 14.79 per cent, while the literate with education upto graduation

were 4.23 per cent of the total. In case of the female respondents, fifty per cent of them had studied upto secondary level, and those with primary education were about the one third (30.56%). The illiterate female respondents were 13.88 per cent and those with graduate level education were 5.56 per cent.

The review of the data reveals one striking fact that level of education was found to be bit higher among the female respondents than that among the male respondents. Particularly, considerably much higher number of the female respondents obtained education upto secondary level. More surprisingly, more of them had ventured to study upto the degree level. This fact may serve as striking feature to determine woman farmers' ability to participate in rural development activities.

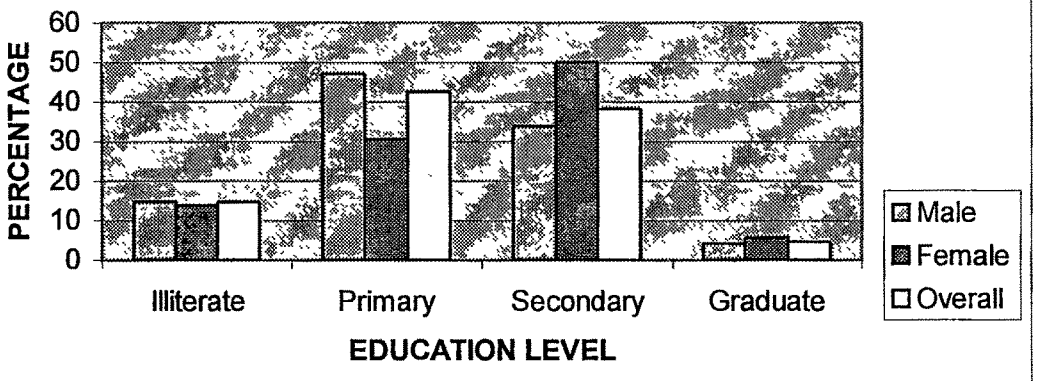


Fig. 6: Distribution of Respondents According to Education level

4.1.6 House:

Table 7: Distribution of respondents according to their type of house.

N=392

Sr. No.	Type of house	Respondent		Overall (%) N=392
		Male (%) N=284	Female (%) N=108	
1.	No own house	2.81	0.0	2.04
2.	Own hut	1.40	33.33	10.20
3.	Own kachcha house	69.72	30.55	58.93
4.	Own semi pucca house	10.56	36.11	17.60
5.	Own pucca house	15.49	0.0	11.22
	Total	100.00	100.00	100.00

The data presented in the table 7 above and in the figure 7 indicate that overall about sixty per cent of the male and female respondents (58.93%) owned kachcha houses. Some 17.60 per cent of them were staying in their own semi-pucca houses. About 11.22 per cent of them could afford their own pucca houses and the 10.20 per cent owned a hut. About 2.04 per cent of the total male and female respondents did not have their own houses.

The table 7 further shows that more than two third of male respondents (69.72) had their own Kachcha houses. They were followed by some 15.49 per cent of them having their own pucca houses. While some 10.56 per cent owned semi-pucca houses and very low percentage of them did not own a house or a hut, say 2.80 per cent and 1.40 per cent respectively. More than one third of the female respondents (36.11%) had their own semi pucca houses,

about one third of them (33.33%) had their own huts and a little less than the one third of them (30.55%) owned kuchcha houses. None of the female respondents possessed their own pucca houses or no houses.

4.1.7 Occupation:

Table 8: Distribution of respondents according to their occupation.

N=392

Sr. No.	Occupation	Respondent		Overall (%) N=392
		Male (%) N=284	Female (%) N=108	
1.	Cultivation	83.80	100.00	88.27
2.	Labour	16.20	0.0	11.73
3.	Business	0.0	0.0	0.0
4.	Service	0.0	0.0	0.0
	Total	100.00	100.00	100.00

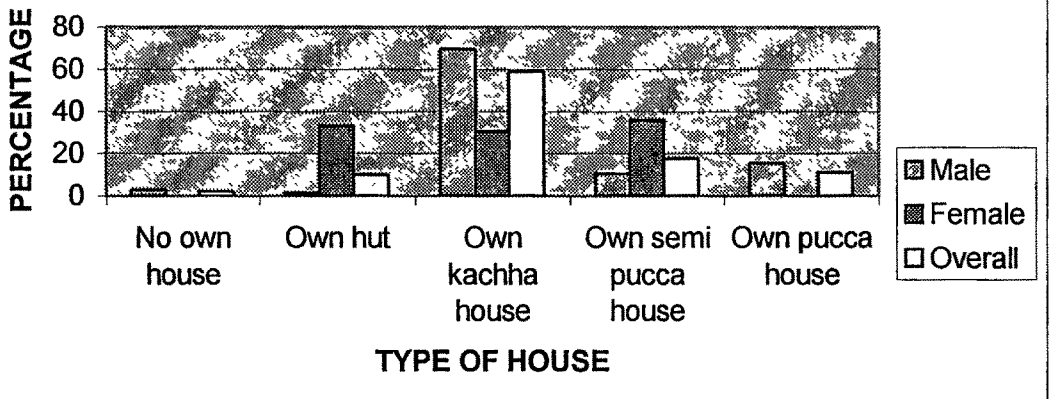


Fig. 7: Distribution of Respondents According to House Possession

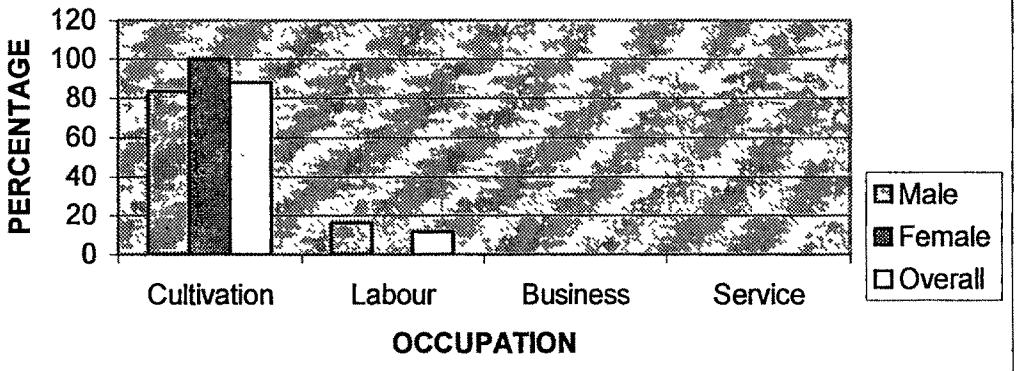


Fig. 8: Distribution of Respondents According to Occupation

The table 8 and the figure 8 reveal that the majority of the male and female respondents (88.27%) were engaged in cultivation as their chief occupation, whereas hardly 11.73 per cent of them had taken up labour work for their livelihood. None of the respondents had chosen business or service as their occupation.

The table 8 further shows that majority of the male respondents (83.80%) had taken up cultivation as their main occupation and while less than twenty per cent of them (16.20%) were engaged in labour work for their livelihood. Further, surprisingly all the women respondents had chosen cultivation as their main occupation.

4.1.8 Caste:

Table 9: Distribution of respondents according to their caste.

N=392

Sr. No.	Caste	Respondents		Overall (%) N=392
		Male (%) N=284	Female (%) N=108	
1.	Scheduled caste	1.41	0.0	1.02
2.	Scheduled tribe	2.81	0.0	2.04
3.	Backward caste	65.49	30.55	55.27
4.	General caste	30.29	69.45	41.07
	Total	100.00	100.00	100.00

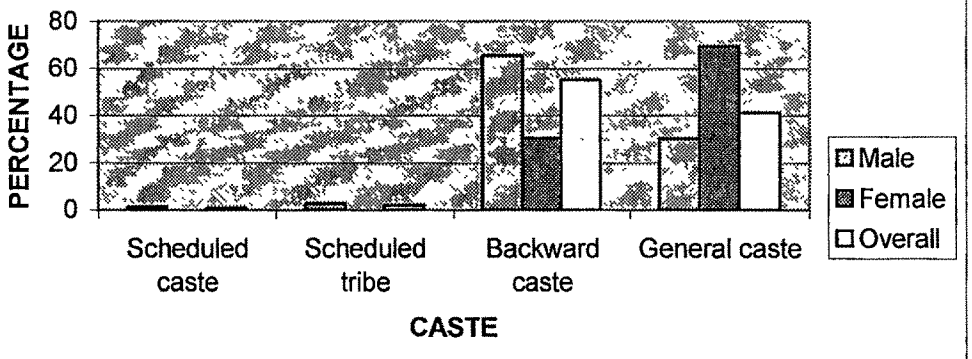


Fig. 9: Distribution of Respondents According to Caste

The table 9 shows that more than fifty per cent of male and female respondents (55.27%) belonged to the backward castes, while less than fifty per cent of them (41.07%) belonged to the general caste. A very low percentage of the respondents belonged to the scheduled tribe and scheduled caste, (2.04% and 1.02% respectively).

The table 9 further shows that about two third of the male respondents (65.49%) belonged to the backward caste. They were followed by a little less than one third of them (30.29%) hailed from the general caste. Those belonging to the scheduled tribe and the scheduled caste were a few (2.81% and 1.41% respectively). In case of

female respondents, the situation was found to be reverse. About seventy per cent of female respondents (69.45%) belonged to the general caste and the remaining thirty per cent of female respondent (30.55%) belonged to the backward caste. None of the female respondents hailed from the scheduled caste and the scheduled tribe (figure 9).

4.1.9 Farm power:

Farm power is yet one more determinant to help the present study as it has direct bearing on a farmer's capacity of equipments to assist any developmental project. In this light, it is evident from the table 10 and the figure 10 that the less than the two third of the overall respondents (62.24%) possessed moderate farm power. Little less than one fourth of them (23.73%) having more farm power and only, 14.03 per cent of them owned less farm power.

As regards the gender based picture, the table 10 reveals further that more than sixty per cent of the male respondents (62.67%) owned moderate farm power, about one fifth of them (19.03%) had more farm power and little less than one fifth of them possessed less farm power. Talking about the female section, more than sixty per cent of them (61.11%) owned moderate farm power, more than one third of them (36.11%) had more farm power and only a few of the female respondents owned less farm power.

Table 10: Distribution of respondents according to their category of farm power.

N=392

Sr. No.	Farm power	Respondents		Overall (%) N=392
		Male (%) N=284	Female (%) N=108	
1.	Less farm power (<4.78 scores)	18.30	2.78	14.03
2.	Moderate farm power (4.78 to 12.79 scores)	62.67	61.11	62.24
3.	More farm power (>12.79 scores)	19.03	36.11	23.73
	Total	100.00	100.00	100.00

Mean = 8.792 SD = 4.007

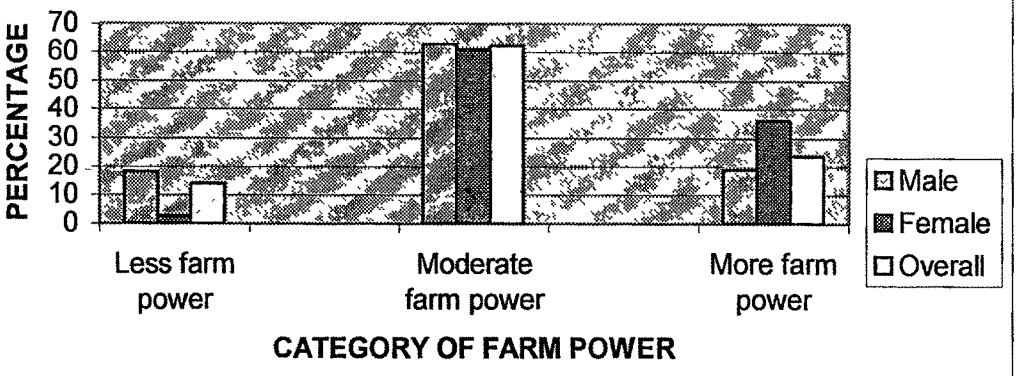


Fig. 10: Distribution of Respondents According to Farm Power

4.1.10 Cattle possession:

Table 11: Distribution of respondents according to their cattle possession.

N=392

Sr. No.	Number of cattle	Respondent		Overall (%) N=392
		Male (%) N=284	Female (%) N=108	
1.	Having 1 to 2 cattle	13.38	5.56	11.22
2.	Having 3 to 5 cattle	72.54	91.67	77.81
3.	More than 5 cattle	14.08	2.77	10.97
	Total	100.00	100.00	100.00

It is revealed from table the 11 above and the figure 11 that overall more than the three fourth of both the male and female respondents (77.81%) owned 3 to 5 cattle. Those followed them with 1 to 2 cattle were just 11.22 per cent. However, some of the respondents (10.97%) owned more than 5 cattle.

The table further reveals that of the male respondents, about three fourth (72.54%) possessed 3 to 5 cattle, while some 14.08 per cent of them had more than 5 cattle and some 13.38 per cent of them owned just 1 to 2 cattle. Referring to the female respondents, a good majority of them (91.67%) owned 3 to 5 cattle and a few, say 5.56 per cent of them possessed 1 to 2 cattle. Those having more than 5 cattle were just negligible with 2.77 per cent.

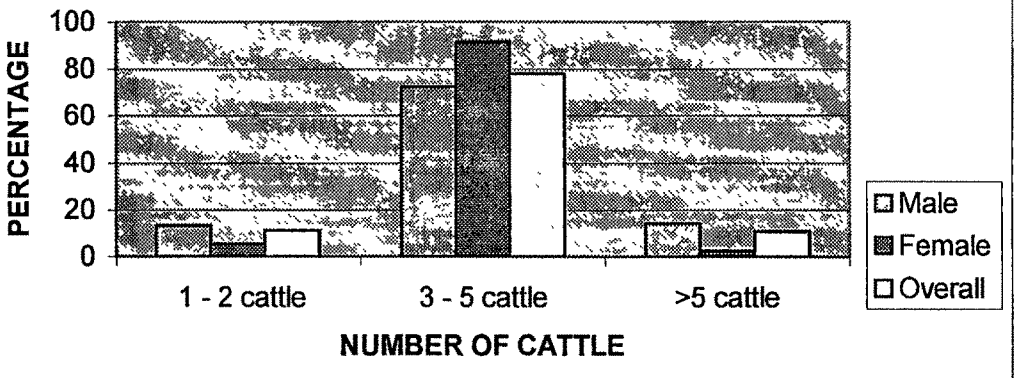


Fig. 11: Distribution of Respondents According to Cattle Ownership

4.1.11 Mechanical power:

Table 12: Distribution of respondents according to their mechanical power.

N=392

Sr. No.	Mechanical power	Respondent		Overall (%) N=392
		Male (%) N=284	Female (%) N=108	
1.	Less mechanical power (<0.176 scores)	20.42	5.56	16.33
2.	Medium mechanical power (0.176 to 3.812 scores)	70.42	77.78	72.44
3.	More mechanical power (>3.812 scores)	9.16	16.66	11.23
	Total	100.00	100.00	100.00

Mean = 1.994 SD = 1.818

The table 12 shows that more than seventy per cent of the overall respondents owned medium mechanical power, while some 16.33 per cent of them had less mechanical power. However, some 11.23 per cent of them possessed more mechanical power.

However, as per the genderwise picture, seventy per cent of the male respondents (70.42%) owned medium mechanical power, one fifth of them (20.42%) owned less mechanical power. Hardly, 9.16 per cent of them possessed more mechanical power. Whereas, in the case of female respondents, more than the three fourth of them (77.78%) had medium mechanical power, 16.66 per cent of the female respondents had more mechanical power and a few (5.56%) had less mechanical power (figure 12).

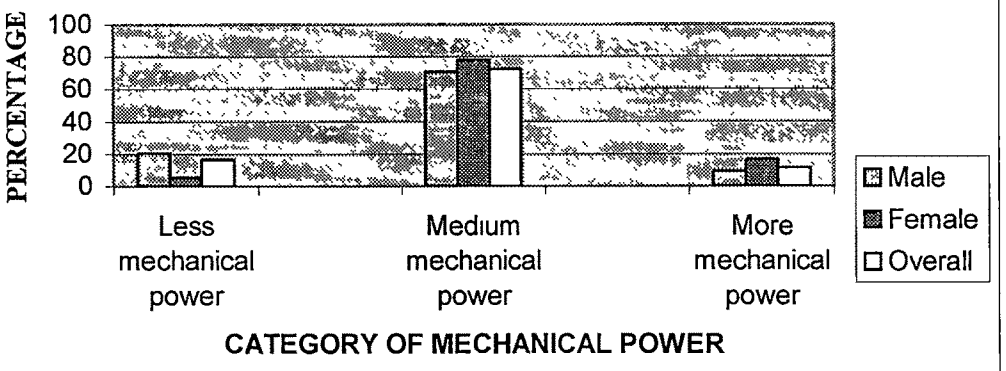


Fig. 12: Distribution of Respondents According to Mechanical Power

4.1.12 Irrigation facility:

Table 13: Distribution of respondents according to the irrigation facilities available to them.

N=392

Sr. No.	Irrigation facilities	Respondent		Overall (%) N=392
		Male (%) N=284	Female (%) N=108	
1.	Less irrigation facilities (<0.164 scores)	31.69	19.44	28.32
2.	Medium irrigation facilities (0.164 to 2.960 scores)	47.89	25.00	41.58
3.	More irrigation facilities (>2.960 scores)	20.42	55.56	30.10
	Total	100.00	100.00	100.00

Mean = 1.562 SD = 1.398

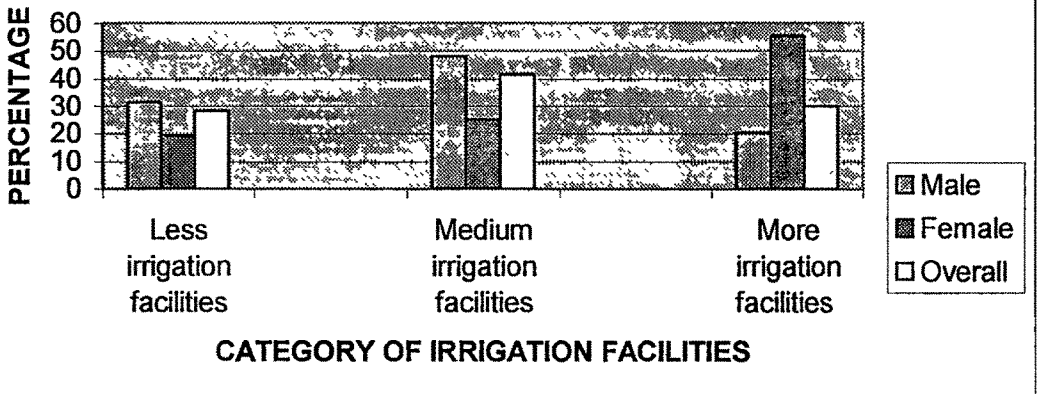


Fig. 13: Distribution of Respondents According to Irrigation Facilities

The table 13 shows that overall more than forty per cent of the respondents enjoyed medium irrigation facilities, less than one third of them (30.10%) having more irrigation facilities and little more than the one fourth of the respondents (28.32%) did not avail adequate irrigation facilities for their agriculture.

The data presented in table 13 further show that less than fifty per cent of the male respondents had medium irrigation facilities to their command, while less than the one third of them (31.69%) had less irrigation facilities. Those to enjoy more irrigation facilities were almost one fifth of the male respondents. Speaking of the female counterpart those enjoying more irrigation facilities were more than fifty per cent and one fourth of the female respondents had medium irrigation facilities. About the one fifth of them did not have adequate irrigation facilities (figure 13).

4.1.13 Implement Possession:

Table 14: Distribution of respondents according to their farm implement possession.

N=392

Sr. No.	Farm implement possession	Respondent		Overall (%) N=392
		Male (%) N=284	Female (%) N=108	
1.	Having no implement	2.82	8.33	4.34
2.	Having 1 implement	51.41	22.22	43.37
3.	Having 2 implements	26.76	32.41	28.57
4.	Having 3 implements	16.19	20.37	17.09
5.	More than 3 implements	20.11	16.67	6.12
	Total	100.00	100.00	100.00

It is revealed from the data in the table 14 above and the figure 14 that overall little more than forty per cent of the respondents possessed only one implement, followed by more than the one fourth possessing two implements. Whereas, little less than twenty per cent possessed three implements.

Further, the genderwise data revealed that about fifty per cent of the male respondents possessed only one implement. They were followed by little more than the one fourth of them (26.76%) possessing two implements. About the one fifth of them (20.11%) possessing more than three implements. While less than twenty per cent (16.19%) possessed three implements. Of the female respondents, almost the one third of them (32.41%) possessed two implements, followed by nearly one fifth of them (22.22%) possessing one implement. About one fifth of the female respondents (20.37%) possessed three implements and less than twenty per cent of them (16.67%) possessed more than three implements.

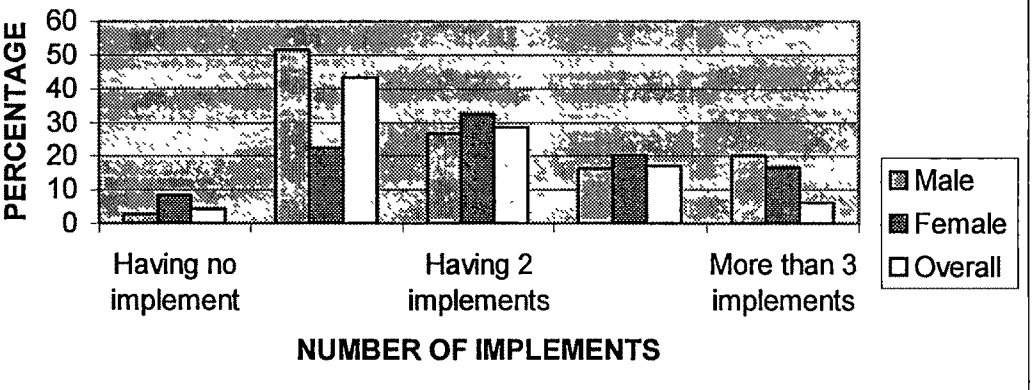


Fig. 14: Distribution of Respondents According to Possession of Farm Implements

4.1.14 Material possession:

Table 15: Distribution of respondents according to their household material possession.

N=392

Sr. No.	Material possession	Respondent		Overall (%) N=392
		Male (%) N=284	Female (%) N=108	
1.	Less materials (<2.06 scores	33.09	8.33	26.27
2.	Average materials (2.06 to 6.83 scores)	50.71	55.56	52.04
3.	More materials (>6.83 scores)	16.20	36.11	21.70
	Total	100.00	100.00	100.00

Mean = 4.449 SD = 2.384

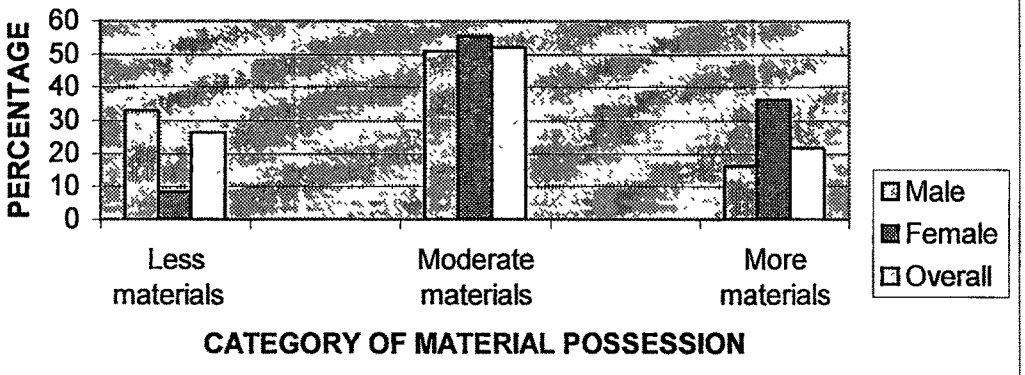


Fig. 15: Distribution of Respondents According to Household Material Possession

The data presented in the table 15 show that more than fifty per cent of the overall respondents owned average material possession, little more than one fourth (26.27%) possessed less material possession and little more than the one fifth (21.70%) owned more household material possession.

The table further shows that little beyond fifty per cent of the male respondents (50.71%) owned average household material possession, almost the one third (33.09%) possessed less material possession and less than twenty per cent of them (16.20%) were had more material possession. In case of the female respondents, the situation is bit reverse, more than fifty per cent female respondents having average household materials possession. About more than the one third of them (36.11%) owned more material possession. Whereas, a few of the female respondents had less household material possession (figure 15).

4.1.15 Family size:

The table 16 and figure 16 present the data on family size. As revealed by it, about the two third of the overall respondents (64.54%) belonged to small sized families, one third of them (33.42%) belonged to medium sized families and a few of the respondents (hardly 2.04%) belonged to large sized families.

The table further shows that the two third of the male respondents (66.90%) belonged to small families. They were followed by less than the one third of them (30.28%) who belonged to medium sized families. While few

of them (2.82%) belonged to large families. Likewise, among the female respondents about sixty per cent of them (58.33%) belonged to small families and little more than forty per cent of them (41.67%) lived to the medium sized families (figure 16).

Table 16: Distribution of respondents according to their family size.

N=392

Sr. No.	Family size	Respondent		Overall (%) N=392
		Male (%) N=284	Female (%) N=108	
1.	Small family (Up to 5 members)	66.90	58.33	64.54
2.	Medium family (6 to 10 members)	30.28	41.67	33.42
3.	Large family (More than 10 members)	2.82	0.0	2.04
	Total	100.00	100.00	100.00

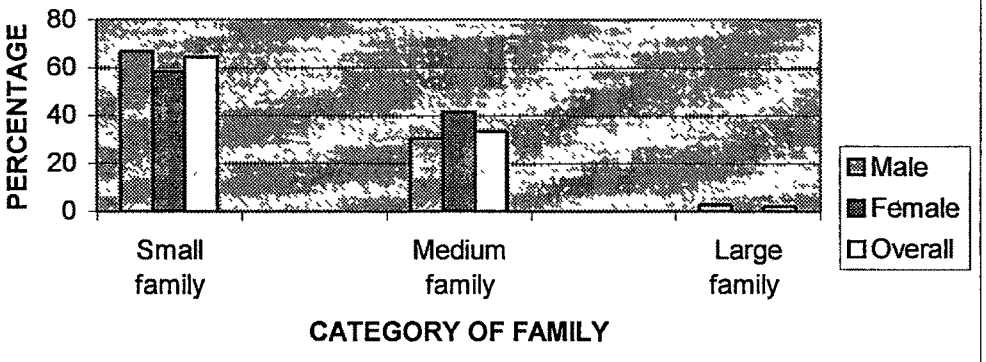


Fig. 16: Distribution of Respondents According to Size of Family

4.1.16 Type of family:

Table 17: Distribution of respondents according to their type of family.

N=392

Sr. No.	Type of family	Respondent		Overall (%) N=392
		Male (%) N=284	Female (%) N=108	
1.	Nuclear family	42.96	29.44	36.20
2.	Joint family	57.04	70.56	63.80
	Total	100.00	100.00	100.00

The data collected on type of family is presented in the table 17 and the figure 17. It revealed that nearly two third of the overall respondents (63.80%) belonged to joint families, whereas about the one third of them (36.20%) belonged to nuclear families.

The table further show that the male respondents little less than sixty per cent belonged to joint families and little more than forty per cent of them belonged to nuclear families. Whereas, about seventy per cent of the female respondents belonged to joint families and the remaining about thirty per cent of them belonged to nuclear families.

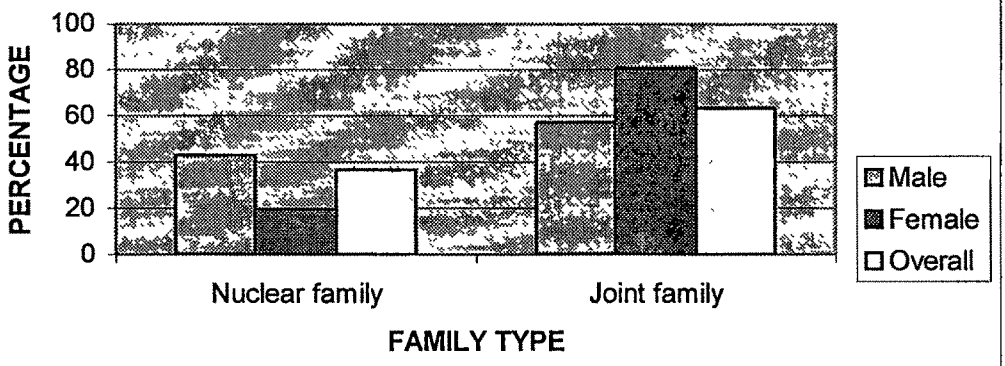


Fig. 17: Distribution of Respondents According to Type of Family

4.1.17 Annual income:

Table 18: Distribution of respondents according to their annual income of family.

N=392

Sr. No.	Annual income category (Rs.)	Respondents		Overall (%) N=392
		Male (%) N=284	Female (%) N=108	
1.	Up to 25,000	83.10	72.22	80.10
2.	25,001 to 50,000	11.97	16.67	13.26
3.	50,001 to 75,000	0.71	2.78	0.27
4.	75,001 to 100,000	1.40	2.78	1.78
5.	Above 100,000	2.82	5.55	3.57
	Total	100.00	100.00	100.00

The table 18 and figure 18 show that majority of the overall respondents (80.10%) had annual income upto Rs. 25000. Then followed those with 13.26 per cent of the respondents had the annual income ranging between Rs.25001 to 50000. Hardly six per cent of them had the annual earning beyond Rs.50000 (i.e. 0.27 per cent upto Rs.75000, 1.78 per cent upto Rs.100000 and 3.57 per cent beyond Rs.100000).

The table further shows that among the male respondents, the majority (83.10%) male respondents were earning upto Rs.25000 annually, while some 11.90 per cent of them could earn ranging from Rs.25001 to 50000. Hardly about five per cent were earning beyond Rs.50000. Speaking of the female respondents majority (72.22%) of them had annual income upto Rs.25000. Some 16.67 per cent

of them were having annual income between Rs.25001 to Rs.50000. While hardly ten per cent of female respondents had beyond Rs.50000 annual income.

4.1.18 Social participation:

Table 19: Distribution of respondents according to their social participation.

N=392

Sr. No.	Social participation	Respondent		Overall (%) 392
		Male (%) N=284	Female (%) N=108	
1.	Less participation (<.292 scores)	15.49	55.56	26.53
2.	Moderate participation (0.292 to 3.124 scores)	74.65	22.22	60.20
3.	More participation (>3.124 scores)	9.86	22.22	13.27
	Total	100.00	100.00	100.00

Mean = 1.708 SD = 1.416

The table 19 and the figure 19 indicate that sixty per cent of the overall respondents had moderate level of social participation, about one fourth of them had less social participation and only 13.27 per cent of them rendered more social participation.

To spell it genderwise, some three fourth of the male respondents rendered moderate social participation, fifteen per cent of them had less social participation and only about ten per cent had more social

participation. Whereas, more than fifty per cent the female respondents rendered less social participation and little more than one fifth of them rendered moderate social participation and about same number of them rendered more social participation.

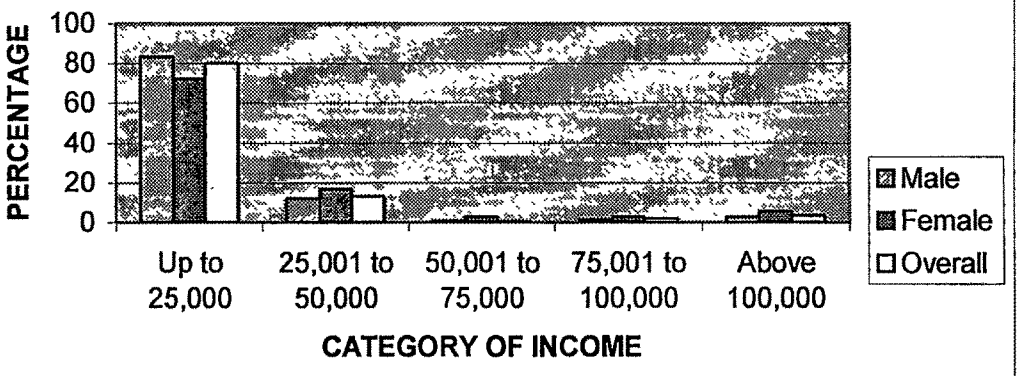


Fig. 18: Distribution of Respondents According to Annual Income

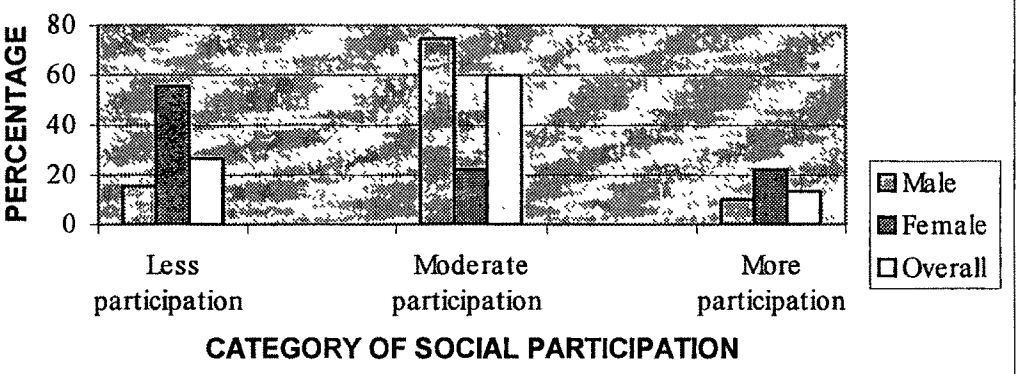


Fig. 19: Distribution of Respondents According to Social Participation

4.2 RISK PREFERENCE OF RURAL MALE AND FEMALE RESPONDENTS TOWARDS ADOPTION OF SOIL AND WATER CONSERVATION TECHNOLOGIES

4.2.1 Risk preference levels:

Table 20: Distribution of the respondents according to their levels of risk preference.

N=392

Sr. No.	Risk preference levels	Respondent		Overall (%) N=392
		Male (%) N=284	Female (%) N=108	
1.	Low risk preference (<18.43 scores)	15.49	12.04	14.54
2.	Moderate risk preference (18.43 to 23.91 scores)	67.61	57.40	64.80
3.	High risk preference (>23.91 scores)	19.90	30.56	20.66
	Total	100.00	100.00	100.00

Mean = 21.174 SD = 2.741

The table 20 and the figure 20 explained that out of the total respondents, little less than the two third (64.80%) exhibited moderate risk preference regarding adoption of new soil and water conservation technologies. One fifth of them held high risk preference and about fifteen per cent of them showed low risk preference.

The table further projects a genderwise picture of the risk preference. Little higher than the two third of the male respondents had moderate risk preference. About one fifth of male respondents exhibited high risk preference and about fifteen per cent of them held low risk preference. Whereas, on the part of the female respondents, 57.40 per cent exhibited moderate risk preference. Little less than the one third of them (30.56%) had high risk preference and while little more than ten per cent of them exhibited low risk preference. This picture projects the level of interest among the male and the female sections regarding the adoption of new soil and water conservation technologies.

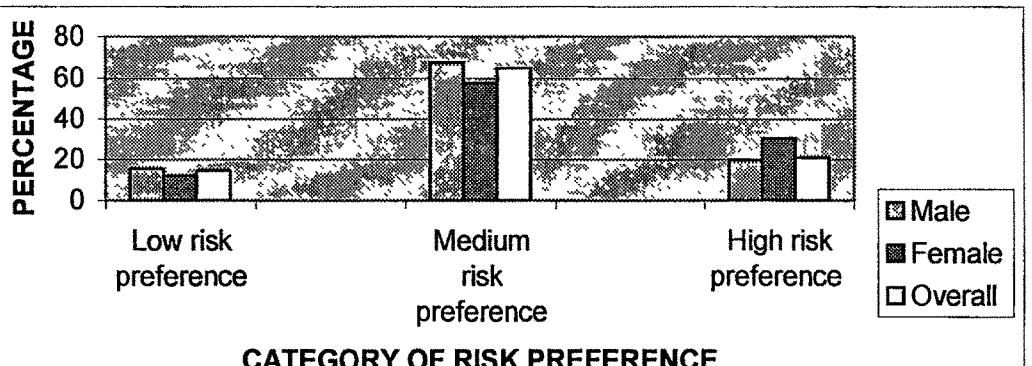


Fig. 20: Distributiuon of Respondents According to Risk Preference

4.2.2 Risk preference of the rural male respondents towards SWC activities:

Table 21: Itemwise percentage distribution and intensity indices according to the risk preference of the rural male respondents.

N=284

Sr. No.	Items	A.	U.D.	D.A.	Intensity indices
	POSITIVE ITEMS				
1.	You would prefer to adopt new Soil and Water Conservation (SWC) technologies for production in degraded wasteland.	87.50	12.50	00.00	2.87
2.	You would like to adopt SWC technologies in cultivable land at any cost for increasing production.	84.37	9.38	6.25	2.78
3.	You would like to try an entirely new SWC technology in farming although it involves higher financial investment because it is sure to be highly productive.	50.00	28.13	21.87	2.28

Sr. No.	Items	A.	U.D.	D.A.	Intensity indices
4.	Even if you fail in adoption of new SWC technology once, you would still like to try it once more.	40.62	40.62	18.75	2.22
5.	You would prefer to try out new SWC technology, irrespective of it being successful or failure.	28.12	37.50	34.38	1.93
	NEGATIVE ITEMS				
6.	You would like to adopt Soil and Water Conservation methods only when you are sure about the success in agriculture production.	12.15	28.12	59.38	2.46
7.	You would like to adopt new SWC technology only after you verify about the success of the technology through results demonstrated at government research farms.	25.00	15.63	59.37	2.34

Sr. No.	Items	A.	U.D.	D.A.	Intensity indices
8.	You would prefer to grow more crops than one in order to avoid total failure of crop.	6.25	59.37	34.37	2.28
9.	You would try new Soil and Water Conservation methods only after most farmers have used them successfully.	18.76	40.62	40.62	2.21
10.	You would like to continue with old technologies than adopting new SWC technologies about which you are not sure/confident.	34.38	15.62	50.00	2.15

The data in table 21 regarding risk preference are presented in descending order of itemwise intensity indices score. It reveals that the positive items with high intensity indices regarding the risk preference of the male respondents towards adoption of soil and water conservation technologies were as follows:

- Adoption of new Soil and Water Conservation (SWC) technologies for production in degraded wasteland.
- Adoption of SWC technologies on cultivable land at any cost for increasing production.

It means that the rural male respondents were highly positive about high risk preference. They showed their willingness to adopt new SWC technologies for sustainable

agricultural development on watershed basis in degraded wasteland and cultivable land.

It is also seen from the table that the positive items with moderate intensity indices were as follows:

- Trying out an entirely new SWC technology in farming which involves higher financial investment but it is highly productive.
- Even if one failed in adoption of new SWC technology first time, he/she would still try it out once more.
- One would prefer to try new SWC technology irrespective of it being successful or failure.

The table shows that the male respondents showed moderate agreement on the point of surety of success of the SWC project.

The table also reveals that none of the rural male respondent showed low risk preference in the positive items towards adoption of new improved soil and water conservation technologies. It means that majority of the male respondents were in high and moderate agreement to adopt new improved soil and water conservation technologies on their watershed approach.

Table 21 further reveals that on negative items about the success of the project, considerable male respondents expressed their doubts. Hence, negative items with moderate intensity indices were as follows:

- To adopt Soil and Water Conservation methods only, when one is sure about success in the agricultural production.

- To adopt new SWC technology only after one verifies about the success of the technology through results demonstrated at government research farms.
- To grow more crops than one in order to avoid total failure of crop.
- To try new Soil and Water Conservation methods only after most farmers have used them successfully.
- To continue with old technologies than adopting new SWC technologies about which you are not sure/confident.

The rural male respondents showed moderate agreement on the above stated items with moderate risk preference towards these negative items for adoption of new SWC technologies for sustainable agricultural development on watershed basis.

4.2.3 Risk preference of the rural female respondents towards SWC activities:

Table 22: Itemwise percentage distribution and intensity indices according to the risk preference of the rural female farmers.

N=108

Sr. No.	Items	A.	U.D.	D.A.	Intensity indices
	POSITIVE ITEMS				
1.	You would prefer to adopt new Soil and Water Conservation (SWC) technologies for production in degraded wasteland.	92.86	7.14	0.0	2.93

Sr. No.	Items	A.	U.D.	D.A.	Intensity indices
2.	You would like to adopt SWC technologies in cultivable land at any cost for increasing production.	85.71	7.14	7.14	2.79
3.	You would like to try an entirely new SWC technology in farming although involves higher financial investment because it is sure to be highly productive.	64.29	28.57	7.14	2.57
4.	Even if you failed in adoption of new SWC technology once, you would still like to try it once more.	35.71	35.71	28.57	2.07
5.	You would prefer to try out new SWC technology irrespective of it being successful or failure.	35.71	21.43	42.86	1.92

Sr. No.	Items	A.	U.D.	D.A.	Intensity indices
	NEGATIVE ITEMS				
6.	You would like to adopt new SWC technology only when you verify the success of the technology through the results demonstrated at government research farms.	7.14	28.57	64.29	2.57
7.	You would like to continue with old technologies than adopting new SWC technologies about which you are not sure/confident.	14.28	28.58	57.14	2.43
8.	You would prefer to grow more crops than one in order to avoid total failure of crop.	0.0	57.14	42.86	2.42
9.	You would try new Soil and Water Conservation methods only after most farmers have used them successfully.	14.28	35.72	50.00	2.35

Sr. No.	Items	A.	U.D.	D.A.	Intensity indices
10.	You would like to adopt Soil and Water Conservation methods only, when you are sure about success in agricultural production.	21.43	42.86	35.71	2.14

The table 22 reveals that the female respondents showed a different trend in their responses to the SWC programmes. The intensity indices regarding the positive items indicate that they preferred highly to take risk by adopting the SWC technologies in the interest of improving their land base to render it more fertile and more productive:

- To get production on degraded wasteland.
- To increase production on cultivable land at any cost.

It means that the female respondents looked forward to reaping sustainable agricultural development on watershed basis and they showed eagerness and preference to run into risk of any kind, even if they have to put in huge finance. But for the bit weaker income base they exhibited moderate response as regards the financial involvement.

The table indicates that the positive items with moderate intensity indices were as follows:

- To try an entirely new SWC technology in farming even if it involves higher financial investment because it is sure to be highly productive.
- Even if one failed in adoption of new SWC technology once, you would still like to try it once more.
- To try out new SWC technology irrespective of it being successful or failure.

This shows that the rural female respondents moderately agreed with the above items and have moderate risk preference towards these positive items to adopt new costly SWC technologies for sustainable agricultural development on watershed basis.

The table 22 also reveals that none of the rural female respondents showed low risk preference for the adoption of new improved soil and water conservation technologies. It means that majority of the female respondents agreed highly and moderately with adoption of new improved soil and water conservation technologies on watershed approach.

The table further reveals that on the part of the female respondents, not a single of the negative items with high intensity index was recorded that would point at the risk preference of the female respondents towards adoption of soil and water conservation technologies. As well, none of the female respondents showed high agreement with negative items towards adoption of new soil and water conservation technologies. The, negative items with moderate intensity indices were as follows:

- You would like to adopt new SWC technology only when you verify the success of the technology through results demonstrated at government research farms.
- You would like to continue with old technologies than adopting new SWC technologies about which you are not sure/confident.
- You would prefer to grow more crops than one in order to avoid total failure of crop.
- You would try new Soil and Water Conservation methods only after most farmers have used them successfully.
- You would like to adopt Soil and Water Conservation methods only, when you are sure about the success in agricultural production.

This means that the rural female respondents moderately agreed with the above items and have moderate risk preference towards adoption of new SWC technologies only when sure about success otherwise they would like to be continue with old technologies.

The table also reveals that none of the female respondents showed low risk preference on the negative items towards adoption of new improved soil and water conservation technologies. It means due to their selectively high and moderate risk preference, the female respondents seemed to show up a bit matured and sensible attitude to the cause of improvement in the agriculture.

4.3 KNOWLEDGE LEVELS OF RESPONDENTS REGARDING SOIL AND WATER CONSERVATION TECHNOLOGIES

4.3.1 Knowledge levels of respondents:

Table 23: Percentage distribution of the respondents according to their knowledge levels regarding SWC technologies.

N=392

Sr. No.	Knowledge levels	Respondent		Overall (%) N=392
		Male (%) N=284	Female (%) N=108	
1.	Low (<5.40 scores)	23.94	3.70	18.37
2.	Moderate (5.40 to 9.05 scores)	67.61	76.85	70.15
3.	High (>9.05 scores)	8.45	19.45	11.48
	Total	100.00	100.00	100.00

Mean = 7.230 SD = 1.822

Table 23 and the figure 21 reflect that majority of the overall respondents (70.15%) knew moderately about the SWC technologies and 18.37 per cent of them had low knowledge about the SWC technologies. However, a very small section with 11.48 per cent of them had acquired considerable high knowledge regarding soil and water conservation technologies.

The table 23 and the figure 21 further reveal that little more than two third of the male farmers (67.61%) exhibited moderate level of knowledge regarding soil and

water conservation technologies and little less than the one fourth of them possessing low level of knowledge. Only less than ten per cent of the male respondents possessed high level of knowledge. Among the female respondents majority (76.85%) had moderate level of knowledge, about one fifth of them (19.45%) possessed high level of knowledge and hardly 3.70 per cent of the female respondents had low level of knowledge regarding soil and water conservation technologies.

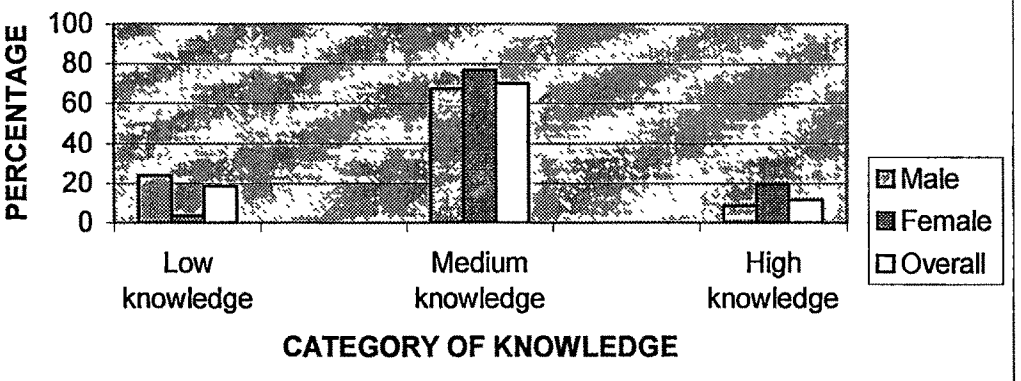


Fig. 21: Distribution of Respondents According to Knowledge

4.3.2 Knowledge of the rural male and female farmers regarding soil and water conservation technologies:

Table 24: Itemwise percentage distribution of the rural male and female farmers according to their knowledge regarding soil and water conservation technologies.

N = 392

Sr. No.	Items	Responses		
		Male (%) N=284	Female (%) N=108	Overall (%) N=392
	POSITIVE ITEMS			
1.	The materials such as saw dust, straw, paddy husk, groundnut shell, crop residues, leaves etc. are spread on the surface of the land to protect the soil from erosion.	92.25	94.44	92.86
2.	The trees are planted on the boundaries of crop fields.	82.74	83.33	82.91
3.	The minimum ploughing is done to create appropriate soil condition for seed germination.	64.43	56.48	62.24
4.	The animals can be allowed in the specific grazing land after adequate growth of vegetation.	53.16	58.33	54.59
5.	The Cultivation of cereal crops is followed by pulse or leguminous crops.	51.40	62.96	54.59

Sr. No.	Items	Responses		
		Male (%) N=284	Female (%) N=108	Overall (%) N=392
6.	The crops are grown across the slope of the agriculture field.	47.18	66.66	52.55
7.	The two or more crops are grown simultaneously for continuous land cover and protection from beating action of rains.	45.07	63.88	50.25
	NEGATIVE ITEMS			
8.	One crop is grown repeatedly in cultivable land, year after year.	60.56	36.11	53.82
9.	In crop cultivation, cereal crops follow the cereal crops only.	45.77	61.11	50.00
10.	The waterways used for conducting surface water in agricultural fields should not be covered with grasses.	50.35	44.44	48.72
11.	The bunds are made along the slope of the sloppy land.	44.36	50.00	45.92
12.	The crops with less canopy cover are grown to protect the soil from rain water erosion.	30.98	52.77	36.98
13.	In the fallow fields, the stubble of crops are taken completely with roots.	23.23	33.33	26.02
14.	The crops are grown along the slope of the land.	23.24	19.44	22.19

Table 24 reveals that:

I. A good majority of the respondents both the male and female, knew how to conserve soil and water, it was found that most of the male and female farmers have knowledge of the following practices:

- The materials such as saw dust, straw, paddy husk, groundnut shell, crop residues, leaves etc. were spread on the surface of the land to protect the soil from erosion.
- The trees were planted on the boundaries of the crop fields.

II. Among both the male and female respondents about fifty per cent of them were aware of the following improved SWC practices in farming:

- The minimum ploughing is done to create appropriate soil condition for seed germination.
- The animals are allowed in the specific grazing land after adequate growth of vegetation.
- The Cultivation of cereal crops is followed by pulse or leguminous crops.
- The crops are grown across the slope of the agriculture field.
- The two or more crops are grown simultaneously for continuous land cover and protection from beating action of rains.

III. It was also found that about fifty per cent of the overall both the male and female respondents were aware of the following negative practices in farming:

- One crop found to be grown repeatedly in cultivable land, year after year.
- In cultivation, cereal crops are taken following the cereal crops only.

It shows that fifty per cent or more of the overall male and female respondents had knowledge of these soil and water conservation practices.

IV. As regards the conservation of land and prevention of the land erosion about fifty percent of both male and female respondents were found to indulge in negative practices, which shows that they had negative thinking or wrong knowledge about the conservation of agricultural land in the following practices:

- The waterways used for conducting surface water in agricultural fields should not be covered with grasses.
- The bunds are made along the slope of the sloppy land.
- The crops with less canopy cover are grown to protect the soil from rain water erosion.
- In the fallow fields, the stubble of crops are taken completely with roots.
- The crops are grown along the slope of the land.

It may be noted here that the overall extent of knowledge level of both the male and female respondents was computed with the help of the developed knowledge index as explained in chapter 3 on the methodology. It was found to be 53.54 per cent, which was a moderate

level. Whereas, the extent of knowledge among the male respondents was found to be 50.35 per cent and that of among the female respondents was found to be 56.74 per cent. Therefore, the extent of knowledge level among the female respondents was found to be higher than that among the male respondents.

4.4 ATTITUDE OF RURAL MALE AND FEMALE FARMERS TOWARDS SOIL AND WATER CONSERVATION PROGRAMME:

4.4.1 Attitude levels of respondents:

Table 25: Distribution of the respondents according to their attitude levels towards participation in SWC programme.

N=392

Sr. No.	Attitude	Respondent		Overall (%) N=392
		Male (%) N=284	Female (%) N=108	
1.	Unfavourable (<25.01 scores)	16.90	13.89	16.07
2.	Neutral (25.01 to 30.30 scores)	71.83	74.07	72.70
3.	Favourable (>30.30 scores)	11.27	12.04	11.23
	Total	100.00	100.00	100.00

Mean = 27.657 SD = 2.647

The table 25 and the figure 22 show that majority of the overall respondents (72.70%) had neutral attitude

towards soil and water conservation programme, some 16.07 per cent of them had unfavourable attitude and more than ten per cent of the respondents (11.23%) exhibited favourable attitude.

It further shows that among the male respondents majority of them (71.83%) held neutral attitude towards soil and water conservation programme, followed about 16.90 per cent of them with unfavourable attitude and hardly 11.27 per cent of the male respondents showed favourable attitude towards SWC programme. Similarly, among the female respondents, majority of them (74.04%) held neutral attitude, followed by about 11.89 per cent of the female farmers with unfavourable attitude and 12.04 per cent had favourable attitude towards participation in SWC programme.

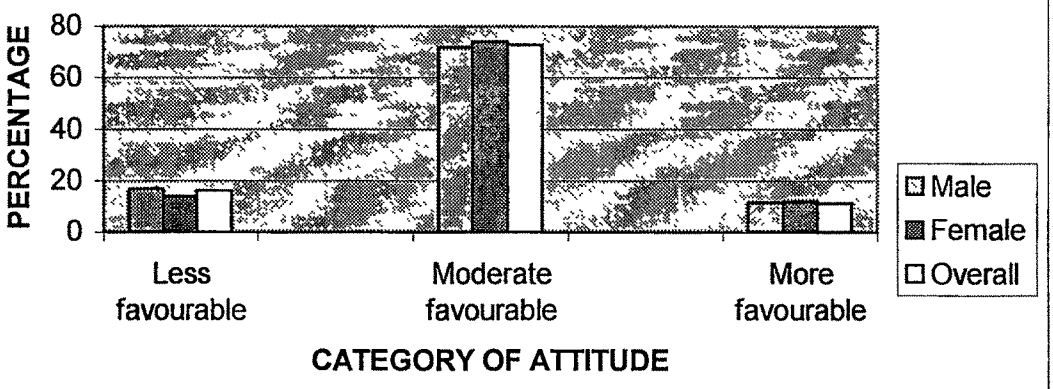


Fig. 22: Distribution of Respondents According to Attitude Towards SWC Programme

4.4.2 Attitude of the rural male farmers towards SWC programme:

Table 26: Itemwise percentage distribution and intensity indices according to the attitude of rural male farmers towards SWC programme.

N=284

Sr. No.	Items	A. (%)	N. (%)	D.A. (%)	Intensity Indices
	POSITIVE ITEMS				
1)	Farmers should contribute labour or money towards repair and maintenance of the SWC structures on their land.	14.08	67.61	18.31	1.95
2)	Farmers should motivate their fellow farmer's for collectively contribution in repair and maintenance of SWC structures.	32.39	20.43	47.18	1.85
3)	Farmers should suggest any point of individual or collective interest in planning of SWC programme.	2.82	64.79	32.39	1.70
4)	Farmers should contribute own labour or money in construction of SWC structures.	9.86	50.00	40.14	1.69

Sr. No.	Items	A. (%)	N. (%)	D.A. (%)	Intensity Indices
5)	Farmers should maintain and repair their SWC structures from time to time with their own expenses.	15.49	8.45	76.06	1.39
6)	Farmers should contribute materials or equipments in construction of SWC structures.	5.63	26.76	67.61	1.38
7)	Farmers should participate in soil & water conservation (SWC) programme planning meetings.	2.82	2.11	95.07	1.07
	NEGATIVE ITEMS				
8)	Farmer's contribution of labour or money in construction of SWC structures is not required.	35.91	34.51	29.58	1.93
9)	Farmers should not contribute labour or money to the government body PIA for repair of SWC structures.	38.73	38.73	22.54	1.83
10)	PIA is totally responsible for construction of SWC structures in farmers' fields.	42.25	36.62	21.13	1.78

Sr. No.	Items	A. (%)	N. (%)	D.A. (%)	Intensity Indices
11)	Women's participation in SWC programme planning meetings is inessential.	55.63	12.68	31.69	1.76
12)	Maintenance and repair works should be done through PIA with the government money.	40.84	44.37	14.79	1.73
13)	SWC structures should be constructed with the government money through project implementation agency (PIA).	51.41	31.69	16.90	1.65

The table 26 reveals that not a single positive item on the attitude of the male respondents towards soil and water conservation programme was found to be having high intensity index. Thus, the male respondents did not show favourable attitude towards the positive items in soil and water conservation programme.

Low intensity indices were found for the male respondents for the following positive items:

- Farmers should maintain and repair their SWC structures from time to time with their own expenses.
- Farmers should contribute materials or equipments in construction of SWC structures.
- Farmers should participate in soil & water conservation (SWC) programme planning meetings.

This means that the male respondents showed unfavourable attitude towards these items and they showed

unfavourable attitude towards contribution of materials in construction and maintenance of structures and also participation in planning meetings.

The male respondents showed neutral attitude for the rest of the positive items. It means that they were undecided about their contribution of labour or money towards construction and maintenance of SWC structures.

It is seen from the table 26 that not a single negative item was found with high intensity index that would reflect on the attitude of the male respondents towards soil and water conservation programme. Thus, the male respondents did not show favourable attitude towards negative items related to the soil and water conservation programme.

The table shows that the male farmers showed neutral attitude towards all the negative items. The male respondents did not showed favourable and unfavourable attitude towards any negative item regarding soil and water conservation programme. It means that the male farmers were undecided about their contribution of labour or money is required or not in construction of structures.

4.4.3 Attitude of rural female farmers towards SWC programme:

Table 27: Itemwise percentage distribution and intensity indices according to the attitude of rural female farmers towards SWC programme.

N=108

Sr. No.	Items	A. (%)	N. (%)	D.A. (%)	Intensity Indices
	POSITIVE ITEMS				
1.	Farmers should contribute labour or money towards repair and maintenance of the SWC structures on their land.	11.11	63.89	25.00	1.86
2.	Farmers should motivate their fellow farmers for collectively contribution in repair and maintenance of SWC structures.	25.92	20.37	53.71	1.72
3.	Farmers should contribute own labour or money in construction of SWC structures.	11.11	49.07	39.82	1.71
4.	Farmers should suggest any point of individual or collective interest in planning of SWC programme.	0.0	51.85	48.15	1.52

Sr. No.	Items	A. (%)	N. (%)	D.A. (%)	Intensity Indices
5.	Farmers should contribute materials or equipment in construction of SWC structures.	12.03	18.52	69.95	1.42
6.	Farmers should maintain and repair their SWC structures from time to time with their own expenses.	9.26	3.71	87.03	1.22
7.	Farmers should participate in soil & water conservation (SWC) programme planning meetings.	1.85	6.48	91.67	1.10
	NEGATIVE ITEMS				
8.	SWC structures should be constructed with government money through project implementation agency (PIA).	37.04	35.18	27.78	1.90
9.	Maintenance and repair works should be done through PIA with the government money.	22.22	65.74	12.04	1.89
10.	Farmer's contribution of labour or money in construction of SWC structures is not required.	45.37	40.74	13.89	1.68

Sr. No.	Items	A. (%)	N. (%)	D.A. (%)	Intensity Indices
11.	Women's participation in SWC programme planning meetings is inessential.	55.55	23.15	21.30	1.65
12.	PIA is totally responsible for construction of SWC structures on farmers' fields.	55.56	25.00	19.44	1.63
13)	Farmers should not contribute labour or money to the government body PIA for repair of SWC structures.	52.78	36.11	11.11	1.58

The table 27 reveals that not a single positive item was found to be having high intensity index. Thus, the female respondents did not show favourable attitude towards any positive item regarding the soil and water conservation programme.

The female respondents had low intensity indices towards the following positive items:

- Farmers should suggest any point of individual or collective interest in the planning of SWC programme.
- Farmers should maintain and repair their SWC structures from time to time with their own expenses.
- Farmers should contribute materials or equipments in construction of SWC structures.

- Farmers should participate in soil & water conservation (SWC) programme planning meetings.

It means that the female respondents disagreed with these positive items and they showed unfavourable attitude towards these items regarding participation in planning meetings and contribution of materials towards construction and maintenance of SWC structures.

The female respondents showed neutral intensity indices with the rest of the positive items, this indicates that the female respondents showed neutral attitude towards contribution of labour and money in construction and maintenance of SWC structures.

The table 27 further shows that not a single negative item was found with high intensity index. It means that the female respondents did not showed favourable attitude towards the any negative item regarding the soil and water conservation programme.

It is seen from the table 27 that only one negative item was found having low intensity index. It was, "SWC structures should be constructed with the government money through the project implementation agency (PIA)". It means that the female respondents disagreed with the item and they showed unfavourable attitude towards this negative item.

The table shows that the female respondents showed neutral attitude towards rest of the negative items. It means that the female respondents were undecided or neutral towards the contribution of labour or money is

required or not in construction and maintenance of SWC structures.

4.5 ADOPTION OF SOIL AND WATER CONSERVATION TECHNOLOGIES BY RURAL MALE AND FEMALE FARMERS:

4.5.1 Extent of adoption of SWC technologies:

Table 28: Distribution of the respondents according to their levels of adoption of SWC technologies.

N=392

Sr. No.	Adoption levels	Respondent		Overall (%) N=392
		Male (%) N=284	Female (%) N=108	
1.	Low (<21.37 scores)	11.97	19.45	14.03
2.	Medium (21.37 to 28.28 scores)	81.69	74.07	79.59
3.	High (>28.28 scores)	6.34	06.48	6.38
	Total	100.00	100.00	100.00

Mean = 24.826 SD = 3.456

The table 28 and the figure 23 show that majority of the respondents (79.59%) were medium level adopters. They were followed by some 14.03 per cent of them who were low level adopters and hardly 6.38 per cent of them were high level adopters as regards the soil and water conservation technologies.

The table further shows that majority of the male respondents (81.69%) were medium level adopters. Then followed some 11.97 per cent of them who were low level adopters and hardly 6.34 per cent of them who were high level adopters. Likewise, among the female respondents about the three fourth of them (74.07%) were medium level adopters. They were followed by nearly one fifth of the female respondents (19.45%) who were low level adopters and some 6.48 per cent of them who were high level adopters of the soil and water conservation technologies.

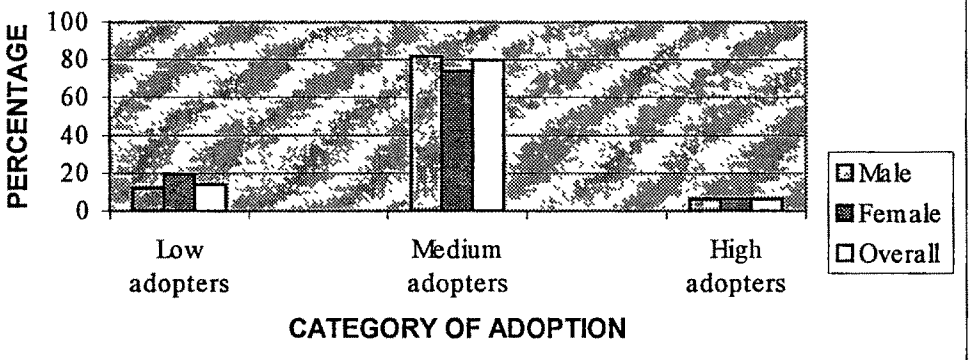


Fig. 23: Distribution of Respondents According to Adoption of SWC Technologies

4.5.2 Adoption of male farmers according to SWC technologies:

Table 29: Percentage distribution and intensity indices according to the adoption of different SWC technologies by rural male farmers.

N=284

Sr. No.	Technology	Responses			Intensity indices
		Not known (%)	Known but not adopted (%)	Adopted (%)	
1.	Contour farming	26.76	45.07	28.17	2.01
2.	Intercropping	3.52	69.01	27.46	2.23
3.	Cover cropping	13.38	55.63	30.98	2.17
4.	Mulching	13.38	34.50	52.11	2.38
5.	Summer ploughing	6.34	14.08	79.58	2.73
6.	Land leveling	16.20	53.52	29.58	2.11
7.	Contour bunding	59.15	35.21	5.63	1.46
8.	Marginal bund	16.20	68.31	15.49	1.99
9.	Terracing	33.10	53.52	13.38	1.80
10.	Checkdam	13.38	52.11	34.51	2.21
11.	Gully plug	38.03	38.03	23.94	1.85
12.	Farm pond	21.83	59.86	18.31	1.96

The table 29 shows that the intensity indices for adoption of soil and water conservation practices as derived from the responses of the male respondents. It ranged from 1.46 to 2.73. At its top, the male respondents showed high intensity index, i.e. 2.73 in the adoption of summer ploughing. The male respondents showed

moderate level of adoption in the following SWC practices in the descending order as indicated below:

- Mulching (2.38)
- Intercropping (2.23)
- Checkdam (2.21)
- Cover cropping (2.17)
- Land leveling (2.11)
- Contour farming (2.01)
- Marginal bund (1.99)
- Farm pond (1.96)
- Gully plug (1.85)
- Terracing (1.80)

They however, showed low intensity index with 1.46 in adoption of the SWC practice like contour bunding.

The table further shows that the overall adoption level of male respondents remained at 69.56 per cent which shows higher adoption level. It shows that the farmers of the Antisar watershed area held high adoption towards SWC technologies for sustainable agricultural production.

4.5.3 Adoption of female farmers according to SWC technologies:

Table 30: Percentage distribution and intensity indices according to the adoption of different SWC technologies by rural female farmers.

N=108

Sr. No.	Technology	Responses			Intensity indices
		Not known (%)	Known but not adopted (%)	Adopted (%)	
1.	Contour farming	21.30	46.30	32.40	2.11
2.	Intercropping	12.96	65.74	21.30	2.08
3.	Cover cropping	21.30	62.96	15.74	1.94
4.	Mulching	10.18	37.96	51.85	2.41
5.	Summer ploughing	11.11	8.33	80.56	2.69
6.	Land leveling	26.85	43.52	29.63	2.07
7.	Contour bunding	54.63	32.41	12.96	1.58
8.	Marginal bund	33.33	50.00	16.67	1.83
9.	Terracing	32.41	59.26	8.33	1.75
10.	Checkdam	8.33	36.11	55.56	2.47
11.	Gully plug	39.81	32.41	27.78	1.87
12.	Farm pond	8.33	75.00	16.67	2.08

The table 30 shows the intensity indices for adoption of soil and water conservation technologies as derived from the responses of the female respondents. It ranges from 1.58 to 2.69. The female respondents showed high intensity index 2.69, only in the adoption of summer

ploughing. The female respondents showed moderate level of adoption for the following soil and water conservation practices in the descending order as indicated below:

- Checkdam (2.47)
- Mulching (2.41)
- Contour farming (2.11)
- Intercropping (2.08)
- Farm pond (2.08)
- Land leveling (2.07)
- Cover cropping (1.94)
- Gully plug (1.87)
- Marginal bund (1.83)
- Terracing (1.75)

They however, showed low risk preference with 1.58 in adoption of the SWC practice like contour bunding.

The overall adoption level of female respondents was found to be 66.58 per cent. The computation was done with the help of the developed adoption index. Therefore, the overall adoption level of the female respondents was also found to be in the category of higher adoption level. This shows that the female farmers of the Antisar watershed area too held high adoption of SWC technologies for sustainable agricultural production.

4.6 OVERALL PEOPLE'S PARTICIPATION IN SOIL AND WATER CONSERVATION PROGRAMME

Table 31: Distribution of the respondents according to their overall people's participation levels in SWC programme.

N=392

Sr. No.	Overall people's participation levels	Respondent		Overall (%) N=392
		Male (%) N=284	Female (%) N=108	
1.	Less participation (<56.697 scores)	10.92	13.89	11.74
2.	Moderate participation (56.697 to 73.135 scores)	85.21	83.33	84.69
3.	More participation (>73.135 scores)	3.87	2.78	3.57
	Total	100.00	100.00	100.00

Mean = 64.916 SD = 8.219

The table 31 reveals that overall, majority of the respondents (84.69%) had moderate level of participation in the soil and water conservation programme, about ten per cent (11.74%) had less people's participation and hardly 3.57 per cent of them had higher participation.

The table further reveals the genderwise picture. According to it, majority of the male respondents (85.21%) held moderate people's participation in the programme. Nearly ten per cent of them had less level of people's participation in the programme. Only a few of

them (3.87%) had more people's participation in the soil and water conservation programme. Similarly, majority of the female respondents (83.33%) showed moderate level participation in the programme. More than ten per cent of them (13.89%) agreed to their less participation. Only a few of them (2.78%) had more people's participation in soil and water conservation programme. The figure 24 too reveals such a picture.

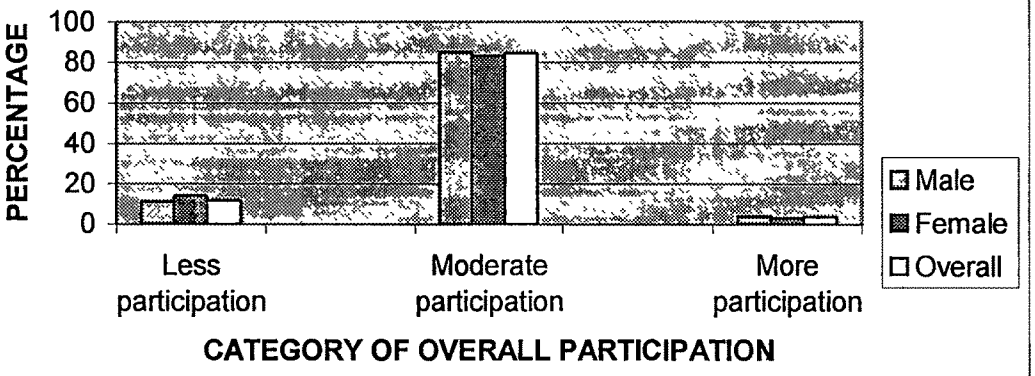


Fig. 24: Distribution of Respondents According to Overall People's Participation

4.7 PEOPLE'S PARTICIPATION IN PLANNING OF SOIL AND WATER CONSERVATION PROGRAMME

4.7.1 People's participation levels in planning of the SWC programme:

Table 32: Percentage distribution of the respondents according to their participation levels in planning of the SWC programme.

N=392

Sr. No.	Participation levels in planning	Respondent		Overall (%) N=392
		Male (%) N=284	Female (%) N=108	
1.	Less participation (<18.22 scores)	11.27	13.89	11.99
2.	Moderate participation (18.22 to 25.27 scores)	81.69	72.22	79.08
3.	More participation (>25.27 scores)	7.04	13.89	8.93
	Total	100.00	100.00	100.00

Mean = 21.747 SD = 3.524

Table 32 and figure 25 revealed that majority of the overall respondents (79.08%) exhibited moderate level of participation in the planning of the SWC programme. Then followed some little beyond ten per cent of them (11.99%) recorded less participation and less than ten per cent of them (8.93%) showed more participation level in planning of the soil and water conservation programme.

The table further shows that majority of the male respondents (81.69%) showed moderate level of participation, little more than ten per cent of them (11.27%) had less participation and hardly 7.04 per cent of them having more participation level in planning of the soil and water conservation programme. Whereas, on considering the female respondents participation, little less than three fourth of them (72.22%) had moderate level, little higher than ten per cent of them (13.89%) having less participation and also about the same percentage of them (13.89%) exhibited more participation in planning of the SWC programme.

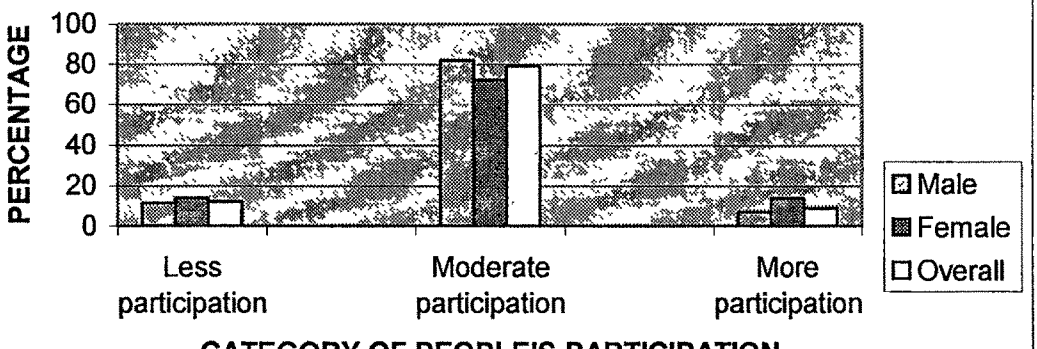


Fig. 25: Distribution of Respondents According to People's Participation in Planning

4.7.2 Male's participation in the SWC programme planning stage:

Table 33: Itemwise percentage distribution and intensity indices according to the extent of male's participation in programme planning stage.

N=284

Sr. No.	Statements	GE (%)	SE (%)	LE/N (%)	Intensity indices
1.	Participate in planning meetings of Soil and Water Conservation (SWC) programme.	76.05	18.31	5.64	2.70
2.	Suggest ideas during planning of checkdams.	76.76	15.49	7.75	2.69
3.	Motivate fellow farmers to participate in planning.	55.63	31.69	12.68	2.42
4.	Give suggestions for inclusion in planning.	26.05	54.93	19.02	2.07
5.	Suggest ideas in planning of land leveling works.	35.21	36.62	28.17	2.07
6.	Share experience about soil and water conservation with your fellow farmers after participation in planning meetings.	32.39	42.96	24.65	2.07

Sr. No.	Statements	GE (%)	SE (%)	LE/N (%)	Intensity indices
7.	Suggest ideas in planning of agricultural crop cultivation.	25.35	50.71	23.94	2.01
8.	Participate in planning of fruits plantation.	17.60	66.20	16.20	2.01
9.	Suggest information in planning of forest trees plantation.	33.80	31.69	34.51	1.99
10.	Contact the Programme Implementing Agency (PIA) about primary needs fuel, fodder and food to be taken care of in the planning.	34.51	11.97	53.52	1.80

The table 33 reveals that:

Fifty per cent or more of the male respondents participated to a great extent in the following activities related to the planning of the SWC programme.

- Suggesting ideas during planning of checkdams (76.76%).
- Participating in planning meetings of the Soil and Water Conservation (SWC) programme (76.05%).
- Motivating fellow farmers to participate in planning (55.63%).

Some fifty per cent or more of the male respondents participated in planning of SWC programme to some extent in the matters like:

- Planning of fruits plantation (66.20%).

- Giving suggestions to be considered in planning (54.93%).
- Suggesting ideas in planning of agricultural crops cultivation (50.71%).

Fifty per cent or more of the male respondents participated in planning of SWC programme to the least extent or never in matters like:

- Contacting the Programme Implementing Agency (PIA) about primary needs fuel, fodder and food to be taken care of in the planning (53.52%).

The table 33 further reveals that the intensity indices of people's participation in the programme and its planning, as the male respondents reported, ranged from 1.80 to 2.70. The male respondents showed high intensity indices in the following soil and water conservation programme planning activities:

- Participating in planning meetings of the SWC programme (2.70).
- Suggesting idea in planning of checkdams in their fields (2.69).

It further indicates that the male respondents participated highly in the SWC programme planning meetings and suggested ideas in planning of checkdams in their fields.

The male respondents showed moderate intensity indices in the following activities of planning of the soil and water conservation programme.

- Motivating fellow farmers to participate in planning of SWC programme (2.42).

- Suggesting information to be considered in planning of the SWC programme (2.07).
- Suggesting ideas for planning of land levelling works carried out in the different fields of the watershed area (2.07).
- Share information or experience about soil and water conservation with their fellow farmers after participation in planning meetings (2.07).
- Participating in planning of fruits plantation work (2.01).
- Suggesting ideas in planning of agricultural crops cultivation in the watershed area (2.01).
- Suggesting information in planning of forest trees plantation work (1.99).
- Contacting the Programme Implementing Agency (PIA) about primary needs such as fuel, fodder and food to be taken care of in the programme planning (1.80).

The table also indicates that the male respondents showed moderate participation in planning activities in the SWC programme. They did not show low level of participation in any planning activity of the soil and water conservation programme.

The extent of the people's participation in the programme planning stage, as explained by the male respondents was also analyzed with the developed people's participation index (PPI) and it was found to be 72.60 per cent, showing moderate level of participation in SWC technologies.

4.7.3 Female's participation in the SWC programme planning stage:

Table 34: Itemwise percentage distribution and intensity indices according to the extent of female's participation in programme planning stage.

N=108

Sr. No.	Statements	GE	SE	LE/N	Intensity indices
1.	Suggest idea during planning of checkdams.	77.78	11.11	11.11	2.67
2.	Participate in planning meetings of Soil and Water Conservation (SWC) programme.	61.11	30.56	8.33	2.53
3.	Suggest idea in planning of agricultural crops cultivation.	36.12	44.44	19.44	2.16
4.	Share experience about soil and water conservation with fellow farmers after participation in planning meetings.	44.44	25.00	30.56	2.13
5.	Give suggestion for inclusion in planning.	25.00	61.11	13.89	2.11
6.	Motivate fellow farmers to participate in planning.	36.11	38.89	25.00	2.11

Sr. No.	Statements	GE	SE	LE/N	Intensity indices
7.	Contact the Programme Implementing Agency (PIA) about primary fuel, fodder and food to be taken care in the planning.	44.44	16.67	38.89	2.05
8.	Suggest information in planning of forest trees plantation.	30.56	38.89	30.55	2.00
9.	Participate in planning of fruits plantation.	11.11	75.00	13.89	1.97
10.	Suggest idea in planning of land leveling works.	22.22	36.11	41.67	1.80

The table 34 reveals that:

Fifty per cent or more of the female respondents participated in planning of the SWC programme to a great extent by -

- Suggesting idea during planning of checkdams (70.78%).
- Participating in planning meetings of the Soil and Water Conservation (SWC) programme (61.11%).

Fifty per cent or more of the female respondents participated in planning of the SWC programme to some extent in the matters like

- Planning of fruits plantation (75.00%).
- Giving suggestions to be considered in planning (61.11%).

4.8.2. Male's participation in the SWC programme at the implementation stage:

Table 36: Itemwise percentage distribution and intensity indices of the extent of male's participation in the SWC programme implementation stage.

N=284

Sr. No.	Statements	GE	SE	LE/N	Intensity indices
1.	Allow programme implementing agency (PIA) to implement soil and water conservation programme works.	83.09	12.68	4.23	2.78
2.	Ask fellow resource users for labour and money contribution towards construction of structures.	62.68	17.60	19.72	2.42
3.	Help during plantation work of fruit plants.	36.62	39.44	43.94	2.12
4.	Help in plantation work of forest plants.	40.14	31.69	28.17	2.11
5.	Provide any material to help construction of soil and water conservation structures.	17.61	64.79	17.60	2.00

Sr. No.	Statements	GE	SE	LE/N	Intensity indices
6.	Provide equipment to the PIA during construction of soil and water conservation measures.	42.96	13.38	43.66	1.99
7.	Provide help during purchase of materials.	35.21	28.17	36.62	1.98
8.	Contribute money in construction of SWC structures.	33.10	28.87	38.03	1.95
9.	Contribute labour in construction of SWC structures.	28.87	31.69	39.44	1.89
10.	Participate in training programme on the soil and water conservation programme organized by the PIA.	7.75	65.49	26.76	1.80

The table 36 reveals that:

Fifty per cent or more of the male respondents participated in implementation of SWC programme to a great extent in the matters like:

- Allowing programme implementing agency (PIA) to implement soil and water conservation programme works (83.09%).
- Asking fellow resource users to contribute with labour and money contribution towards construction of structures (62.68%).

Fifty per cent or more of the male respondents participated in implementation of SWC programme to some extent in the matters like:

- Participating in training on the soil and water conservation programme organized by the PIA (65.49%).
- Providing material to help construction of soil and water conservation structures (64.79%).

Forty per cent or more of the male respondents participated in implementation of SWC programme to least or no extent in the matters like:

- Helping during plantation work of fruit plants (43.94%).
- Providing equipment to the PIA during construction of soil and water conservation measures (43.66%).

The table 36 further shows that the intensity indices of participation in the programme at the stage of implementation on the part of the male respondents ranged from 1.80 to 2.78. The male respondents showed high intensity index for the item:

- Allowing programme implementing agency to implement SWC programme works (2.78).

This indicates that the male respondents contributed to this activity of the SWC programme and its implementation with high level participation.

The male respondents showed moderate level of participation in the following activities of the soil and water conservation programme during implementation stage:

- Asking fellow resource users to contribute with labour and money towards construction of SWC structures (2.42).

- Helping during plantation work of fruit plants (2.12).
- Providing help in plantation work of forest plants (2.11).
- Providing material to help construction of SWC structures (2.00).
- Providing equipment during construction of SWC measures (1.99).
- Providing help during purchase of construction materials (1.98).
- Contributing with money in construction of SWC structures (1.95).
- Contributing with labour in construction of structures (1.89).
- Participating in training programme on the soil and water conservation technologies organized by PIA (1.80).

These findings indicate that the male respondents had moderate participation in the activities related to the SWC programme during implementation stage. They contributed material, labour and money in construction of structures, provided help during plantation works in watershed.

The extent of the male respondents' participation in the programme at the stage of its implementation was calculated also with the help of developed people's participation index (PPI) and it was found to be 69.29 per cent. It means that level of participation of male farmers in the implementation stage was moderate.

4.8.3 Female farmers' participation in the SWC programme at the implementation stage:

Table 37: Itemwise percentage distribution and intensity indices of the extent of female's participation in the SWC programme implementation stage.

N=108

Sr. No.	Statements	GE	SE	LE/N	Intensity indices
1.	Allow programme implementing agency (PIA) to implement soil and water conservation programme works.	94.44	2.78	2.78	2.92
2.	Ask fellow resource users for labour and money contribution towards construction of structures.	69.44	13.89	16.67	2.52
3.	Provide any material to help construction of soil and water conservation structures.	30.56	61.11	8.33	2.22
4.	Contribute money in construction of SWC structures.	38.89	36.11	25.00	2.13

Sr. No.	Statements	GE	SE	LE/N	Intensity indices
5.	Provide equipment to the PIA during construction of soil and water conservation measures.	41.67	25.00	33.33	2.08
6.	Provide help during purchase of materials.	44.44	19.45	36.11	2.08
7.	Help in plantation work of forest plants.	27.78	47.22	25.00	2.02
8.	Contribute labour to help construction of SWC structures.	27.78	41.67	30.55	1.97
9.	Participate in training programmes on the soil and water conservation programme organized by PIA.	11.11	72.22	16.67	1.94
10.	Help during plantation work of fruit plants.	16.67	44.44	38.89	1.77

The table 37 reveals that:

Fifty per cent or more of the female respondents participated in implementation of the SWC programme to great extent in the matters like:

- Allowing the programme implementing agency (PIA) to implement soil and water conservation programme works (94.44%).
- Asking fellow resource users to contribute with labour and money to construction of structures (69.44%).

Fifty per cent or more of the female respondents participated in implementation of SWC programme to some extent in the matters like:

- Participating in training programme on the soil and water conservation programme organized by the PIA (72.22%).
- Providing material to help construction of soil and water conservation structures (61.11%).

Thirty five per cent or more of the male respondents participated in implementation of SWC programme to the least or no extent in the matters like:

- Helping during plantation work of fruit plants (38.89%).
- Providing help during purchase of materials (36.11%).

The table 37 further shows the intensity indices of participation in the programme at the stage of implementation on the part of the female respondents. It ranged from 1.77 to 2.92. They showed high intensity index in the following activity related to the soil and water conservation programme during implementation:

- Allowed Programme Implementing Agency to implement SWC programme works (2.92).

This indicates that the female respondents allowed PIA to implement conservation works on their fields in the SWC programme during implementation with considerably high participation.

The female respondents showed moderate intensity indices in the following activities of the soil and water conservation programme during implementation:

- Asking fellow resource users to contribute with labour and money to construction of SWC structures (2.52).
- Providing materials to help the construction of SWC structures (2.22).
- Contributing money in construction of SWC structures (2.13).
- Providing equipment to the Project Implementing Agency (PIA) during construction of SWC measures in watershed (2.08).
- Providing help during purchase of construction materials (2.08).
- Helping during plantation of forest plants (2.02).
- Contributing with labour to help construction of SWC structures (1.97).
- Participating in training programme on the soil and water conservation technologies organized by the PIA (1.94).
- Helping in plantation work of fruit plants (1.77).

This indicates that the female respondents moderately participated in contribution of materials, labour and money in construction of structures and also provided help in plantation of fruits and forest plants during implementation stage of the SWC programme.

The extent of female's participation in the SWC programme implementation stage was calculated also with help of the developed people's participation index (PPI) and it was found to be 71.66 per cent. It reflects that female respondents' participation in implementation stage was moderate level.

4.9 PEOPLE'S PARTICIPATION IN MAINTENANCE OF THE SOIL AND WATER CONSERVATION PROGRAMME

4.9.1 People's participation levels in the maintenance of the SWC programme:

Table 38: Distribution of the respondents according to their participation levels in maintenance of the SWC programme.

N=392

Sr. No.	Participation levels in maintenance	Respondent		Overall (%) N=392
		Male (%) N=284	Female (%) N=108	
1.	Less participation (<19.219 scores)	11.62	12.04	11.74
2.	Moderate participation (19.219 to 25.231 scores)	75.70	81.48	77.29
3.	More participation (>25.231 scores)	12.68	6.48	10.97
	Total	100.00	100.00	100.00

Mean = 22.225 SD = 3.006

It is seen from the table 38 and the figure 27 that little more than three fourth of the overall respondents (77.29%) showed moderate level of participation in the maintenance of the SWC programme. The remaining less than one fourth of them showed less and more participation level in maintenance of the soil and water conservation programme with 11.74 per cent and 10.97 per cent respectively.

The table 38 further shows that majority of the male farmers (75.70%) showed moderate level of participation, 12.68 per cent of them showed more participation level and some 11.62 per cent of them showed less participation in maintenance of the soil and water conservation programme. Further, majority of the female farmers (81.48%) had moderate level of participation, 12.04 per cent of them having less participation level and few of them having more participation level in maintenance stage of the SWC programme.

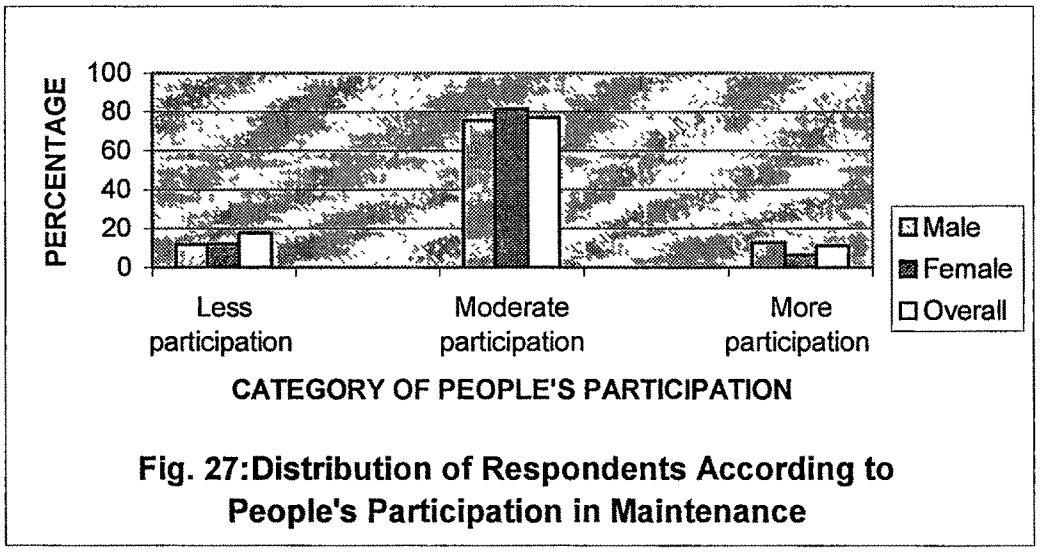


Fig. 27:Distribution of Respondents According to People's Participation in Maintenance

4.9.2 Male's participation in the SWC programme at the maintenance stage:

Table 39: Itemwise percentage distribution and intensity indices of the extent of male's participation in programme at the maintenance stage.

N=284

Sr. No.	Statements	GE	SE	LE/N	Intensity indices
1.	Protect the forest plantation done in the watershed area.	72.54	17.61	9.85	2.62
2.	Contribute money towards repair and maintenance of SWC structures.	55.63	24.65	19.72	2.35
3.	Protect the SWC structures from natural calamities.	41.55	38.73	19.72	2.21
4.	Inform the PIA officers to repair the damaged SWC structures.	38.73	42.25	19.01	2.19
5.	Motivate fellow farmers for labour contribution towards repair and maintenance of SWC structures in the watershed.	35.21	44.37	20.42	2.14
6.	Protect the fruit plants grown in the watershed area.	23.24	65.49	11.27	2.11

Sr. No.	Statements	GE	SE	LE/N	Intensity indices
7.	Motivate fellow farmers for money contribution towards repair and maintenance of SWC structures in the watershed.	35.21	40.85	23.94	2.11
8.	Contribute own labour towards repair and maintenance of SWC structures.	35.92	35.21	28.87	2.07
9.	Consult with the programme implementing agency to learn about repair and maintenance of conservation structures.	37.32	27.46	35.21	2.02
10.	Take care of the forest and fruit plants during summer by providing irrigation.	40.84	19.72	39.44	2.01

The table 39 reveals that:

Forty per cent or more male respondents participated in maintenance of the SWC programme to great extent in the activities like:

- Protecting the forest plantation done in the watershed area (72.54%).
- Contributing with money towards repair and maintenance of SWC structures (55.63%).
- Protecting the SWC structures from natural calamities (41.55%).

- Take care of forest plants and fruit plants during summer by providing adequate irrigation (40.84%).

Forty per cent or more male respondents participated in maintenance of the SWC programme to a some extent in the activities like:

- Protecting fruit plants grown in the watershed area (65.49%).
- Motivating fellow farmers to extend contribution with labour to the repair and maintenance of SWC structures in the watershed (44.37%).
- Inform the PIA officers to repair the damaged SWC structures (42.25%).
- Motivating fellow farmers to extend contribution with their money to the repair and maintenance of SWC structures in the watershed (40.81%).

Thirty five per cent or more male respondents participated in maintenance of the SWC programme to the least extent or never in the activities like:

- Taking care of forest plants and fruit plants during the summer by providing adequate irrigation (39.44%).
- Consulting the programme implementing agency to learn about repair and maintenance of conservation structures (35.21%).

The table 39 further shows the intensity indices of participation in programme maintenance stage by the male respondents. It ranged from 2.01 to 2.62. The male respondents showed high participation level in the following activity of the soil and water conservation programme maintenance stage:

- Protecting forest plantation done in the watershed area from animals (2.62).

The male respondents showed moderate participation level in the following activities of the soil and water conservation programme at the maintenance stage:

- Contributing with money towards repair and maintenance of SWC structure in their field (2.35).
- Protecting SWC structures from the natural calamities (2.21).
- Informing PIA officers to repair the damaged of SWC structures (2.19).
- Motivating fellow farmers to extend contribution with their labour to the repair and maintenance of SWC structures in the watershed (2.14).
- Protecting the fruit plants grown in the watershed area (2.11).
- Motivating fellow farmers to extend money contribution with their money to the repair and maintenance of SWC structures (2.11).
- Contributing with your labour to repair and maintenance of SWC structures in their field (2.07).
- Consulting the PIA to learn more about the repair and maintenance of conservation structures (2.02) and taken care of the forest and fruit plants during summer by providing irrigation (2.01).

It means male respondents moderately participated labour and money in repair and maintenance of structures in their fields and also protected plantations

The extent of male's participation in the SWC programme maintenance stage was also calculated with the help of the developed people's participation index (PPI) and it was calculated as 72.76 per cent. It shows that

male farmers exhibited moderate level of participation during maintenance stage of SWC programme.

4.9.3 Female's participation in the SWC programme at the maintenance stage:

Table 40: Itemwise percentage distribution and intensity indices of the extent of female's participation in the SWC programme at the maintenance stage.

N=108

Sr. No.	Statements	GE	SE	LE/N	Intensity indices
1.	Protect the forest plantation done in the watershed area.	77.78	11.11	11.11	2.66
2.	Contribute money towards repair and maintenance of SWC structures.	44.44	38.89	16.67	2.37
3.	Contribute own labour towards repair and maintenance of SWC structures.	55.56	22.22	22.22	2.36
4.	Protect the SWC structures from natural calamities.	44.44	47.22	8.34	2.27
5.	Take care of the forest and fruit plants during summer by providing irrigation.	55.00	22.22	27.78	2.22

Sr. No.	Statements	GE	SE	LE/N	Intensity indices
6.	Motivate fellow farmers for money contribution towards repair and maintenance of SWC structures in the watershed.	36.11	47.22	16.67	2.19
7.	Consult with the programme implementing agency to learn about repair and maintenance of conservation structures.	38.89	33.33	27.78	2.11
8.	Protect the fruit plants grown in the watershed area.	13.89	77.78	8.33	2.05
9.	Motivate fellow farmers for labour contribution towards repair and maintenance of SWC structures in the watershed.	33.33	36.11	30.56	2.02
10.	Inform the PIA officers to repair the damaged SWC structures.	22.22	52.78	25.00	1.97

The data of the table 40 reveal that:

Forty per cent or more female respondents participated in maintenance of the SWC programme to great extent in the activities like:

- Protecting the forest plantation done in the watershed area (77.78%).

- Contributing with your own labour towards the repair and maintenance of SWC structures (55.56%).
- Taking care of forest plants and fruit plants during summer by providing irrigation (55.00%).
- Contributing money towards repair and maintenance of SWC structures.
- Protecting the SWC structures from natural calamities (44.44%).

Forty per cent or more female respondents participated in maintenance of the SWC programme to some extent in the activities like:

- Protecting fruit plants grown in the watershed area (77.78%).
- Informing the PIA officers to repair the damaged SWC structures (52.78%).
- Motivating fellow farmers to extend contribution with their money towards the repair and maintenance of SWC structures in the watershed (47.22%).
- Protecting the SWC structures from natural calamities (47.22%).

Thirty per cent or more female respondents participated in maintenance of the SWC programme to the least extent or never in the activity like:

- Motivating fellow farmers to extend contribution with their labour towards the repair and maintenance of SWC structures in the watershed (30.56%).

The table 40 further shows the intensity indices for participation of female respondents in programme maintenance stage. It ranged from 1.97 to 2.66. The female respondents showed high participation level in the

following activity of the soil and water conservation programme at the maintenance stage:

- Protecting forest plantation done in the watershed area from animals (2.66).

The female respondents showed moderate participation levels in the remaining following activities of the soil and water conservation programme at the maintenance stage:

- Contributing money towards repair and maintenance of SWC structure in their field (2.37).
- Contributing labour towards the repair and maintenance of SWC structures in their field (2.33).
- Protecting SWC structures from the natural calamities (2.27).
- Taking care of forest plants and fruit plants during the summer season by providing adequate irrigation (2.22).
- Motivating fellow farmers to extend contribution with their money towards the repair and maintenance of SWC structures (2.11).
- Consulting the PIA to learn more about repair and maintenance of conservation structures (2.11).
- Protecting fruit plants grown in the watershed area (2.05).
- Motivating fellow farmers to extend contribution with their labour towards the repair and maintenance of SWC structures in the watershed (2.02).
- Informing the PIA officers to repair the damaged of SWC structures (1.97).

It shows that female respondents moderately participated labour and money in repair and maintenance

of SWC structures were involved to take care of fruit and forestry plantation during summer season.

The female respondents did not show low level of people's participation in any activity of the soil and water conservation programme at the maintenance stage.

The extent of female's participation in the SWC programme maintenance stage was also calculated with the help of the developed people's participation index (PPI) and it was found to be 74.06 per cent. It shows moderate level of participation by female respondents in maintenance stage of soil and water conservation programme.

4.10 RELATIONSHIP BETWEEN INDEPENDENT VARIABLES AND DEPENDENT VARIABLES:

4.10.1 Relationship between the male farmers' overall participation and the selected independent variables:

Table 41: Coefficient of correlation between the male farmers' overall participation in SWC programme and the selected independent variables.

N = 284

Sr. No.	Independent Variables	Correlation Coefficient ('r' Values)
1.	Age	0.0629
2.	Socio-economic status	0.293**
3.	Land holding	0.251**
4.	Education	0.176
5.	Farm power	0.281**
6.	Family size	0.228*
7.	Income	0.047
8.	Social participation	0.201*
9.	Risk preference	0.645**
10.	Knowledge	0.548**
11.	Attitude	0.593**
12.	Adoption	0.247*

* Significant at 5 per cent level of probability.

** Significant at 1 per cent level of probability.

4.10.1.1 Age and male farmers' overall participation:

The table 41 reveals that age of the rural male farmers was positively and non-significantly correlated with their overall participation in the SWC programme with the correlation coefficient value at r=0.0629. It shows that the overall participation of the male farmers in the soil and water conservation programme increased non-significantly with the increase in their age.

Thus, the Null hypothesis (H1) that states that there will be no relationship between the age and the overall participation of male farmers in the SWC programme was accepted.

4.10.1.2 Socio-economic status and male farmers' overall participation:

The table 41 further shows that the socio-economic status of the rural male farmers was found to be positively and significantly correlated with the overall participation of the male farmers in the soil and water conservation programme with the correlation coefficient value at r=0.293. It is significant at 1 per cent level of probability. It shows that the level of overall participation of the rural male farmers increased significantly with increase in their socio-economic status.

Therefore, the Null hypothesis (H1) stating that there will be no significant relationship between the overall participation of male farmers in the SWC

programme and the socio-economic status thus was not accepted.

4.10.1.3 Land holding and male farmers' overall participation:

Regarding the land holding of rural male farmers the table observes that it was positively and significantly correlated with male farmers' overall participation in the soil and water conservation programme with the correlation coefficient value at r=0.251, at 1 per cent level of significance. It shows that as the size of the land holding increased the overall participation of male farmers also increased significantly.

Hence, the Null hypothesis (H1) stating that there will be no relationship between the land holding and the overall participation of male farmers in the SWC programme was not accepted.

4.10.1.4 Education and male farmers' overall participation:

The table 41 shows that education among rural male farmers was positively and non-significantly correlated with their overall participation in the SWC programme with the correlation coefficient value at r=0.176. It shows that the level of overall participation of rural male farmers increased with the increase in their education level. It indicates that rural male farmers with high level of education participated more in planning, implementation and maintenance of the SWC programme, but it is non-significant.

The Null hypothesis (H1) that states that there will be no significant relationship between the overall participation of male farmers in the SWC programme and the level of education was accepted.

4.10.1.5 Farm power and male farmers' overall participation:

The table 41 shows that the farm power of rural male farmers was observed positively and significantly correlated with their overall participation in the soil and water conservation programme with the correlation coefficient value r=0.281, Which is significant at 1 per cent level of probability. It shows that as the farm power increased the overall participation of male farmers in the soil and water conservation programme also increased.

Hence, the Null hypothesis (H1) stating that there will be no relationship between farm power and overall participation of male farmers in the SWC programme was not accepted.

4.10.1.6 Family size and male farmers' overall participation:

The table 41 shows that family size of rural male farmers was found to be positively and significantly correlated with their overall participation in the soil and water conservation programme with the correlation coefficient value at r=0.228. This is significant at 1 per cent level of probability. It shows that the level of

overall participation of male farmers increased with the increase in the size of their families.

The Null hypothesis (H1) stating that there will be no relationship between the family size and the overall participation of male farmers in the soil and water conservation programme was not accepted.

4.10.1.7 Income and male farmers' overall participation:

In relation to the income of the rural male farmers the table indicates it was found positively and non-significantly correlated with the male's overall participation in soil and water conservation programme with the correlation coefficient value at r=0.047, which is non-significant. It shows that the level of overall participation of rural male farmers increased with the increase in their income, but it was non-significant.

The Null hypothesis (H1) stating that there will be no significant relationship between the overall participation of male farmers in the SWC programme and the income was accepted.

4.10.1.8 Social participation and male farmers' overall participation:

It is seen from table 41 that social participation of rural male farmers was positively and significantly correlated with their overall participation in the soil and water conservation programme with the correlation coefficient value at r=0.201, which is significant at 5 per cent level of probability. It shows that the level of

overall participation of male farmers increased with increase in their social participation.

The Null hypothesis (H1) stating that there will be no relationship between social participation and the overall participation of male farmers in the soil and water conservation programme was not accepted.

4.10.1.9 Risk preference and male farmers' overall participation:

The table 41 also shows that there was high positive and significant correlation between the risk preference of rural male farmers and their overall participation in the soil and water conservation programme with the correlation coefficient value at r=0.645, which is significant at 1 per cent level of probability. It shows that the level of overall participation of male farmers increased with the increase in their risk preference in the soil and water conservation programme.

Thus, the Null hypothesis (H1) stating that there will be no relationship between the risk preference and overall participation of male farmers in the soil and water conservation programme was not accepted.

4.101.10 Knowledge and male farmers' overall participation:

Table 41 shows that knowledge regarding the soil and water conservation technologies among male farmers was highly positively and significantly correlated with their overall participation in the soil and water conservation programme with the correlation coefficient value at r=0.548, which is significant at 1 per cent level of probability. It shows that the level of overall participation of male farmers increased with the increase in their knowledge regarding soil and water conservation technologies.

Thus, the Null hypothesis (H1) stating that there will be no relationship between the knowledge and overall participation of male farmers in the soil and water conservation programme was not accepted.

4.10.1.11 Attitude and male farmers' overall participation:

The table 41 shows that the attitude of rural male farmers towards the soil and water conservation programme was also observed highly positively and significantly correlated with overall participation in the soil and water conservation programme with the correlation coefficient value at r=0.593, which is significant at 1 per cent level of probability. It shows that the level of overall participation of male farmers increased as their attitude towards the soil and water conservation programme grew more and more favourable.

Hence, the Null hypothesis (H1) stating that there will be no relationship between the kind of attitude and the overall participation of male farmers in the soil and water conservation programme was not accepted.

4.10.1.12 Adoption and male farmers' overall participation:

The table indicates that the adoption behaviour of rural male farmers regarding soil and water conservation technologies was observed positively and significantly correlated with overall participation in the soil and water conservation programme with the correlation coefficient value at r=0.247, which is significant at 5 per cent level of probability. It shows that the level of overall participation of male farmers increased with the increase in their adoption level for soil and water conservation technologies.

Thus, the Null hypothesis (H1) stating that there will be no relationship between adoption and overall participation of male farmers in the soil and water conservation programme was not accepted.

4.10.2 Relationship between the female farmers' overall participation and the selected independent variables:

Table 42: Coefficient of correlation between the female farmers' overall participation in the SWC programme and the selected independent variables.

N = 108

Sr. No.	Independent Variables	Correlation Coefficient ('r' Values)
1.	Age	-0.195
2.	Socio-economic status	0.226*
3.	Land holding	0.140
4.	Education	0.227*
5.	Farm power	0.116
6.	Family size	0.314**
7.	Income	-0.276**
8.	Social participation	0.238*
9.	Risk preference	0.244*
10.	Knowledge	0.632**
11.	Attitude	0.310**
12.	Adoption	0.113

* Significant at 5 per cent level of probability.

** Significant at 1 per cent level of probability.

4.10.2.1 Age and female farmers' overall participation:

The data in the table 42 reveal that the age was negatively and non-significantly correlated with overall participation of female farmers in the Soil and Water conservation programme with the correlation coefficient value at r= -0.195. It shows that overall participation of the female farmers in the soil and water conservation programmes decreased with the increase in the age, but it was not significant.

Thus, the Null hypothesis (H2) stating that there will be no relationship between the age and the overall participation of female farmers in the Soil and water conservation programme was accepted.

4.10.2.2 Socio-economic status and female farmers' overall participation:

The table 42 further shows that the socio-economic status of the rural female farmers was found positively and significantly correlated with their overall participation in the soil and water conservation programme with the correlation coefficient value at r=0.226. It is significant at 5 per cent level of probability. It shows that the level of overall participation of the rural female farmers increased with the increase in their socio-economic status.

The Null hypothesis (H2) stating that there will be no significant relationship between the overall participation of female farmers in the Soil and water

conservation programme and the socio-economic status was not accepted.

4.10.2.3 Land holding and female farmers' overall participation:

The table 42 shows that the land holding of rural female farmers was observed positively and non-significantly associated with female's participation in the soil and water conservation programme with the correlation coefficient value at r=0.140. It shows that as the size of the land holding increased the overall participation of female farmers also increased. In this case it is non-significant.

Hence, the Null hypothesis (H2) stating that there will be no relationship between the land holding and the overall participation of female farmers in the SWC programme was accepted.

4.10.2.4 Education and female farmers' overall participation:

The table 42 also shows that education among rural female farmers was found positively and significantly correlated with their overall participation in the SWC programme with the correlation coefficient value at r=0.227, which is significant at 5 per cent level of probability. It shows that the level of overall participation of rural female farmers increased with the increase in level of education among them.

The Null hypothesis (H2) stating that there will be no significant relationship between the overall participation of female farmers in the SWC programme and the education was not accepted.

4.10.2.5 Farm power and female farmers' overall participation:

The table 42 as well shows that the farm power of rural female farmers was observed positively and non-significantly correlated with their overall participation in the soil and water conservation programme with the correlation coefficient value at r=0.116. It shows that as the farm power increased the overall participation of female farmers in soil and water conservation programme also increased. But it is non-significant.

Hence, the Null hypothesis (H2) stating that there will be no relationship between the farm power and the overall participation of female farmers in the soil and water conservation programme was accepted.

4.10.2.6 Family size and female farmers' overall participation:

The table 42 further shows that the size of families of the rural female farmers was calculated positively and significantly correlated with female's overall participation in the soil and water conservation programme with the correlation coefficient value at r=0.314. This is significant at 1 per cent level of probability. It shows that the level of overall

participation of women's increased with the increase in the size of their families.

The Null hypothesis (H2) stating that there will be no relationship between the family size and the overall participation of female farmers in the soil and water conservation programme was not accepted.

4.10.2.7 Income and female farmers' overall participation:

As the table 42 shows, the income of rural female farmers was found negatively and significantly correlated with the female's overall participation in the soil and water conservation programme with the correlation coefficient value at r=-0.276. It shows that the level of overall participation of rural female farmers decreased significantly with the increase in their income.

The Null hypothesis (H2) stating that there will be no significant relationship between the overall participation of female farmers in the SWC programme and the income was accepted.

4.10.2.8 Social participation and female farmers' overall participation:

The table 42 as well shows that social participation of rural female farmers was observed positively and significantly correlated with female's overall participation in the soil and water conservation programme with the correlation coefficient value at r=0.238, which is significant at 5 per cent level of

probability. It shows that the level of overall participation of female farmers increased significantly with the increase in their social participation.

The Null hypothesis (H2) stating that there will be no relationship between the social participation and the overall participation of female farmers in the soil and water conservation programme was not accepted.

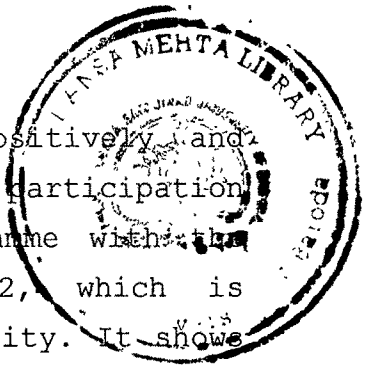
4.10.2.9 Risk preference and overall female's participation:

The table 42 shows that the risk preference of rural female farmers was observed highly positively and significantly correlated with female's overall participation in the soil and water conservation programme with the correlation coefficient value at r=0.244, which is significant at 5 per cent level of probability. It shows that the level of overall participation of female farmers increased significantly with the increase in their risk preference in the soil and water conservation programme.

Thus, the Null hypothesis (H2) stating that there will be no relationship between the risk preference and the overall participation of female farmers in the soil and water conservation programme was not accepted.

4.10.2.10 Knowledge and female farmers' overall participation:

The table 42 shows that knowledge regarding soil and water conservation technologies that the rural female



farmers possessed was observed highly positively and significantly correlated with their overall participation in the soil and water conservation programme with the correlation coefficient value at r=0.632, which is significant at 1 per cent level of probability. It shows that the level of overall participation of female farmers increased with the increase in their knowledge regarding soil and water conservation technologies.

Thus, the Null hypothesis (H2) stating that there will be no relationship between the knowledge and overall participation of female farmers in the soil and water conservation programme was not accepted.

4.10.2.11 Attitude and female farmers' overall participation:

The table 42 further shows that the attitude of rural female farmers towards the soil and water conservation programme was observed highly positively and significantly correlated with their overall participation in the soil and water conservation programme with correlation coefficient value at r=0.310, which is significant at 1 per cent level of probability. It shows that the level of overall participation of female farmers increased significantly as their favourable attitude towards the soil and water conservation programme grew more and more favourable.

Hence, the Null hypothesis (H2) stating that there will be no relationship between the attitude and overall participation of female farmers in the soil and water conservation programme was not accepted.

4.10.2.12 Adoption and female farmers' overall participation:

The table 42 also shows that adoption behaviour of rural female farmers towards soil and water conservation technologies was observed positively and non-significantly correlated with their overall participation in the soil and water conservation programme with the correlation coefficient value at r=0.113. It shows that the level of overall participation of female farmers increased non-significantly with the increase in their adoption behaviour towards soil and water conservation technologies.

Thus, the Null hypothesis (H2) stating that there will be no relationship between the adoption behaviour and the overall participation of female farmers in the soil and water conservation programme was accepted.

4.10.3 Relationship between the male farmers participation in the planning of the Soil and Water Conservation programme and the selected independent variables:

Table 43: Coefficient of correlation between the male farmers' participation in the planning of the SWC programme and the selected independent variables.

N = 284

Sr. No.	Independent Variables	Correlation Coefficient ('r' Values)
1.	Age	0.121
2.	Socio-economic status	0.645**
3.	Land holding	0.219*
4.	Education	-0.154
5.	Farm power	0.253*
6.	Family size	0.181
7.	Income	0.035
8.	Social participation	0.278**
9.	Risk preference	0.568**
10.	Knowledge	0.402**
11.	Attitude	0.467**
12.	Adoption	0.177

* Significant at 5 per cent level of probability.

** Significant at 1 per cent level of probability.

4.10.3.1 Age and male farmers participation in planning:

The data presented in table 43 reveal that age was positively and non-significantly correlated with participation of male farmers in the planning of the soil and water conservation programme with correlation coefficient value at r=0.121. It shows that participation of male farmers in planning of soil and water conservation programmes increased with the increase in their age but it was non-significant.

Thus, the Null hypothesis (H3) stating that there will be no relationship between age and the participation of male farmers in the planning of the SWC programme was accepted.

4.10.3.2 Socio-economic status and overall male farmers participation:

The table 43 also indicates that the socio-economic status of rural male farmers was found positively and highly significantly correlated with the male's participation in the planning of the soil and water conservation programme with the correlation coefficient value at r=0.645. It shows that the level of participation of rural male farmers in the planning increased significantly with the increase in their socio-economic status.

The Null hypothesis (H3) stating that there will be no significant relationship between the participation of

male farmers in the planning of the SWC programme and the socio-economic status was not accepted.

4.10.3.3 Land holding and male farmers' overall participation:

The table 43 also shows that the land holding of rural male farmers was observed positively and significantly associated with their participation in the planning of the soil and water conservation programme with the correlation coefficient value at r=0.219, which is significant at 5 per cent level of probability. It shows that the participation of male farmers in the planning increased with the increase in the size of their land holding.

Hence, the Null hypothesis (H3) stating that there will be no relationship between the land holding and the participation in the planning of the SWC programme was not accepted.

4.10.3.4 Education and male farmers' participation in planning:

The table 43 also shows that the education among rural male farmers was found negatively and non-significantly correlated with their participation in the planning of the SWC programme with the correlation coefficient value at r=-0.154. It shows that the level of participation by rural male farmers in planning decreased with the increase in their education.

The Null hypothesis (H3) stating that there will be no significant relationship between the male's participation in the planning of the SWC programme and the education was accepted.

4.10.3.5 Farm power and male farmers' participation in planning:

The table 43 also shows that the farm power of rural male farmers was observed positively and significantly associated with their participation in the planning of the soil and water conservation programme with the correlation coefficient value at r=0.253, which is significant at 5 per cent level of probability. It shows that as the farm power increased, the participation in the planning by male farmers also increased.

Therefore, the Null hypothesis (H3) stating that there will be no relationship between the farm power and the participation in the planning of the SWC programme was not accepted.

4.10.3.6 The family size and male farmers' participation in planning:

The table 43 further shows that the size of families of rural male farmers was found positively and non-significantly correlated with their participation in planning of the soil and water conservation programme with the correlation coefficient value at r=0.181, which is non-significant. It shows that the participation in planning by rural male farmers increased with the

increase in their size of families but it was at non-significant level.

The Null hypothesis (H3) stating that there will be no relationship between the family size and the male farmers' participation in planning of the soil and water conservation programme was accepted.

4.10.3.7 Income and male farmers' participation in planning:

The table 43 also shows that the income of rural male farmers was calculated as positively and non-significantly correlated with the their participation in planning of the soil and water conservation programme with the correlation coefficient value at r=0.035. It shows that the level of participation by rural male farmers in planning increased slightly with the increase in their income but it is non-significant.

The Null hypothesis (H3) stating that there will be no significant relationship between the male's participation in planning of the SWC programme and their income was accepted.

4.10.3.8 Social participation and male's participation in planning:

The table 43 shows that social participation of rural male farmers was observed highly positively and significantly correlated with their participation in planning of the soil and water conservation programme with the correlation coefficient value at r=0.278, which

is significant at 1 per cent level of probability. It shows that the level of participation by male farmers in planning increased with the increase in their social participation.

Thus, the Null hypothesis (H3) stating that there will be no relationship between social participation and male's participation in planning of soil and water conservation programme was not accepted.

4.10.3.9 Risk preference and male farmers' participation in planning:

The table 43 also shows that risk preference of rural male farmers was observed highly positively and significantly correlated with their participation in planning of the soil and water conservation programme with the correlation coefficient value at r=0.568, which is significant at 1 per cent level of probability. It shows that the level of participation by male farmers in planning increased with the increase in their risk preference towards the adoption of new improved soil and water conservation technologies.

Thus, the Null hypothesis (H3) stating that there will be no relationship between risk preference and male's participation in planning of the soil and water conservation programme was not accepted.

4.10.3.10 Knowledge and male farmers participation in planning:

The table 43 as well shows that knowledge of rural male farmers regarding soil and water conservation technologies was observed highly positively and significantly correlated with their participation in planning of the soil and water conservation programme with the correlation coefficient value at r=0.402, which is significant at 1 per cent level of probability. It shows that the level of participation in planning by male farmers increased with the increase in their understanding and knowledge regarding soil and water conservation technologies.

Thus, the Null hypothesis (H3) stating that there will be no relationship between knowledge of male farmers' and their participation in planning of the soil and water conservation programme was not accepted.

4.10.3.11 Attitude and male farmers' participation in planning:

The table 43 shows that the attitude of rural male farmers towards the soil and water conservation programme was also observed highly positively and significantly correlated with their participation in planning of the soil and water conservation programme with the correlation coefficient value at r=0.467, which is significant at 1 per cent level of probability. It shows that the level of participation in planning by male farmers increased as their attitude towards the soil and

water conservation programme grew more and more favourable.

Hence, the Null hypothesis (H3) stating that there will be no relationship between male's participation in planning of the soil and water conservation programme and their attitude was not accepted.

4.10.3.12 Adoption and male farmers' participation in planning:

The table 43 further shows that the adoption behaviour of rural male farmers regarding soil and water conservation technologies was observed positively and non-significantly correlated with male farmer's participation in planning of the soil and water conservation programme with the correlation coefficient value at r=0.177, which is non-significant. It shows that the level of participation in planning by male farmers increased as their adoption behaviour regarding soil and water conservation technologies increased. But it is non-significant level.

Thus, the Null hypothesis (H3) stating that there will be no relationship between male farmers' participation in planning of the soil and water conservation programme and their adoption behaviour was accepted.

4.10.4 Relationship between the female farmers' participation in planning of the Soil and Water Conservation programme and the selected independent variables:

Table 44: Coefficient of correlation between the female farmers' participation in planning of the SWC programme and the selected independent variables.

N = 108

Sr. No.	Independent Variables	Correlation Coefficient ('r' Values)
1.	Age	-0.110
2.	Socio-economic status	0.680**
3.	Land holding	-0.053
4.	Education	0.063
5.	Farm power	0.006
6.	Family size	0.147
7.	Income	-0.417**
8.	Social participation	0.230*
9.	Risk preference	0.160
10.	Knowledge	0.525**
11.	Attitude	0.273**
12.	Adoption	0.060

* Significant at 5 per cent level of probability.

** Significant at 1 per cent level of probability.

4.10.4.1 Age and female farmers' participation in planning:

The data presented in the table 44 reveal that the age was negatively and non-significantly correlated with participation of female farmers in planning of the Soil and Water conservation programme with the correlation coefficient value at r= -0.110. It shows that their participation in planning of the soil and water conservation programme decreased as their age increased. But, it was not upto the level of significant.

Thus, the Null hypothesis (H4) stating that there will be no relationship between female farmers' participation in planning of the Soil and water conservation programme and their age was accepted.

4.10.4.2 Socio-economic status and female farmers' participation in planning:

The table 44 further shows that the socio-economic status of rural female farmers was computed as highly positively and significantly correlated with their participation in planning of the soil and water conservation programme with the correlation coefficient value at r=0.680. It was found significant at 1 per cent level of probability. It shows that the level of participation in planning by rural female farmers increased with the increase in their socio-economic status. It indicates that rural female farmers with high level of socio-economic status could have more participation in planning of the SWC programme.

The Null hypothesis (H4) stating that there will be no significant relationship between the female farmers' participation in planning of the Soil and water conservation programme and their socio-economic status was not accepted.

4.10.4.3 Land holding and female farmers' participation planning:

The table 44 also shows that the land holding of rural female farmers was observed slightly negatively and non-significantly correlated with their participation in planning of the soil and water conservation programme with the correlation coefficient value at r=-0.053. It shows that as the size of their land holding increased their participation in planning by female farmers decreased. But in this case it is non-significant.

Hence, the Null hypothesis (H4) stating that there will be no relationship between the female farmers' participation in planning of the SWC programme and their land holding was accepted.

4.10.4.4 Education and female farmers' participation planning:

The table 44 shows that education among rural female farmers was found positively and non-significantly correlated with their participation in planning of the SWC programme with the correlation coefficient value at r=0.063. It shows that the level of participation in planning by rural female farmers increased with the

increase in their education level, but it is non-significant.

The Null hypothesis (H4) stating that there will be no significant relationship between the female's participation in planning of SWC programme and the education among them was accepted.

4.10.4.5 The farm power and female farmers' participation in planning:

The table 44 even shows that the farm power of rural female farmers was observed positively and non-significantly correlated with their participation in planning of the soil and water conservation programme with the correlation coefficient value at r=0.006. It shows that as the farm power owned by them increase the participation in planning by female farmers also increased. However, it is non-significant.

Hence, the Null hypothesis (H4) stating that there will be no relationship between female farmers' participation in planning of the soil and water conservation programme and their farm power was accepted.

4.10.4.6 Family size and female farmers' participation in planning:

The table 44 also shows that the size of families of rural female farmers was calculated positively and non-significantly correlated with their participation in planning of the soil and water conservation programme with the correlation coefficient value at r=0.147. It

shows that the level of women's participation in planning increased with the increase in the size of their families.

The Null hypothesis (H4) stating that there will be no relationship between the family size and female farmers' participation in planning of the soil and water conservation programme was accepted.

4.10.4.7 Income and female's participation in planning:

The table 44 also shows that the income of rural female farmers was found negatively and significantly correlated with their participation in planning of the soil and water conservation programme with the correlation coefficient value at r=-0.417, which is significant at 1 per cent level of probability. It shows that the level of participation in planning by rural female farmers decreased with the increase in their income.

The Null hypothesis (H4) stating that there will be no significant relationship between the female farmers' participation in planning of the SWC programme and their income was not accepted.

4.10.4.8 Social participation and female farmers' participation in planning:

The table 44 shows that social participation of rural female farmers was observed positively and significantly correlated with their participation in planning of the soil and water conservation programme

with the correlation coefficient value at r=0.230, which is significant at 5 per cent level of probability. It shows that the level of participation in planning of female farmers increased with the increase in their social participation.

The Null hypothesis (H4) stating there will be no relationship between social participation and female farmers' participation in planning of the soil and water conservation programme was not accepted.

4.10.4.9 Risk preference and female farmers' participation in planning:

The table 44 also shows that the risk preference of rural female farmers was observed positively and non-significantly correlated with their participation in planning of the soil and water conservation programme with the correlation coefficient value at r=0.160, which is non-significant. It shows that the level of female farmers' participation in planning increased with the increase in their risk preference in the soil and water conservation programme.

Thus, the Null hypothesis (H4) stating that there will be no relationship between the risk preference and female farmers' participation in planning of the soil and water conservation programme was accepted.

4.10.4.10 Knowledge and female farmers' participation in planning:

The table 44 as well shows that knowledge of soil and water conservation technologies among rural female farmers was observed positively and highly significantly correlated with their participation in planning of the soil and water conservation programme with the correlation coefficient value at r=0.525, which is significant at 1 per cent level of probability. It shows that the level of participation in planning by female farmers increased with the increase in their knowledge about soil and water conservation technologies.

Thus, the Null hypothesis (H4) stating that there will be no relationship between female farmers' participation in planning of the soil and water conservation programme and their knowledge about it was not accepted.

4.10.4.11 Attitude and female farmers' participation in planning:

The table 44 also shows that the attitude of rural female farmers' towards the soil and water conservation programme was also observed positively and highly significantly correlated with their participation in planning of the soil and water conservation programme with the correlation coefficient value at r=0.273, which is significant at 1 per cent level of probability. It shows that the level of participation in planning by female farmers increased as their favourable attitude

towards the soil and water conservation programme grew increasingly favourable.

Hence, the Null hypothesis (H4) stating that there will be no relationship between female farmers' participation in planning of the soil and water conservation programme and their attitude was not accepted.

4.10.4.12 Adoption and female farmers' participation in planning:

The table 44 also shows that the adoption behaviour of rural female farmers towards soil and water conservation technologies was observed positively and non-significantly correlated with their participation in planning of the soil and water conservation programme with the correlation coefficient value at r=0.060. It shows that the level of participation in planning of female farmers increased with the increase in their adoption level towards soil and water conservation technologies. However, it is non-significant.

Thus, the Null hypothesis (H4) stating that there will be no relationship between female farmers' participation in planning of the soil and water conservation programme and their adoption behaviour was accepted.

4.10.5 Relationship between the male farmers' participation in implementation of the SWC programme and the selected independent variables.

Table 45: Coefficient of correlation between the male farmers' participation in implementation of the SWC programme and the selected independent variables.

N = 284

Sr. No.	Independent Variables	Correlation Coefficient ('r' Values)
1.	Age	-0.016
2.	Socio-economic status	0.200*
3.	Land holding	0.090
4.	Education	-0.153
5.	Farm power	0.211*
6.	Family size	0.182
7.	Income	0.016
8.	Social participation	0.120
9.	Risk preference	0.538**
10.	Knowledge	0.579**
11.	Attitude	0.590**
12.	Adoption	0.190

* Significant at 5 per cent level of probability.

** Significant at 1 per cent level of probability.

4.10.5.1 Age and male farmers' participation in the implementation:

The data presented in the table 45 reveal that the age of male farmers was negatively and non-significantly correlated with their participation in implementation of the soil and water conservation programme with the correlation coefficient value at r= -0.016. It shows that participation of male farmers in implementation of the soil and water conservation programme decreased with the increase in their age, but it was non-significant.

Thus, the Null hypothesis (H5) stating that there will be no relationship between male farmers' participation in implementation of the SWC programme and their age was accepted.

4.10.5.2 Socio-economic status and male farmers' participation in the implementation:

The table 45 further shows that the socio-economic status of rural male farmers was found positively and significantly correlated with their participation in implementation of the soil and water conservation programme with the correlation coefficient value at r=0.200. It is significant at 5 per cent level of probability. It shows that the level of participation in implementation by rural male farmers increased with the increase in their socio-economic status. It further indicates that rural male farmers with high level of socio-economic status could have more participation at the implementation stage by contribution of money or

materials in the soil and water conservation programme on watershed basis.

The Null hypothesis (H5) stating that there will be no significant relationship between the male farmers' participation in implementation of the SWC programme and their socio-economic status was not accepted.

4.10.5.3 Land holding and male farmers' participation in the implementation:

The table 45 further shows that the land holding of rural male farmers was observed positively and non-significantly associated with their participation in implementation of the soil and water conservation programme with the correlation coefficient value at r=0.090. It shows that as the size of their land holding increased the participation of male farmers in implementation of the soil and water conservation programme also increased.

Hence, the Null hypothesis (H5) stating that there will be no relationship between male farmers' participation in implementation of SWC programme and their land holding was accepted.

4.10.5.4 Education and male farmers' participation in the implementation:

The table 45 as well shows that the education among rural male farmers was found negatively and non-significantly correlated with their participation in implementation of the SWC programme with the correlation

coefficient value at r= -0.153. It shows that the level of participation in implementation by rural male farmers decreased with the increase in their education. It indicates that rural male farmers with high level of education had lower participation in implementation of the SWC programme, but it was non-significant.

The Null hypothesis (H5) stating that there will be no significant relationship between the male farmers' participation in implementation of the SWC programme and their education was accepted.

4.10.5.5 Farm power and male farmers' participation in the implementation:

The table 45 also shows that the farm power of rural male farmers was observed positively and significantly associated with their participation in implementation of the soil and water conservation programme with the correlation coefficient value at r=0.211, which is significant at 5 per cent level of probability. It shows that as their farm power increased the participation in implementation by male farmers also increased.

Therefore, the Null hypothesis (H5) stating that there will be no relationship between the farm power and male farmers' participation in implementation of the SWC programme was not accepted.

4.10.5.6 The family size and male farmers' participation in the implementation:

The table 45 even shows that the size of families of rural male farmers was found positively and non-significantly correlated with their participation in implementation of the soil and water conservation programme with the correlation coefficient value at r=0.182. It is non-significant. It shows that the participation in implementation by the male farmers increased with the increase in their size of family. However, it was at non-significant level.

The Null hypothesis (H5) stating that there will be no relationship between the family size and male farmers' participation in implementation of the soil and water conservation programme was accepted.

4.10.5.7 Income and male farmers' participation in implementation:

The table 45 further shows that the income of rural male farmers was calculated as positively and non-significantly correlated with their participation in implementation of the soil and water conservation programme with the correlation coefficient value at r=0.016. It shows that the level of participation in implementation of the rural male farmers increased slightly with the increase in their income. It indicates that rural male farmers with more income have participation in implementation of the SWC programme. But it was at non-significant level.

The Null hypothesis (H5) stating that there will be no significant relationship between the male farmers' participation in implementation of the SWC programme and their income was accepted.

4.10.5.8 Social participation and male farmers' participation in the implementation:

The table 45 also shows that social participation of rural male farmers was observed positively and non-significantly correlated with their participation in implementation of the soil and water conservation programme with the correlation coefficient value at r=0.120. It shows that the level of participation of the male farmers' in the implementation increased with the increase in their social participation.

Thus, the Null hypothesis (H5) stating that there will be no relationship between social participation and male farmers' participation in implementation of the soil and water conservation programme was accepted.

4.10.5.9 Risk preference and male farmers' participation in the implementation:

The table 45 even shows that the risk preference of rural male farmers was observed highly positively and significantly correlated with their participation in implementation of the soil and water conservation programme with the correlation coefficient value at r=0.538, which is significant at 1 per cent level of probability. It shows that the level of participation by the male farmers in the implementation increased with the

increase in their risk preference in adoption of soil and water conservation technologies.

Thus, the Null hypothesis (H5) stating that there will be no relationship between the male farmers' participation in implementation of the soil and water conservation programme and their risk preference was not accepted.

4.10.5.10 Knowledge and male farmers' participation in the implementation:

The table 45 further shows that the knowledge regarding soil and water conservation technologies among the male farmers was observed highly positively and significantly correlated with their participation in implementation of the soil and water conservation programme with the correlation coefficient value at r=0.579. It is significant at 1 per cent level of probability. This shows that the level of participation in implementation of the SWC programme by the male farmers increased with the increase in their knowledge regarding soil and water conservation technologies.

Thus, the Null hypothesis (H5) stating that there will be no relationship between male farmers' participation in implementation of the soil and water conservation programme and their knowledge was not accepted.

4.10.5.11 Attitude and male farmers' participation in the implementation:

The table 45 also shows that attitude of rural male farmers towards the soil and water conservation programme was also observed highly positively and significantly correlated with their participation in implementation of the soil and water conservation programme with the correlation coefficient value at r=0.590, which is significant at 1 per cent level of probability. It shows that the level of participation by the male farmers in implementation of the SWC programme increased with the increase in their favourable attitude towards the soil and water conservation programme.

Hence, the Null hypothesis (H5) stating that there will be no relationship between male farmers' participation in implementation of the soil and water conservation programme and their attitude was not accepted.

4.10.5.12 Adoption behaviour and male farmers' participation in implementation:

The table 45 as well shows that the adoption behaviour of rural male farmers towards soil and water conservation technologies was observed positively and non-significantly correlated with their participation in implementation of the soil and water conservation programme with the correlation coefficient value at r=0.190, which is non-significant. It shows that the level of participation in implementation by the male farmers increased with the increase in their adoption

level towards soil and water conservation technologies. But it was not upto significant level.

Thus, the Null hypothesis (H5) stating that there will be no relationship between male farmers' participation in implementation of the soil and water conservation programme and their adoption behaviour was accepted.

4.10.6 Relationship between the female farmers' participation in implementation of the SWC programme and the selected independent variables:

Table 46: Coefficient of correlation between the female farmers' participation in implementation of the SWC programme and the selected independent variables.

N = 108

Sr. No.	Independent Variables	Correlation Coefficient ('r' Values)
1.	Age	-0.240*
2.	Socio-economic status	0.302**
3.	Land holding	0.191
4.	Education	0.346**
5.	Farm power	0.173
6.	Family size	0.445**
7.	Income	-0.258**
8.	Social participation	0.241*

9.	Risk preference	0.262**
10.	Knowledge	0.634**
11.	Attitude	0.322**
12.	Adoption	0.079

* Significant at 5 per cent level of probability.

** Significant at 1 per cent level of probability.

4.10.6.1 Age and female farmers' participation in implementation:

It is revealed from the table 46 that the age factor was found negatively and significantly correlated with participation by female farmers in implementation of the Soil and Water conservation programme with the correlation coefficient value at r=-0.240. It was found significant at 5 per cent level of probability. It shows that their participation in implementation of the soil and water conservation programme decreased with the increase in their age.

Thus, the Null hypothesis (H6) that states that there will be no relationship between females' participation in implementation of the Soil and water conservation programme and their age was not accepted.

4.10.6.2 Socio-economic status and female farmers' participation in the implementation:

The table 46 further shows that the socio-economic status of rural female farmers was computed as highly

positively and significantly correlated with their participation in implementation of the soil and water conservation programme with the correlation coefficient value at r=0.302. It was found significant at 1 per cent level of probability. This shows that the level of participation in implementation by the rural female farmers increased with the increase in their socio-economic status. It indicates that rural female farmers with higher socio-economic status participated more effectively in implementation of the SWC programme through actual adoption of practices and by contributing equipment, materials, machinery and money.

The Null hypothesis (H6) stating that there will be no significant relationship between the female farmers' participation in implementation of the Soil and water conservation programme and their socio-economic status was not accepted.

4.10.6.3 Land holding and female's participation implementation:

The table 46 also shows that the land holding of rural female farmers was observed positively and non-significantly associated with their participation in implementation of the soil and water conservation programme with the correlation coefficient value at r=0.191. It shows that as the size of their land holding increased, their participation in the implementation also increased. But in this case it was non-significant.

Hence, the Null hypothesis (H6) stating that there will be no relationship between the land holding and

female farmers' participation in implementation of the SWC programme was accepted.

4.10.6.4 Education and female farmers' participation in the implementation:

The table 46 also shows that education among rural female farmers was found highly positively and significantly correlated with their participation in implementation of the SWC programme with the correlation coefficient value at r=0.346. It shows that the level of participation in the implementation by the rural female farmers increased with the increase in their education level.

The Null hypothesis (H6) stating that there will be no significant relationship between the female farmers' participation in implementation of the SWC programme and their education was not accepted.

4.10.6.5 Farm power and female farmers' participation in the implementation:

The table 46 further shows that the farm power owned by rural female farmers was observed positively and non-significantly associated with their participation in implementation of the soil and water conservation programme with the correlation coefficient value at r=0.173. It shows that as the farm power increased the participation in implementation of the SWC programme by the female farmers also increased. However, it was non-significant.

Hence, the Null hypothesis (H6) stating that there will be no relationship between the farm power and female farmers' participation in implementation of the soil and water conservation programme was accepted.

4.10.6.6 The family size and female farmers' participation in the implementation:

The table 46 as well shows that the size of the families rural female farmers was calculated positively and highly significantly correlated with their participation in implementation of the soil and water conservation programme with the correlation coefficient value at r=0.445. It is significant at 1 per cent level of probability. It shows that the level of women's participation in implementation of the SWC programme increased with the increase in the size of their families.

The Null hypothesis (H6) stating that there will be no relationship between the family size and female farmers' participation in implementation of the soil and water conservation programme was not accepted.

4.10.6.7 Income and female farmers' participation in planning:

The table 46 further shows that the income raised by rural female farmers was found negatively and highly significantly correlated with their participation in implementation of the soil and water conservation programme with the correlation coefficient value at r=-0.258. It is significant at 1 per cent level of

probability. This shows that the level of participation in implementation of the SWC programme by the rural female farmers decreased with the increase in their income.

The Null hypothesis (H6) stating that there will be no significant relationship between the female farmers' participation in implementation of the SWC programme and their income was not accepted.

4.10.6.8 Social participation and female farmers' participation in the implementation:

The table 46 also shows that the social participation of rural female farmers was observed positively and significantly correlated with their participation in implementation of the soil and water conservation programme with the correlation coefficient value at r=0.241. It is significant at 5 per cent level of probability. This shows that the level of participation by the female farmers in implementation of the SWC programme increased with the increase in their social participation.

The Null hypothesis (H6) stating that there will be no relationship between female farmers' participation in implementation of the soil and water conservation programme and their social participation was not accepted.

4.10.6.9 Risk preference and female farmers' participation in the implementation:

The table 46 further shows that the risk preference of rural female farmers was observed positively and highly significantly correlated with their participation in implementation of the soil and water conservation programme with the correlation coefficient value at r=0.262. It is significant at 1 per cent level of probability. This shows that the level of participation in implementation by the female farmers increased with the increase in their risk preference in adoption of soil and water conservation measures. It might be due to this fact that the higher risk preferred rural female farmers were oriented towards maximization of income from agriculture by adopting different soil and water conservation structures on their land.

Thus, the Null hypothesis (H6) stating that there will be no relationship between female farmers' participation in implementation of the soil and water conservation programme and their risk preference was not accepted.

4.10.6.10 Knowledge and female farmers' participation in the implementation:

The table 46 also shows that knowledge level among rural female farmers regarding soil and water conservation technologies was observed positively and highly significantly correlated with their participation in implementation of the soil and water conservation programme with the correlation coefficient value at

r=0.634. This is significant at 1 per cent level of probability. It shows that the level of participation in the implementation by the female farmers increased with the increase in their knowledge regarding soil and water conservation technologies.

Thus, the Null hypothesis (H6) stating that there will be no relationship between knowledge and female farmers' participation in implementation of the soil and water conservation programme their knowledge about it was not accepted.

4.10.6.11 Attitude and female farmers' participation in the implementation:

The table 46 as well shows that attitude of rural female farmers towards the soil and water conservation programme was also observed positive and highly significantly correlated with their participation in implementation of the soil and water conservation programme with the correlation coefficient value at r=0.322. It is significant at 1 per cent level of probability. It shows that the level of participation in implementation by the female farmers increased as their favourable attitude towards soil and water conservation programme grew more and more favourable.

Hence, the Null hypothesis (H6) stating that there will be no relationship between females' participation in implementation of soil and water conservation programme and their attitude was not accepted.

4.10.6.12 Adoption and female farmers' participation in the implementation:

The table 46 further shows that the adoption behaviour of rural female farmers towards soil and water conservation technologies was observed positive and non-significantly correlated with their participation in implementation of the soil and water conservation programme with the correlation coefficient value at r=0.079. It shows that the level of participation in the implementation by the female farmers increased with the increase in their adoption level towards soil and water conservation technologies. However, it was at non-significant level.

Thus, the Null hypothesis (H6) stating that there will be no relationship between female farmers' participation in implementation of the soil and water conservation programme and their adoption behaviour was accepted.

4.10.7 Relationship between the male farmers' participation in maintenance of the SWC programme and the selected independent variables:

Table 47: Coefficient of correlation between the male farmers' participation in maintenance of the SWC programme and the selected independent variables.

N = 284

Sr. No.	Independent Variables	Correlation Coefficient ('r' Values)
1.	Age	0.056
2.	Socio-economic status	0.341**
3.	Land holding	0.317**
4.	Education	-0.159
5.	Farm power	0.271**
6.	Family size	0.240*
7.	Income	0.067
8.	Social participation	0.107
9.	Risk preference	0.586**
10.	Knowledge	0.472**
11.	Attitude	0.510**
12.	Adoption	0.376**

* Significant at 5 per cent level of probability.

** Significant at 1 per cent level of probability.

4.10.7.1 Age and male farmers' participation in maintenance:

The data presented in the table 47 reveal that the age was positively and non-significantly correlated with male farmers' participation in maintenance of the soil and water conservation programme with the correlation coefficient value at r=0.056. It shows that participation of the male farmers in maintenance of soil and water conservation structures on their farm increased with the increase in their age. But it was non-significant.

Thus, the Null hypothesis (H7) stating that there will be no relationship between male's participation in maintenance of the SWC programme and their age was accepted.

4.10.7.2 The socio-economic status and male farmers' participation in maintenance:

The table 47 further shows that the socio-economic status of rural male farmers was found positively and significantly correlated with their participation in maintenance of the soil and water conservation programme with the correlation coefficient value at r=0.341. It is significant at 1 per cent level of probability. It shows that the level of participation in the maintenance by the rural male farmers increased with the increase in their socio-economic status.

The Null hypothesis (H7) stating that there will be no significant relationship between the male farmers'

participation in maintenance of the SWC programme and their socio-economic status was not accepted.

4.10.7.3 The land holding and male farmers' participation in the maintenance:

The table 47 also shows that the land holding of rural male farmers was observed positively and highly significantly associated with their participation in maintenance of the soil and water conservation programme with the correlation coefficient value at r=0.317. It is significant at 1 per cent level of probability. It shows that as the size of the land holding increased, the participation by the male farmers in maintenance of SWC measures also increased.

Hence, the Null hypothesis (H7) stating that there will be no relationship between male farmers' participation in maintenance of SWC programme and their land holding was not accepted.

4.10.7.4 Education and male farmers' participation in the implementation maintenance:

The table 47 also shows that education among rural male farmers was found negatively and non-significantly correlated with their participation in maintenance of the SWC programme with the correlation coefficient value at r= -0.159. It shows that the level of participation in the maintenance by rural male farmers decreased as the level of education among them enhanced. It indicates that rural male farmers with high level of education imparted less labour as contribution to the repair and maintenance

of SWC structures on their land. But it was non-significant.

The Null hypothesis (H7) stating there will be no significant relationship between the male farmers' participation in maintenance of SWC technologies and their education was accepted.

4.10.7.5 The farm power and male farmers' participation in maintenance:

The table 47 further shows that the farm power owned be rural male farmers was observed positively and significantly associated with their participation in maintenance of the soil and water conservation programme with the correlation coefficient value at r=0.271. It is significant at 1 per cent level of probability. It indicates that as their farm power ownership increase, their participation in the repair and maintenance of soil and water conservation structures also increased.

Therefore, the Null hypothesis (H7) stating that there will be no relationship between male farmers' participation in maintenance of SWC programme the farm power owned by them was not accepted.

4.10.7.6 The family size and male farmers' participation in the maintenance:

The table 47 shows that the size of families of rural male farmers was found positively and significantly correlated with their participation in maintenance of the soil and water conservation programme with the

correlation coefficient value at r=0.240. It is significant at 5 per cent level of probability. This shows that the participation by the male farmers in maintenance of the SWC programme increased with the increase in the size of their families.

The Null hypothesis (H7) stating that there will be no relationship between the family size and male farmers' participation in maintenance of the soil and water conservation programme was not accepted.

4.10.7.7 Income and male farmers' participation in the maintenance:

The table 47 also shows that the income raised by rural male farmers was calculated as positively and non-significantly correlated with their participation in maintenance of the soil and water conservation programme with the correlation coefficient value at r=0.067. It shows that the level of participation by the rural male farmers at the maintenance stage of the SWC programme increased slightly with the increase in their income. It indicates that as the rural male farmers got more income they could have more participation in maintenance of the SWC programme. But it was at non-significant level.

The Null hypothesis (H7) stating that there will be no significant relationship between the male farmers' participation in maintenance of SWC programme and their income was accepted.

4.10.7.8 The social participation and male farmers' participation in the maintenance:

The table 47 further shows that the social participation of the rural male farmers was observed positively and non-significantly correlated with their participation in maintenance of the soil and water conservation programme with the correlation coefficient value at r=0.107. It is non-significant. This shows that the level of participation in maintenance by the male farmers increased with the increase in their social participation. It, however, remained at non-significant level.

Thus, the Null hypothesis (H7) stating that there will be no relationship between male farmers' participation in maintenance of the soil and water conservation programme and their social participation was accepted.

4.10.7.9 Risk preference and male farmers' participation in the maintenance:

The table 47 as well shows that the risk preference of the rural male farmers was observed positively and highly significantly correlated with their participation in maintenance of the soil and water conservation programme with the correlation coefficient value at r=0.586. It is highly significant at 1 per cent level of probability. This indicates that the level of participation in the repair and maintenance of soil and water conservation structures by the male farmers

increased with the increase in their risk preference towards adoption of new SWC technologies.

Thus, the Null hypothesis (H7) stating that there will be no relationship between the risk preference and male farmers' participation in maintenance of the soil and water conservation programme was not accepted.

4.10.7.10 Knowledge and male farmers' participation in the maintenance:

The table 47 also shows that knowledge regarding soil and water conservation technologies among the rural male farmers was observed positively and highly significantly correlated with their participation in maintenance of the soil and water conservation programme with the correlation coefficient value at r=0.472. It is highly significant at 1 per cent level of probability. This shows that the level of participation in the maintenance by the male farmers increased with the increase in their knowledge regarding new soil and water conservation technologies.

Thus, the Null hypothesis (H7) stating that there will be no relationship between knowledge and male farmers' participation in maintenance of soil and water conservation programme was not accepted.

4.10.7.11 Attitude and male farmers' participation in the maintenance:

The table 47 further shows that the attitude of the rural male farmers towards the soil and water

conservation programme was observed positively and highly significantly correlated with their participation in maintenance of the soil and water conservation programme with the correlation coefficient value at r=0.510. It is significant at 1 per cent level of probability. This shows that the level of participation in the maintenance by the male farmers increased as their attitude towards soil and water conservation programme grew favourable.

Hence, the Null hypothesis (H7) stating that there will be no relationship between male farmers' participation in maintenance of the soil and water conservation programme was not accepted.

4.10.7.12 Adoption and male farmers' participation in the maintenance:

The table 47 as well that the adoption level of the rural male farmers towards soil and water conservation technologies was observed positively and highly significantly correlated with their participation at the maintenance stage of the soil and water conservation programme with the correlation coefficient value at r=0.376. It is significant at 1 per cent level of probability. This shows that the level of participation in the maintenance by the male farmers increased with the increase in their adoption behaviour towards soil and water conservation technologies.

Thus, the Null hypothesis (H7) stating that there will be no relationship between male farmers' participation in maintenance of the soil and water conservation programme and their adoption was accepted.

4.10.8 Relationship between the female farmers' participation in maintenance of the SWC programme and the selected independent variables.

Table 48: Coefficient of correlation between the female farmers' participation in maintenance of the SWC programme and the selected independent variables.

N = 108

Sr. No.	Independent Variables	Correlation Coefficient ('r' Values)
1.	Age	-0.190
2.	Socio-economic status	0.276**
3.	Land holding	0.293**
4.	Education	0.240*
5.	Farm power	0.161
6.	Family size	0.287**
7.	Income	-0.016
8.	Social participation	0.164
9.	Risk preference	0.250*
10.	Knowledge	0.553**
11.	Attitude	0.239*
12.	Adoption	0.336**

* Significant at 5 per cent level of probability.

** Significant at 1 per cent level of probability.

4.10.8.1 Age and female's participation in maintenance:

It is revealed from the table 48 that the age was found negatively and non-significantly correlated with participation by the female farmers in maintenance of the soil and water conservation programme with the correlation coefficient value at r= -0.190. It is non-significant. This shows that participation by the female farmers in maintenance of the soil and water conservation programme decreased with the increase in their age. However, it was at non-significant level.

Thus, the Null hypothesis (H8) stating that there will be no relationship between female farmers' participation in maintenance of the soil and water conservation programme and their age was not accepted.

4.10.8.2 The socio-economic status and female farmers' participation in maintenance:

The table 48 also indicates that the socio-economic status of the rural female farmers was computed as positively and significantly correlated with their participation in maintenance of the soil and water conservation programme with the correlation coefficient value at r=0.276. It was found significant at 1 per cent level of probability. This shows that the level of participation in maintenance by the rural female farmers increased with the increase in their socio-economic status.

The Null hypothesis (H8) stating that there will be no significant relationship between the male farmers' participation in maintenance of the soil and water conservation programme and their socio-economic status was not accepted.

4.10.8.3 The land holding and females' participation in the maintenance:

The table 48 further shows that the land holding of the rural female farmers was observed positively and significantly associated with their participation in maintenance of the soil and water conservation programme with the correlation coefficient value at r= 0.293. It is significant at 1 per cent level of probability. This shows that as the size of land holding increased, the participation by the female farmers at the maintenance stage of SWC programme decreased.

Hence, the Null hypothesis (H8) stating that there will be no significant relationship between the land holding and female farmers' participation in maintenance of the SWC programme was not accepted.

4.10.8.4 Education and female farmers' participation in maintenance:

The table 48 further shows that education among the rural female farmers was computed as positively and significantly correlated with their participation in maintenance of the SWC programme with the correlation coefficient value at r=0.240. It is significant at 5 per cent level of probability. This indicates that the level

of participation at the maintenance stage by the rural female farmers increased with the increase in the level of education among them.

The Null hypothesis (H8) stating that there will be no significant relationship between the female farmers' participation in maintenance of the SWC programme and their education was not accepted.

4.10.8.5 The farm power and female farmers' participation in the maintenance:

The table 48 also shows that the farm power owned by the rural female farmers was observed positively and non-significantly associated with their participation in maintenance of the soil and water conservation programme with the correlation coefficient value at r=0.161. It is non-significant. This shows that as the farm power increased the participation at the maintenance stage of the SWC programme by the female farmers also increased. It, however, was at non-significant level.

Hence, the Null hypothesis (H8) stating that there will be no significant relationship between the female farmers' participation in maintenance of the soil and water conservation programme and the farm power owned by them was accepted.

4.10.8.6 The family size and female farmers' participation in the maintenance:

The table 48 as well shows that the size of families of the rural female farmers was calculated as positively

and highly significantly correlated with their participation in maintenance of the soil and water conservation programme with the correlation coefficient value at r=0.287. It shows that the level of women's participation in maintenance of the soil and water conservation programme increased with the increase in the size of their families.

The Null hypothesis (H8) stating that there will be no significant relationship between the family size and female farmers' participation in maintenance of the soil and water conservation programme was not accepted.

4.10.8.7 Income and female farmers' participation in maintenance:

The table 48 further indicates that the income raised by the rural female farmers was found negatively and non-significantly correlated with their participation in maintenance of the soil and water conservation programme with the correlation coefficient value at r=-0.016. It is non-significant. This shows that the level of participation in maintenance by the rural female farmers decreased with the increase in their income. But it remained at non-significant level.

The Null hypothesis (H8) stating that there will be no significant relationship between the female farmers' participation in maintenance of the SWC programme and their income was accepted.

4.10.8.8 The social participation and female farmers' participation in the maintenance:

The table 48 as well shows that the social participation of the rural female farmers was observed positively and non-significantly correlated with their participation in maintenance of the soil and water conservation programme with the correlation coefficient value at r=0.164. It is non-significant. This shows that the level of participation by the female farmers in maintenance of the SWC programme increased with the increase in their social participation. But it was at non-significant level.

The Null hypothesis (H8) stating that there will be no significant relationship between female farmers' participation in maintenance of the soil and water conservation programme and social participation was accepted.

4.10.8.9 The risk preference and female farmers' participation in the maintenance:

The table 48 further shows that the risk preference of the rural female farmers was observed positively and significantly correlated with their participation in maintenance of the soil and water conservation programme with the correlation coefficient value at r=0.250. It is significant at 5 per cent level of probability. This shows that the level of participation by the female farmers at the maintenance stage increased with the increase in their risk preference in adoption of soil and water conservation measures.

Thus, the Null hypothesis (H8) stating that there will be no significant relationship between the risk preference and female farmers' participation in maintenance of the soil and water conservation programme was not accepted.

4.10.8.10 Knowledge and female farmers' participation in the maintenance:

The table 48 as well shows that the knowledge regarding soil and water conservation technologies among the rural female farmers was observed positively and highly significantly correlated with their participation in maintenance of the soil and water conservation programme with the correlation coefficient value at r=0.553. It is significant at 1 per cent level of probability. This shows that the level of participation in maintenance by the female farmers increased with the increase in their knowledge regarding soil and water conservation technologies.

Thus, the Null hypothesis (H8) stating that there will be no significant relationship between female farmers' participation in maintenance of the soil and water conservation programme and their knowledge was not accepted.

4.10.8.11 Attitude and female farmers' participation in the maintenance:

The table 48 further shows that the attitude of the rural female farmers towards the soil and water

conservation programme was computed as positively and significantly correlated with their participation in maintenance of the soil and water conservation programme with the correlation coefficient value at r=0.239. It is significant at 5 per cent level of probability. This shows that the level of participation in maintenance by the female farmers increased as their favourable attitude towards soil and water conservation programme grew increasingly favourable.

Hence, the Null hypothesis (H8) stating that there will be no significant relationship between female's participation in maintenance of the soil and water conservation programme their attitude was not accepted.

4.10.8.12 Adoption and female farmers' participation in the maintenance:

The table 48 as well shows that the adoption behaviour of the rural female farmers towards soil and water conservation technologies was observed positively and highly significantly correlated with their participation in maintenance of the soil and water conservation programme with the correlation coefficient value at r=0.336. It is significant at 1 per cent level of probability. This shows that the level of participation in maintenance of soil and water conservation structures by the female farmers increased with the increase in their adoption of soil and water conservation technologies.

Thus, the Null hypothesis (H8) stating that there will be no relationship between female farmers'

participation in maintenance of the soil and water conservation programme and their adoption behaviour was not accepted.

4.10.9 Relationship between the dependent variables of people's participation in the SWC programme and the independent variable gender.

Table 49: Coefficient of correlation between the dependent variables of people's participation in SWC programme and the independent variable gender.

N = 392

Sr. No.	Dependent Variables	Mean score values		Correlation Coefficient ('r' Values)
		Male	Female	
1.	People's overall participation	64.81	65.33	-0.025
2.	People's participation in planning	21.78	21.61	0.019
3.	People's participation in implementation	20.79	21.50	-0.078
4.	People's participation in maintenance	21.82	22.22	0.003

4.10.9.1 Gender and overall people's participation:

The data regarding point biserial correlation are presented in table 49 above. The point biserial correlation was used to compute correlation between

continuous variables of people's participation in different stages and the two-categorized or dichotomous variable i.e. gender. It is revealed from the table that the gender was negatively and non-significantly correlated with people's overall participation in the soil and water conservation programme with the point biserial correlation value at r=-0.025, which is non-significant. This shows that no difference was noticed in people's overall participation in the soil and water conservation programme as an effect of the male and female categories of the respondents.

Hence, the Null hypothesis that stating that there will be no significant relationship between people's overall participation in the soil and water conservation programme and their gender was accepted.

4.10.9.2 Gender and people's participation in the planning:

Gender was found positively and non-significantly correlated with people's participation in planning of the soil and water conservation programme with the point biserial correlation value at r=0.019. It is non-significant. This shows that no difference was noticed in people's participation in planning of the soil and water conservation programme based on the male and female categories of the respondents.

Hence, the Null hypothesis that stating that there will be no significant relationship between people's participation in planning of the soil and water conservation programme and their gender was accepted.

4.10.9.3 Gender and people's participation in the implementation:

It is also revealed from the table that the gender was negatively and non-significantly correlated with people's participation in implementation of the soil and water conservation programme with the point biserial correlation value at r=-0.078. It is non-significant. This shows that no difference was noticed in people's participation in the implementation stage of the soil and water conservation programme among the respondents due to the gender differences.

Hence, the Null hypothesis that stating that there will be no significant relationship between people's participation in implementation of the soil and water conservation programme and their gender was accepted.

4.10.9.4 Gender and people's participation in the maintenance:

It was as well found that the gender was positively and non-significantly correlated with people's participation in maintenance of the soil and water conservation programme with the point biserial correlation value at r=0.003. This shows that no difference was noticed in people's participation in the maintenance stage of the soil and water conservation programme due to the gender differences.

Hence, the Null hypothesis that stating that there will be no significant relationship between people's

participation at the maintenance stage of the soil and water conservation programme and their gender was accepted.

It gets revealed from the table 49 that the gender does not have significant correlation with different dependent variables of people's participation in the SWC programme. Therefore, it may be concluded that there is no significant difference between the participation of the male respondents and the female respondents in the extent of people's overall participation and as well in the different stages of the Antisar watershed development programme, such as planning, implementation and maintenance. Thus, the female respondents are said to be as equal as male respondents in their interest, involvement and participation of the SWC programme.

4.11 CONSTRAINTS FACED BY RESPONDENTS

4.11.1 Constraints faced by the male respondents:

Table 50: Itemwise percentage distribution and rank order of the constraints faced by the male respondents during the Antisar watershed development programme.

N=284

Sr. No.	Constraints	Percentage
	(A) Economical Constraints:	
1.	Lack of finance	86.26
2.	High cost involved in adoption of technology	84.50
3.	Lack of marketing facilities	50.00
	(B) Technological Constraints:	
4.	Lack of knowledge about watershed management practices.	65.49
5.	Complexity of technology	59.15
6.	Lack of technical guidance.	55.98
	(C) Input Availability Constraints:	
7.	Shortage of labour in watershed	75.00
8.	Inadequate transport facilities	65.14
9.	Inadequate availability of inputs needed	46.47
	(D) Situational Constraints:	
10.	Lack of cooperation of people	62.32
11.	Lack of good leadership in the watershed	55.63

12.	Political interference	52.81
13.	Factionalism of population	40.49

The data of the table 50 revealed that the majority of the male respondents faced the constraints during Antisar watershed development programme. The important constraints faced by the male respondents were lack of finance, high cost involved in adoption of technology, shortage of labour in watershed area, lack of knowledge about watershed management practices, inadequate transport facilities and lack of cooperation of people.

4.11.2 Constraints faced by the female respondents:

Table 51: Itemwise percentage distribution and rank order of constraints faced by the female respondents during the Antisar watershed development programme.

N=108

Sr. No.	Constraints	Percentage
	(A) Economical Constraints:	
1.	Lack of finance	92.59
2.	High cost involved in adoption of technology	85.18
3.	Lack of marketing facilities	42.59
	(B) Technological Constraints:	
4.	Lack of knowledge about watershed management practices.	84.25
5.	Lack of technical guidance.	63.88
6.	Complexity of technology	61.14

	(C) Input Availability Constraints:	
7.	Shortage of labour in watershed	88.88
8.	Inadequate transport facilities	70.37
9.	Inadequate availability of inputs needed	52.45
	(D) Situational Constraints:	
10.	Lack of cooperation of people	78.70
11.	Lack of good leadership in the watershed	64.81
12.	Political interference	59.61
13.	Factionalism of population	35.18

The data of table 51 revealed that majority of the female respondents also faced the constraints during Antisar watershed development programme. The important constraints faced by them were lack of finance, shortage of labour in watershed, high cost involved in adoption of technology, lack of knowledge about watershed management practices, lack of cooperation of people and inadequate transport facilities.

The above findings may lead us to conclude that due attention and importance need to be granted to take care of the constraints faced by farmers. A due priority should be decided for each of them so that more crucial constraints may be resolved quickly, to prevent damage of any kind to the programme and also to ensure its smooth function.

The Spearman ranks coefficient of correlation $p^{(rho)}$ was calculated in the study to measure the correlation in

between the ranks assigned by the male and female respondents to the constraints faced by them during the developmental stages of the Antisar watershed project. The Spearman ranks coefficient of correlation was calculated as 0.962, which is highly significantly correlated. This means the problems faced by both the male and female respondents are on most grounds similar and identical.

Conclusion of the study:

1. The findings of this study revealed that majority of both the male and female respondents were belonged to middle age group having medium to small size of land holdings with primary level of education. The respondents were having medium socio-economic status and moderate level of social participation by male farmers and low level of social participation by female farmers.

2. The study also revealed that the majority of respondents had moderate farm power.

3. The findings revealed that majority of male and female farmers had moderate level of risk preference towards adoption of SWC technologies.

4. The findings with regards to knowledge of male and female farmers about soil and water conservation technologies indicated that they had moderate level of knowledge.

5. It was revealed that majority of respondents had neutral attitude towards SWC programmes.

6. The findings with regards to adoption of SWC technologies indicated that the male and female farmers had medium level of adoption.

7. The findings revealed that majority of the rural male and female farmers had moderate level of participation in planning of SWC programme.

8. People's participation in implementation stage of soil and water conservation programme was found moderate level by the male and female farmers.

9. The result of the study have revealed that majority of male and female farmers had moderate level of participation in maintenance of SWC programme.

10. The study revealed that the male farmers with more socio-economic status, large land holdings, more farm power, big family size, more social participation, risk preference, knowledge, attitude and adoption exhibits more people's participation in SWC programme.

11. The study also revealed that the female farmers with high socio-economic status, more education, big family size, more social participation and more risk preference with good knowledge and favourable attitude towards SWC programme exhibits more participation in SWC programme.