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Time Utilization of the Farm Women of Maharashtra in Rabi and Kharif Seasons in Farming and Post-Harvest Activities

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ABSTRACT

The largest number of working women in India is engaged in farming operations either as cultivators or as agricultural labourers. They spent major part of the day in farming activities. It was also observed that good part of active hours during day time was spent in economic activity on the farms. The study was carried out from two agro–climatic zones of Maharashtra. Nanded district was selected from Central Maharashtra Plateau zone and Nagpur district was selected from Central Vidarbha zone. The data was collected from total 600 women, from which 409 women were involved in actual farming activities and 410 in post-harvest activities from urban, rural and tribal areas. In the present study, time spending pattern of the respondents was studied for rabi and kharif seasons in days/year. It was found that farm women spent maximum time in weeding and land preparation in both rabi and kharif seasons as far as farming activities were concerned whereas they utilized maximum time on drying and storage as regards post-harvest activities. It was noted that the women spent total of 123.33 days/year on farming activities in both the seasons and that of 49.29 days/year on post-harvest activities.

Key words: Farming, Kharif, Post-harvest activities, Rabi, Time utilization, Women.

Women are the pivots around whom the family, society and the whole humanity move. The prosperity and growth of a nation depends on the status and development of its women as they constitute half of its population and play crucial role in agricultural and livestock production, household economy and market activities. Statistics reveals that women's work is rarely recognized, though they work roughly twice as many hours as men and their work is more arduous than men. The largest number of working women in India is engaged in farming operations either as cultivators or as agricultural labourers.

They spent major part of the day in farming activities. Women worked for long hours on the farm along with the regular household chores and family care. It was also observed that good part of active hours during day time was spent in economic activity on the farms. (Sandhu-1972). Ray and Chowdhury (1997) stated that rural women in India, besides spending a major part of their daily life in household chores assist their male counterpart in the crop husbandry, ani-mal husbandry, poultry keeping and other related activities.

Now a day the modernized agricultural produc-tion has brought a great upheaval in exist-ing traditional living patterns of the farm-ers. The development of latest technologies of farming and many other cropping patterns like multiple cropping and inter cropping patterns, the time utilization of farmers has been altered in the recent times. (Shree Ram Singh *et al.*–1991). Hence to know whether there is any change in the time utilization of the women in farming and post-harvest activities, the present investigation was carried out with the following objectives-

1. To know the general profile of all the respondents.
2. To find out average time utilization of the respondents in farming activities in Rabi+Kharif seasons.
3. To know the average time utilization of the respondents in post-harvest activities in Rabi+Kharif seasons.

MATERIAL AND METHODS

The study was carried out from two agro – climatic zones of Maharashtra. Nanded district was selected from Central Maharashtra Plateau zone and Nagpur district was selected from Central Vidarbha zone. The data was collected from total 600 women, from which 409 women were involved in actual farming activities and 410 in post-harvest activities from urban, rural and tribal areas. It was

easy to get sample of farm women from rural and tribal areas but difficult from urban area. Hence the localities of the urban area, where farming was done by the women, were selected.

Data were collected by administering the pre-tested interview schedule. All the respondents were interviewed personally by the investigator at work spot, which enabled her to get the first hand information. As we know there are two cropping seasons, Rabi and Kharif. Farm women work in Rabi as well as Kharif seasons. Their time utilized in these seasons was noted in days per year for both farming and post-harvest activities.

Frequencies and percentages were calculated for statistical analysis.

RESULTS AND DISCUSSION

General profile of the respondents

It is clear from table 1 that majority of the women from urban (54.00 %); rural (46.00 %) and tribal (45.50 %) areas were from the category middle age i.e. 31-45 years.

This result was found to be in different line with that of Bhalerao (2002) while it was comparable with the study of Bhamare *et al.* (2006) and Rathod (2008) who reported that majority of the Banjara women were middle aged i.e. in the age group of 36-50 years.

As far as education of the respondents was concerned, it was seen that more than one fourth (28.00 %) of the urban women were post educate. More than half of the rural (54.50 %) and tribal (54.00 %) respondents were educated up to school level. The study clearly indicates that educational level of the women in the study is fair. The results are contradictory with the studies of Mohanty (1995), Bhat (2001), Bhalerao (2002), Bhamare *et al.* (2006) and Bhoyar *et al.* (2014) who noted that majority of the respondents in their studies were illiterate.

Major occupation of the selected women from rural (67.00 %) and tribal (79.50 %) areas was found to be farm labourers. These women were working on others' farms while one third (33.00 %) of the urban women were doing business related to farming activities like, selling of agricultural implements, preparation of agricultural edible products at home (turmeric, chilli powder making, masale making etc.), dhal making, selling vegetables, flowers and garlands selling and selling preserves (papad, pickles, vermicelli etc.

These findings in case of rural and tribal respondents are in line with the studies of Bhat (2001), Bhalerao (2002), Annual Report of AICRP – Extension Component (2003) and also Rathod (2008) who reported that majority of the respondents were having farming + farm labour as their occupation. The results in this case did not support with the results of Bhoyar *et al.* (2014) who found that majority of the urban respondents were engaged in service.

As far as family type was concerned, nuclear type of families were seen to be predominant in all the areas (urban - 66.00 %, rural - 50.50 % amd tribal – 57.50 %). It is clear from the data that the trend of nuclear families has been increasing in rural and tribal areas also.

Bhat (2001) and Bhalerao (2002) also reported that the percentage of nuclear families were more in a study from rural area whereas the same result was noticed by Bhoyar *et al.* (2014) in case of urban families.

It was observed that majority (65.50 %) of the urban families were small sized (up to 4 members) whereas the trend of medium sized (5-8 members) families was found in more than half of the selected rural (53.00 %) and tribal (58.00 %) families.

These results are in line with Bhalerao (2002).

The annual income of the respondents' families was categorized under three income groups as up to Rs. 25,000/-, between Rs. 25,000/- to Rs. 50,000/- and above Rs. 50,000/-. It was observed that a thumping majority of the rural (92.50 %) and tribal (98.50 %) and less than half (43.00 %) of the urban families had their annual income up to Rs. 25,000/-.

The result is same as Bhalerao (2002) and Rathod (2008), who mentioned that in their studies majority of the families, belonged to the lower income group. But the result is not matching to the result of Bhamare *et al.* (2006).

When the respondents were classified according to their landholding categories, it was noted that majority of the respondents from all the areas were landless (urban - 63.00 %, rural - 50.50 % and tribal 45.00 %). It may be due the reason

Table 1.General profile of the respondents.

SN	Particulars	Urban (n = 200)		Rural (n = 200)		Tribal (n = 200)	
		Freq	(%)	Freq	(%)	Freq	(%)
1	Age (Years)						
	18-30 yrs.	46	23.00	65	32.50	74	37.00
	31-45 yrs.	108	54.00	92	46.00	91	45.50
	46-60 yrs.	46	23.00	43	21.50	35	17.50
2	Education						
	Illiterate	0	0.00	4	2.00	00	0.00
	Can read / write	8	4.00	74	37.00	83	41.50
	School level	52	26.00	109	54.50	108	54.00
	Jr. College/ Diploma	31	15.50	9	4.50	8	4.00
	Graduate	53	26.50	4	2.00	1	0.50
	Post Graduate	56	28.00	0	0.00	0	0.00
3	Occupation						
	Farm labour	0	0.00	134	67.00	159	79.50
	Farming	32	16.00	96	48.00	110	55.00
	Farm related	63	31.50	15	7.50	4	2.00
	Service	63	31.50	5	2.50	7	3.50
	Business	66	33.00	13	6.50	3	1.50
4	Family Structure *a) Family Type*						
	Nuclear	132	66.00	101	50.50	115	57.50
	Joint	68	34.00	99	49.50	82	41.00
	Extended	0	0.00	0	0.00	3	1.50
	b) Family size						
	Small (Up to 4 members)	131	65.50	76	38.00	68	34.00
	Medium (5-8 members)	60	30.00	106	53.00	116	58.00
	Large (> 8 members)	9	4.50	18	9.00	16	8.00
5	Family income (Rs.) Per year						
	Up to Rs. 25,000.00	86	43.00	185	92.50	197	98.50
	Rs. 25,001.00 to 50,000.00	76	38.00	13	6.50	3	1.50
	> Rs. 50,000.00	38	19.00	2	1.00	—	—
6	Land holding						
	Landless	126	63.00	101	50.50	90	45.00
	Small (Up to 2.5 acres)	8	4.00	31	15.50	16	8.00
	Marginal (2.5 to 5 acres)	19	9.50	34	17.00	46	23.00
	Medium (5 to 10 acres)	19	9.50	15	7.50	37	18.50
	Large (> 10 acres)	28	14.00	19	9.50	11	5.50

that majority of the rural and tribal respondents were farm labour.

The result is not supporting to the result of Bhamare *et al.* (2006) who reported that majority of the respondents were having high land holding.

Time utilization of the respondents in farming activities

(Average time utilization of the respondents in Rabi+Kharif seasons)

Table 1 reflects the information about the average time utilization of the respondents in 15 different farming activities in Rabi and Kharif seasons.

It can be portrayed that in land preparation, the women spent 18.24 days per year in both the

seasons. In the activity seed/variety selection they utilized very negligible time (0.57 days) as this activity was performed by the males. In the activity seed treatment also they spent very less time (0.07 days). The reason behind this was they use the seeds which were already treated. For sowing, it was observed that they utilized 9.62 days per year. For nursery raising and transplanting they found to be spending 0.47 and 1.56 days respectively for both the seasons. For manure and fertilizer application (by hand) they utilized 6.38 days. During investigation it was noted that in Vidarbha zone this activity was performed only at the time of sowing by the females. Hence no special time utilized by them for this activity. It is included in the activity sowing. It means females participated in this activity only at the time of sowing. For rest of the season, this activity was performed by the males. For insect and pest control through spraying they utilized very less time (0.52 days) and for traditional manure application they spent 2.97 days. Irrigation or water management activity was the activity where women's participation was found less. In this activity they spent only 1.78 days both Rabi and Kharif seasons.

Weeding is the activity in which major participation of the women can be noticed all over Maharashtra. In this investigation also weeding was the activity where women's participation was found maximum. The respondents utilized 61.29 days per year for weeding. Studies show that in Maharashtra after weeding, harvesting is an activity where majority women's participation is observed. In this study, it can be seen that for harvesting also they spent fair amount of time (15.95 days). Engagement of labour for the activity was the activity in which women's participation was found to be less. They utilized only 2.12 days per year for this activity. It was noted that the women had no participation in management of financial matters. They spent 0.40 and 0.46 days for credit/loan - procuring source and credit/loan – procuring amount respectively. It can be also expressed that for repaying amount and mode they utilized only 0.47 and 0.42 days respectively in both the seasons. In the gist it can be stated that the respondents utilized totally 123.33 days for the farming activities in Rabi and Kharif seasons.

The result in this regard is supporting to the result of (Shree Ram Singh *et al.*–1991) whose observation is that average engagement for different categories of farmers were 126 days for small farmers, 179 days for medium farmers and 175 days a year for big farmers. As far as the maximum time spent of the respondents in the farming activities was concerned, it was seen that weeding (61.29 days) was the activity in which they spent their major time whereas seed treatment (0.07 days) was the activity in which they spent least time.

Time utilization of the respondents in post-harvest activities

(Average time utilization of the respondents in Rabi+Kharif seasons)

As like time utilization of the respondents in farm related activities, average time utilization of the respondents in post-harvest activities were also noted. It can be stated from the Table 2, that the respondents spent totally 49.29 days in both Rabi and Kharif seasons in 11 different post-harvest activities. It was seen that they utilized 3.99 days in the activity threshing. Now a day majority of the farmers use threshers for this activity, hence threshing of the harvested crop takes very less time. After threshing there is no need to winnow the grains. The threshed grains are clean. So it was found that in these activities women had to spend less time i.e. 1.73 days for winnowing and 2.52 days for cleaning. Drying of the grains takes comparatively more time. It is an important activity after harvesting the crop. Women have to do this activity for 4-5 times a year to protect the grains from damage. It is revealed from the findings that the women spent 6.96 days for drying of the grains. Post harvest processing of the produce is a major activity that is a wholesome responsibility of women. The selected women found to be spending an average of 4.70 days for processing at household level and 3.83 days for processing of the produce at commercial level. Retention of the produce for consumption was the activity for which women utilized 4.13 days. It was observed during the data collection that majority of the farmers purchased the seed from the market; hence there was no need for retention of the produce for seed purpose.

The time utilized for this activity was negligible (0.69 days). The women spent 3.48 days per year in retention of the produce for sale. After retention of the produce for various purposes,

Table 2. Time utilization of the respondents in farming activities (Average time utilization of the respondents in Rabi+Kharif seasons). n = 409

S. No.	Activity	Time utilized (days) Mean ± SD
1	Land preparation	18.24 ± 9.56
2	Seed / variety selection	0.57 ± 2.11
3	Seed treatment	0.07 ± 0.72
4	Sowing	9.62 ± 8.64
5	Nursery raising	0.47 ± 1.81
6	Transplanting	1.56 ± 4.91
7	Manure & fertilizer application (By hand)	6.38 ± 8.04
8	Insect and pest control thru spraying	0.52 ± 2.38
9	Traditional method	2.97 ± 5.35
10	Irrigation/water management practices	1.78 ± 7.55
11	Weeding	61.29 ± 23.37
12	Harvesting	15.95 ± 9.68
13	Engagement of labour	2.12 ± 3.33
14	Credit/loan - Procuring– i) Source	0.40 ± 1.56
	ii) Amount	0.46 ± 1.64
15	Repaying – i) Amount	0.47 ± 1.72
	ii) Mode	0.42 ± 1.69
	Total days	123.33 ± 40.96

Table 3. Time utilization of the respondents in post-harvest activities (Average time utilization of the respondents in Rabi+Kharif seasons)

n = 410

S. No.	Type of work	Time utilized (days)
1	Threshing	3.99 ± 3.98
2	Winnowing	1.73 ± 1.56
3	Cleaning	2.52 ± 1.64
4	Drying	6.96 ± 4.30
5	Post-harvest processing of produce- i) Household level	4.70 ± 3.99
	ii) Commercial level	3.83 ± 3.46
6	Retention for – i) Consumption	4.13 ± 3.51
	ii) Seed	0.69 ± 1.53
	iii) Sale	3.48 ± 3.13
7	Mgt. of surplus produce –i) Household level	4.73 ± 4.06
	ii) Commercial level	3.78 ± 3.41
8	Storage	6.93 ± 5.21
9	Marketing of produce	0.23 ± 1.19
10	Mgt. of revenue earned from sale of produce	0.59 ± 2.36
11	Engagement of labour for the activities	1.03 ± 2.36
	Total days	49.29 ± 26.79

management of the surplus produce is needed. It was reported that the respondents utilized on an average 4.73 days in management of surplus produce at household level and 3.78 days for commercial level. Storage is also a main activity in which women have to participate completely. They have to check the stored grains from time to time and see if there is any damage. The women reported that they have to spend time for whole year on this activity. It can be expressed that totally they spent 6.93 days a year for the activity storage. Marketing and management of the revenue were the activities in which women's participation found to be very meager. They spent 0.23 days for marketing and 0.59 days for management of revenue earned from the sale of the produce. It was found that these activities were performed by the male members. Engagement of the labour for the activity was also not performed by majority of the women. It can be stated that they utilized only 1.03 days for this activity.

It can be concluded that the women spent maximum time on drying (6.96 days) and storage (6.93 days) of the produce and least time for marketing of the produce (0.23 days) and management of revenue earned from sale of produce (0.59 days) as far as post-harvest activities were concerned.

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