Need Assessment of Cotton Growing Farm Women in Southern Tamil Nadu

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Abstract: - Today rural women are majorly involved in agriculture practices. Cotton being one of the major crops in agriculture production systems, women also work in various activities from pre sowing till harvesting of cotton crop. The present study was conducted in three southern districts in Tamil Nadu namely Madurai, Trichy and Viruthunagar. Seventy one cotton growing farm women were selected for the study. Total of 176.5 acres of cotton production was done in the respondents' field. The mean age of the respondents was 42 years of age. Eighty per cent of the farm women were literate and majority of the farm women were small farm land holders. All the farm women were under economic weaker section group. Sowing, thinning and gap filling, weeding and harvesting were the major activities performed fully by farm women. Sickle and hand hoe were the only tools used to remove weeds in cotton crop. Leg, hand and back were the major areas affected by musculoskeletal discomfort. The study revealed that farm women need women friendly farm tools for harvesting and weeding operation in cotton crop. The increase in productivity of farm women depends on the comfort of farm women while at work.

Key-Words: - Cotton crop, women, tools, need assessment, productivity.

1 Introduction

Cotton cultivation is done in an area of 105 lakh hectares in India and among them Tamil Nadu constitutes 1.5 lakh hectare cotton cultivation [1].Agriculture in developing countries heavily depends on manual labour and major contribution comes from women. The intellectual and physical workforce of women in agriculture is unpaid worldwide[2]. There are approximately four million cotton farmers, with about 45 million people employed in all the cotton production and processing in India; women account 70 per cent of cotton planting and 90 per cent hand picking/ harvesting[3]. This study was proposed to explore the women participation in cotton cultivation practices. This also involves the understanding about different problems faced by farm women in agricultural activities. Overall representation on the needs of farm women in cotton growing was understood in this paper.

2 Methodology

A study was conducted at four districts i.e. Madurai, Trichy andViruthunagar. An exploratory research design was used to explore the women participating activities in cotton crop production activities. Seventy one farm women were selected by criterion sampling method. The criteria in selection were that all the respondents were cotton growing land holders. A standardized interview schedule was used to conduct the survey.Appropriate statistical tools were used to analyse the results from the study.

3 Result and Discussion

Table 1: Distribution of districts with cultivation details

Table 1 represented the district wise cotton cultivate area in acres. Thirty three farmers cultivated total of 89 acres crop in Viruthunagar district. In Trichy district 26 farmers had cultivated total of 57.5 acres of cotton crop. Twelve farmers of Madurai district had cultivated total of thirty acres of cotton crop in

S.No	District	No. of farmers	Cultivated area (acre)
1.	Madurai	12	30
	Trichy	26	57.5
	Viruthunagar	33	89
		71	**176.5**

the study. Total of seventy one farmers had cultivated about 176.5 acres of cotton production.

Table 2 : Sociological profile of agricultural farm women

The sociological profile of the respondents is represented in table 2.The mean age of the respondents was 42 years of age with S.D. 11.3 years. Sixty eight percent of the respondents were

S.No	Particulars	No. of respondents	Percentage
1.	Age (in years)		
	Young age	23	32
	Middle age	35	49
	Late middle aged	10	14
	Old age	3	5
2.	Education		
	Illiterate	14	20
	School dropouts	36	50
	Higher secondary school	19	27
	Graduation	2	3
3.	Family type		
	Nuclear	36	51
	Joint	35	49
4.	Total land holding		
	No land	4	6
	Small (2 – 5 acres)	65	91
	Marginal (5 – 10 acres)	2	3

middle aged to old age farm women. Among them forty nine per cent of them were middle aged, fourteen per cent were late middle aged and five per cent were old age farm women workers. Thirty two per cent of them were young farm women working in cotton production. Eighty per cent of the farm women were literate. Among them fifty per cent was school dropouts, twenty seven percent were high secondary school educated. Three per cent had completed their bachelors' graduation. Fifty one per cent of them were nuclear family sections.

Ninety one per cent of the farm women were small farm land holders. Only three per cent were marginal farmers. Remaining six per cent of them were having no land to cultivate.

Table 3: Work experience of farm women

S.No.	Particulars	No. of respondents (n=71)	Percentage
1.	Less than 15	21	30
2.	15-25	32	45
3.	26-35	13	18
4.	More than 35	5	7

The work experience of the farm women were represented in table 3. The mean work experience was 19 years. Seventy per cent of the farm women had work experience more than 15 years in cotton production. Among them forty five per cent of them had work experience of 15 to 25 years. Eighteen per cent of the workers had work experience of 26 to thirty five years and seven per cent of them had more than 35 years of farm work experience. Thirty per cent of the workers had farm work experience less than 15 years.

Table 4 :Annual income and wage worker details (2016-17)

S.No	Particulars	No. of respondents (n=71)	Percentage
	Income /annum(2016-17)		
1.	Less than 10000	2	3
2.	10000-50000	40	56
3.	50000-100000	16	23
4.	More than 100000	13	18
	Wage details		
	Non wager	58	81.6
	Wage worker	13	18.3

Table 4 represented the annual income details for the year 2016-17 and the wage worker details.The mean annual income of the workers was Rs.50000/-. Majority (79%) of the farm women had an annual income of Rs. 10000- one lakh. Among them fifty six per cent had income of Rs.10000 to 50000/- and twenty three per cent had annual income of Rs. 50000- one lakh. Eighteen per cent of the workers had annual income more than one lakh. Only three per cent of them had very low annual income of less than Rs.10000/-.

It can be inferred from the table that all the farm women were under economic weaker section group.

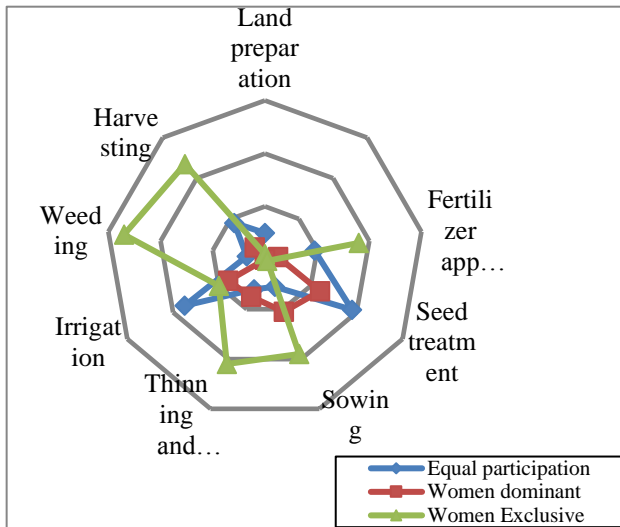**Figure 1: Gender participation of farm women in cotton crop**

Figure 2: Farm tools used in cotton crop

Figure 1 represented the gender participation in cotton crop. Four major activities viz., sowing, thinning and gap filling, weeding and harvesting were performed fully by women. Seed treatment was the only major women dominant activities. Land preparation, fertilizer application and irrigation were the activities performed equally by both men and women farmers.

Tools used by farm women in fully women activities were represented in figure 2.Sickle and hand hoe were the tools used to remove weeds in cotton crop. Sowing, thinning and gap filling and harvesting of cotton was done manually without help of any farm tool.

Table 5: Problems given by the workers for fully women activities

S.	Particulars	Fully women involving farm

No		activities			
		Sowing	Weeding	Thinning and gap filling	Harvesting
1.	No proper tool	9	3	11	28
2.	Fatigue due to strenuous work	3	20	0	10
3.	Body pain	0	6	17	11
4.	Hand pain	2	32	0	7
5.	Back pain	36	33	0	8
6.	Leg pain	30	2	0	30

Table 5 represented the problems reported by the farm women while performing fully women involving activities. While performing sowing activity the major problem faced by farm women was back pain(36%), leg pain (30%) followed by no proper tool reported by nine per cent of the women. In weeding activity 33% had reported that they have back pain problem, 33% had back pain, 20 % of them reported they had fatigue and six per cent of the workers had body pain. Thinning and gap fulfilling activity was reported to lead to body pain by seventeen per cent of the workers followed to 11% of them reported that there is no proper tool. Harvesting activity performing 30% of the workers reported they had leg pain, twenty eight per cent of the workers had reported no proper tool, eleven per cent of the workers reported that they had body pain, 10% reported fatigue during harvesting.

It can be inferred that, hand pain and back pain was major problem faced by workers while performing weeding and sowing activities. Leg pain was observed to be reported while performing sowing and harvesting activities. Lack of proper tool was reported majorly for harvesting activity.

Table 6: Suggestions given by the farm women

S.No.	Particulars	No. of respondents	Percentage
1.	Cotton picker should be altered	4	6
2.	Weeding tool should be modified	27	38
3.	Sowing tool should be developed	9	13
4.	Harvesting tool can be developed	19	27

Table 6 represented the suggestions given by farm women. Thirty eight per cent of the farm women suggested for modification in weeding tool, twenty

seven per cent of the women suggested harvesting tool to be developed, thirteen per cent of the workers suggested tool for sowing activity. Six per cent of the women suggested for modification in cotton picking machine. It can be inferred from the table that, tool modification was the major suggestion given by the farm women.

4 Conclusion

Women account for almost half of the world's agricultural workforce. Cotton crop was cultivated widely in Trichy and Viruthunagar districts. The mean age of the respondents was 42 years of age with S.D. 11.3 years. Eighty per cent of the farm women were literate and they had both nuclear and joint family system. Ninety one per cent of the farm women were small farm land holders. Seventy per cent of the farm women had been in this occupation for more than 15 years. All the farm women were under economic weaker section group though 81 % of them were possessing own lands. Four major activities viz., sowing, thinning and gap filling, weeding and harvesting were performed fully by women. Sickle and hand hoe were the only tools used to remove weeds in cotton crop. Sowing, thinning and gap filling and harvesting of cotton was done manually without help of any farm tool. Musculoskeletal discomfort in leg, hand and back were majorly reported. The farm women suggested for modifications in weeding tool and harvesting of cotton to increase their productivity. Thus, development of new tools for women oriented activities in cotton cultivation will help this vulnerable group to sustain their wellbeing as cotton growing farm women.

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