

Awareness and Adoption of Technologies by Women Headed Households

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Abstract

This study examines the extent of participation of women heading the households, in agriculture and livestock activities and their awareness and adoption of related technologies. Results reveal that around 50 per cent of the sample women were not aware of the technologies. Some of the suggestions to improve awareness include, organizing location specific training based on the crops grown in the area; telecasting programmes to create awareness, choosing fields belonging to women heading the households for demonstrations and training under Farmers Field Schools to encourage their participation, and delegating women extension functionaries for providing extension advise and services to these women. Extension programmes, need to give special emphasis on the needs and problems of women heading the households and mainstream them into the developmental programmes.

Introduction

In recent years, several studies have been conducted on women in agriculture. Most of these studies were confined to the analysis of activities performed by women in crop production. Not enough attention was paid to the women headed households in the agricultural sector. Review of literature has shown that studies have focused on women who carry out agricultural operations as an agricultural labourer or as a member of family work force. However, hardly any attention has been paid to the women who are heading the farm households and managing both farm and home. Talking of development in the sense of raising income levels and reducing income inequalities, would be meaningless if these households are not treated as a separate social category and accordingly granted a special place in all the developmental programmes.

Objectives

Keeping the above background in view, the study has been undertaken with the following specific objectives.

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1. To study the extent of participation of women heading the households in agriculture and livestock activities.
2. To examine the awareness and adoption of technologies related to agriculture and livestock activities by the women heading the households.

Methodology

Andhra Pradesh state was selected for the study and the sample was drawn from all the three regions of the state namely: Telangana, Rayalseema and Coastal Andhra. One district from each region was selected randomly, three mandals from each district and three villages from each mandal, were selected thus making the total sample of twenty seven villages covering all the three regions. At a rate of 10 households per village, a sample size of 270 women headed farm households were selected using random sampling method. The data were collected using interview method and group discussion and tabulated using averages and percentages.

Findings

Socio-economic and farming profile

- ✦ Majority of the sample women were in the active age group of 30-50 years and majority of them are in widow-hood.
- ✦ Illiteracy was wide-spread among the sample women
- ✦ The average land size of owners was 1.82 acres and owner-cum-tenant farms were more pronounced in the coastal region. Majority of the sample women had fairly good farming experience of 15 years and less
- ✦ Major crops cultivated by the sample women were paddy in the coastal region, groundnut and mulberry in Rayalaseema and paddy, cotton and gram in Telangana regions. Canal was the source of irrigation in the coastal region with well irrigation in Telangana and Rayalaseema regions.
- ✦ Average annual family income was Rs.16,622 and it was the maximum in the coastal region followed by Rayalaseema and Telangana regions. Income from farm source accounted for 66.66 per cent, while other sources contributed 34 per cent.
- ✦ Less than 10 per cent attended to various extension activities and television was found to be an effective mass media used by the sample women for seeking information.
- ✦ The type of women headed household commonly spotted was the one in which the adult male counterpart was absent and a few households with physically disabled / sick husband.

- ♦ In farm activities, the sample women on an average could spend 48 days in physical work, 163 days in supervisory work and 65 days in managerial work. A few hours were spent in dairying daily.

Participation in Farm Related Activities

Crop production and dairying are the major enterprises in the area studied. The number of days the sample women heading the households, worked physically, supervised the work and attended managerial works in farming were assessed and accordingly the results are furnished in Table 1.

It is obvious from Table 1 that, overall, the sample women participated for 276 days in the three major activities involving physical works, supervision and managerial works and the number of days worked was 48, 163 and 65 respectively. More than 59 per cent of the days was spent on supervisory works and over 17 per cent of the days was put in the physical work. In fact, during the physical work days the women instantaneously took care of supervision of other works also in the field. In managerial activities also the sample women on an average spent almost 65 days.

Perusal of the table, further reveals that the maximum 342 days of participation in farm activities could be noted in the Coastal region, while it was 239 days in Rayalaseema region and 246 days in Telangana region. The maximum in Coastal was in supervisory work and this might be due to irrigation facilities available and multiple cropping.

Dairying in general requires constant attention for a few hours everyday in tending cattle, feeding, milking and marketing and hence the sample women were attending to dairying for a few hours in about 357 days. A similar pattern existed in all the three regions as can be glanced from Table 1.

Awareness and Adoption of Production Technologies

Two important land-based activities of the sample women were (i) crop production and (ii) livestock production. The extent of awareness and adoption of crop and livestock production technologies among the women heading farm families was assessed and the results are depicted in Table 2. In addition, the sources of information, and trainings attended by the sample women have also been discussed.

Crop Production Technologies

The extent of awareness about and the adoption of crop production technologies with reference to major crops of each region were assessed and the results are furnished in Table 2.

Table-1 Participation in Farm Related Activities by the Sample Women Heading the Households
(No. of days per year)

SI No.	Activity	Coastal				Rayalaseema				Telangana				Overall Average			
		PW	SW	MW	TOTAL	PW	SW	MW	TOTAL	PW	SW	MW	TOTAL	PW	SW	MW	TOTAL
1	Agriculture	56 (16.37)	221 (64.62)	65 (19.01)	342 (100.00)	45 (18.83)	125 (52.30)	69 (28.87)	239 (100.00)	43 (17.48)	143 (58.13)	60 (24.39)	246 (100.00)	48 (17.39)	163 (59.06)	65 (23.55)	276 (100.00)
2	Dairy	365 (100)	-	-	365 (100)	342 (100.00)	-	-	342 (100.00)	364 (100.00)	-	-	364 (100.00)	357 (100.00)	-	-	357 (100.00)

(Figures in parentheses indicate percentages)

Note: PW = Physical Work, SW = Supervisory work, MW = Managerial work

Table 2: Awareness and Adoption of Crop Production Technologies among Sample Women

S. No.	Technologies	Coastal (Paddy)		Rayalaseema (Groundnut)		Telangana (Paddy)		Total			
		AW	AD	AW	AD	AW	AD	AW		AD	
								N	%	N	%
1	Varieties	89	87	57	57	49	49	193	71.48	193	71.48
2	Sowing time	85	85	80	79	50	50	215	79.63	214	79.26
3	Seed rate	2	2	74	63	11	3	87	32.22	68	25.19
4	Seed treatment	6	6	79	76	-	-	85	31.48	85	31.48
5	Nursery Management	-	-	-	-	-	-	-	-	-	-
	- Bed Preparation	70	70	-	-	50	50	120	44.44	120	44.44
	- Fertilizer management	42	42	-	-	26	25	68	25.19	67	24.81
	- Water management	71	69	-	-	47	47	118	43.70	116	42.96
	- Plant protection	29	29	-	-	21	19	50	18.52	48	17.78
6	Transplanting	50	50	-	-	50	50	100	37.00	100	37.00
7	Fertilizer Management (doses) -										
	Macro nutrients	1	-	60	26	1	-	62	25.10	26	9.63
	Micro nutrients	1	-	17	11	-	-	18	6.67	11	4.07
8	Water management at different stages of crop	71	70	76	35	49	49	195	72.22	154	57.04
9	Weed control	61	60	77	72	50	50	188	69.63	182	67.41
10	Plant protection	8	6	65	27	2	-	75	27.78	33	12.22
11	Harvesting	63	63	73	67	49	48	185	68.52	178	65.93
12	Marketing of produce	28	28	52	47	26	26	106	39.26	101	39.51
	Overall average	42	42	45	36	30	29	117	43.17	106	39.51
	Overall percentage	35.90	39.25	38.46	33.65	25.64	27.10	100	-	100	-

Note: AW = Awareness, AD = Adopted

It can be evidenced from Table 2 that overall about 43 per cent of the sample women were aware of the technologies and about 40 per cent adopted the same, with a very narrow gap of about 3 per cent between awareness and adoption. Therefore, it is presumptive that once the farmers became aware, they tried to adopt the technologies. Among the regions, as may be seen in Table 2, 42 sample women in Coastal region were aware of and adopted various crop production technologies listed. Almost the same picture can be seen in the Telangana region. However, in Rayalaseema region the gap existed to the tune of 5 per cent between awareness and adoption.

Table 2, further reveals that more than 70 per cent of the sample women were aware of the technologies related to crop varieties, sowing time, weed control, water management and harvesting. Similarly 30 to 50 per cent of the sample women were aware of and adopted the technologies related to seed rate, seed treatment, nursery preparation, transplanting, marketing etc and a few sample women were aware of micro-nutrients. Despite awareness on the organized market facilities available, women are selling their produce at the farm itself due to their prior commitments of expenditure. The awareness and adoption of irrigation and plant protection technologies could be observed among 25 to 30 per cent of the sample women.

Livestock Production Technologies

As regards awareness and adoption of livestock production technologies, dairy activity was chosen for the study as it was found to be the second important livelihood option (crop cultivation being the first) chosen by the sample women. Table 3 gives the responses of the sample women.

Out of the livestock production technologies referred in Table 3, about 13 per cent of the respondents were aware of and about 11 per cent adopted the same. Thus a gap of 2 per cent existed. Among the regions, the number of persons aware of the technologies (17.78%) and those who adopted (15.56%) was the highest in Telangana region and the lowest with 7.77 per cent and 5.5 per cent in Rayalaseema region. However, the Coastal region came in between with awareness and adoption among 13.33 per cent and 11.11 per cent respectively.

Table 3: Awareness and Adoption of Livestock Production Technologies

S. No.	Technologies	Coastal (Paddy)		Rayalaseema (Groundnut)		Telangana (Paddy)		Total			
		AW	AD	AW	AD	AW	AD	AW		AD	
								N	%	N	%
1	Breed-										
	Local / Improved	15	8	9	9	17	17	41	15.19	34	12.59
	Cross bred	11	11	7	-	14	-	32	11.85	11	4.07
2.	Balanced Feed										
	- Green fodder	15	15	11	8	23	23	49	9.63	46	17.03
	- Dry fodder	15	14	11	8	23	23	49	18.15	46	17.04
	- Concentrates	7	7	3	3	14	14	24	8.89	24	
3.	Management care at calving										
	- Care of newly born calf	14	14	9	7	23	23	46	17.04	44	16.30
	- Care of pregnant animals	14	14	10	7	23	23	47	17.41	44	16.30
	- Lactation period of cow	14	14	9	7	16	16	39	14.44	37	13.70
4.	Deworming	17	7	6	5	11	11	24	8.89	23	8.52
5	Dehorning	8	8	3	3	8	8	19	7.04	19	7.04
6	Health & Sanitation	1	-	1	1	-	-	2	0.74	1	0.37
	Overall average	12	10	7	5	15	14	35	-	29	-
	Overall percentage	13.33	11.11	7.77	5.55	17.78	15.56	12.59	-	10.74	-

Note: AW = Awareness, AD = Adopted

Among the list of technologies, the technologies concerning breeding, feeding and calf management were known to 40 to 50 per cent of the sample women. The lowest number of women (2 percent) were aware of technologies related to animal health care. Around 20 per cent of the respondents were aware of the technologies of dehorning and deworming in calf management. The only technology in which a wide gap existed between awareness and adoption was in cross breeding, which is the most important technology among others, advocated

among the farmers at large. This aspect must be taken up intensively in animal rearing extension programmes.

Sources of Information

The sources of information on technologies sought for by the sample women were assessed and the results are furnished in Table 4.

Table 4 Sources of Information Relating to Technologies sought by the Sample Women

S. No.	Sources	Coastal	Rayalaseema	Telangana	Total	
					N	%
A	Extension functionaries	20	15	12	47	17.41
B	Family Members	22	16	17	55	20.37
C	Neighbours	68	76	77	221	81.85
D	Magazines / Newspaper	2	-	-	2	0.74
E	Others (Input dealers)	56	32	69	157	57.03
	Overall average	31	23	29	83	33.33
	Overall percentage	36.67	25.56	32.41	30.74	-

Note : Overall percentages were calculated to 270, for region, percentages were calculated to 90.

A glance at Table 4 reveals that overall about 33.33 per cent of the sample women utilized the sources referred. Neighbours, other sources which include input dealers and family members formed the major sources to the sample women for seeking information about technologies.

Training Programmes Attended

The agricultural technologies are disseminated through organizing training programmes for the target group of farmers. In the training programmes, in addition to getting information on technologies, practical demonstrations, field visits etc also have the convincing effects of 'seeing is believing' and 'doing is convincing'.

Only 11 out of 270 sample women attended one training or the other and about 96 per cent of the sample farm women did not attend any training at all. This warrants the attention of the extension agencies to organize target oriented training programmes.

The reasons for less participation in training programmes were, lack of concern from the extension officials, lack of awareness among the women-headed households about the significance of training. Women-headed households assume that they will lose wages, if they attend training programmes.

Suggestions and Conclusion

1. Around 50% of the sample women were not aware of the technologies and this might be due to poor extension contact. Location specific training, on critical practices and critical inputs based on the crops grown in the area may be arranged as per the convenience of the women-heading the households.
2. Most of the women had access to television in the study area. Short duration, location specific programmes covering agriculture and allied sectors may be produced in local dialect and telecast on TV to create awareness about the technologies.
3. Many of the women do not consider the extension agent as an important factor for improving their production and some of them even stated that they do not want to waste time and forego wages for the sake of meeting the extension agent who will only contact the prominent leaders / progressive farmers and other important people in the village. More over the widows and deserted women do not move freely in the society when compared to the other farm women. Hence, their access to extension is very limited. To overcome this problem, fields belonging to the women-headed households may be chosen for demonstrations and training under Farmers Field Schools ("Polambadi" in Andhra Pradesh) to encourage their participation.
4. Women extension functionaries may be specifically delegated the job of providing extension advise and services to the women-headed households.
5. Neighbours were found to be most important source of information. In view of this progressive women farmers and active women group leaders from the village could be trained to educate the other women in the village.

Conclusion

Since the women headed households did not receive much attention from the planners in the past, extension programmes, in future have to give special emphasis on their needs and problems and mainstream them into the developmental programmes.

Reference

Tripathy, Trilochana and Mishra, Padmaja, July 2005, "Female Headed Households Resources and Constraints: A study in Orissa, India", *Asia-Pacific Journal of Rural Development*, Vol.XV, No.1.

