



Adoption of Grain Storage and Preservation and Processing Technologies by the Rural Women

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ABSTRACT

The objective of the present study was to find out the adoption of rural women about homestead technologies in Chittorgarh district. The study was conducted in *Bhadesar* and *Bassipanchayatsamities* of Chittorgarh district of Rajasthan state. From each panchayatsamiti, two villages where the homestead technologies have been promoted by the KVK since last five years were included in the study. The sample consisted of randomly selected 100 rural women, 25 from each village. Personal interview method was used for data collection. Frequency distribution, percentage and mean per cent score were used for analysis of data. The adoption of the respondents about homestead technologies revealed that majority of the respondents (41.12%) possessed medium adoption about grain storage component. However, their adoption was found to be very poor 58.18% adoption in preservation and processing components.

Key Words: Rural women, adoption, grain storage, preservation and processing, Homestead technologies

INTRODUCTION

Indian rural women who fulfill multifarious responsibilities daily without any hue and cry, is the mother, wife or sister responsible for family's well being as well as a farmer producing food for the family. She does not hold any apparent and discrete identity of her own on world platform but undoubtedly perform the most arduous and time consuming work behind the curtain without much resources and technologies at her disposal. Although she does all the multiple productive functions from bearing the children to performing house hold chores, her role has often been underestimated or ignored. It is a matter of great concern that in spite of magnificent tradition of women's participation in the affairs of the family, women still lag behind men in every sphere. In spite of the rapid strides made in scientific and technological development women has not yet

received due importance in transfer of technology programmes. Technological innovations and their reach to the rural women can result in enhancing women's welfare and their empowerment. Low cost, reliable homestead technologies related to nutrition, health and sanitation, drudgery reduction, post harvest technologies etc. can provide a great leap forward for meeting rural women's practical needs for reducing their drudgery, increasing their efficiency and improving family's health condition.

METHODOLOGY

The study was conducted in Chittorgarh district of Rajasthan state. The district has 11 Panchayat Samities out of these, two Panchayat Samities namely *Bhadesar* and *Bassi* were selected purposively where the homestead technologies have been promoted by the KVK since last five years (2009- 2013). Total four villages from two selected panchayatsamities were included in the study. Sample for the study consisted of 100 rural women, 25 from each village. Personal interview method was used to collect the data from the respondents. Frequency, percentage, mean percent score were used for analysis of the data.

RESULTS AND DISCUSSION

Background information of the respondents:

More than 40 per cent respondents belonged to the age group of 18-30 years and 38 per cent were from 31-45 years of age. Majority of the respondents (60%) were under upper caste category. Regarding education, 29 per cent respondents were illiterate and 24 per cent were educated up to middle level. Only 15 per cent respondents were graduates. Farming was the main family occupation of 89 per cent respondents. All the respondents were involved in some subsidiary occupations like farm labor, business and service. Majority (63%) belonged to nuclear family. More than 40 per cent respondents had small size family consisting of up to 4 members. Majority of the respondents (62%) were small and marginal farmers. Majority of the respondents (75%) were residing in *puccahouses*.

Adoption of the respondents about homestead technologies:

Fig. 1 clearly reveal that in two components i.e. grain storage and preservation and processing the respondents had medium and low adoption with adoption index 41.12 and 20.25 per cent, respectively.

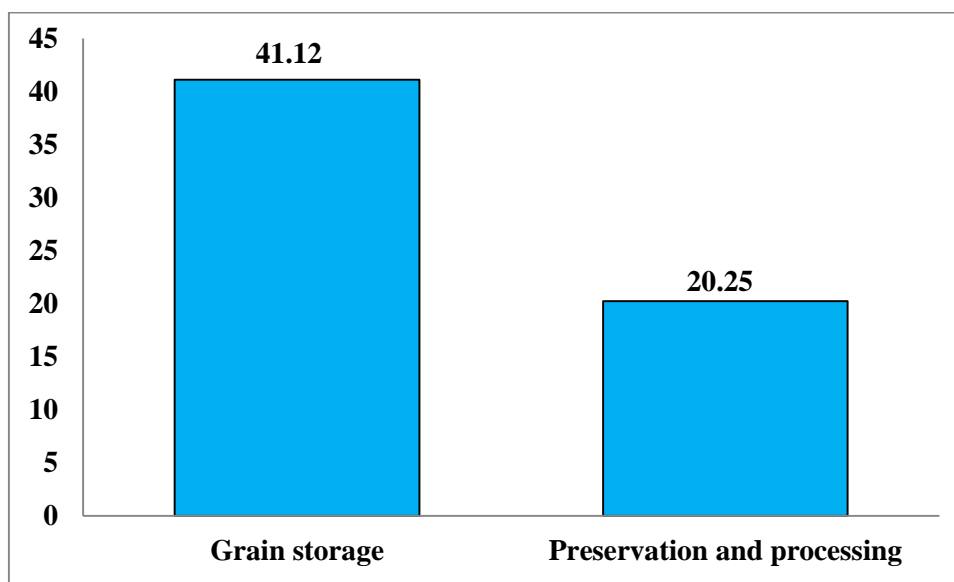


Fig. 1: Adoption of respondents regarding homestead technologies

Grain storage

Storage is one of the most important components in post harvest operations during which if proper care is not taken the produce is subjected to maximum loss. During investigation it was observed that only 32 per cent respondents were using metal bins and rest of them (68%) were having mud bins for storage of grains. The reason for non adoption of scientific storage structure were lack of knowledge and poor economic condition of the women. Regarding the use of inlet and outlet in the storage structures, it was found that majority of the respondents (68%) were not using inlet and outlet in the mud bins mainly due to their lack of knowledge regarding availability of inlet and outlet. Majority of respondents (84%) were following the practice of storing old and new grain separately. The adoption index presented in Table 4.24 reveals that majority of the respondents (77%) were using neem leaves with mud while plastering bin. None of the respondents followed any measure for prevention of mud bin from termite attack

Regarding rat control, it was found that all the respondents were using cages. Similarly more than 80 per cent respondents were also using zinc phosphide for rat control but they were not following the correct method of preparing the poison bait. More than 70 per cent respondents use to make storage structure rat proof. Majority of the respondents (82%) followed proper disposal method for residues of poison bait and dead rats.

Table 1: Adoption of scientific storage practices by the respondents

n=100

S. No.	Practices	Extent (f/%)			Adoption index (%)
		Always	Sometimes	Never	
1.	Improved storage structures				
	a) Cemented bin	0	0	100	0
	b) Metal bin	32	0	68	32
	c) Stone slab bin	0	0	100	0
	d) Gunny bags	0	0	100	0
2.	Use of inlet and outlet in storage structure	32	0	68	32
3.	Prevention of mud bin from termite attack	0	0	100	0
4.	Mix neem leaves with mud while plastering bin	77	0	23	77
5.	Store old and new grains separately	84	0	16	84
6.	Methods of rat control at household level				
	a) By making storage structures rat proof	74	0	26	74
	b) Use of cages	100	0	0	100
	c) Use of poison bait	82	0	18	82
7.	Methods of preparing poison bait				
	a) 1 Kg. Flour + 20-25 gm zinc phosphide + 20 ml edible oil + Jaggery	0	0	100	0
8.	Disposal of dead rats				
	a) By burying	82	0	18	82
	b) By burning	0	0	100	0
9.	Disposal of remaining poison bait				
	a) By burying	82	0	18	82
	b) By burning	0	0	100	0

The findings are supported by the results of Sharma (2005) who concluded that majority of the respondents (90%) were not using scientifically prepared storage structure instead, mud bins (50%), uncovered storage structures (10%) and gunny bags (30%) were found common in use. Only 10 per cent respondents adopted inlet and outlet in storage structures. None of the respondents used the practice of treating bins/gunny bags with melathion/nuwan/chloropyrophos before filling the grain for control of termites. Almost all the respondents (98%) were following the practice of storing old and new grains separately. In case of adoption of rat control measures, it was found that although 53 per cent respondents were always using poison bait (zinc phosphide) for rat control but only one respondent was following the correct method of preparing poison bait. None of the respondents was using anti-coagulant (rodoferin) for rat control. Only 31 per cent respondents used proper disposal methods for residues of poison bait and dead rats.

Preservation and Processing

Perusal of Table 2 clearly shows that only 20 per cent respondents were consuming soybean in daily diet whereas, 40 per cent respondents use to consume it sometimes i.e. once in a week or fortnightly. The adoption index presented in Table 4.25 also reveals that the practice of consuming soybean was adopted to the extent of 40.00 per cent. Regarding processing of soybean before consumption, it was found that only 12 per cent respondents were following correct method of soaking and than boiling soybean before consumption. Rest of them who were consuming the soybean occasionally reported that sometimes they use to soak it and boil before final preparation. But many a times they directly cook it in the pressure cooker without prior soaking. Majority of the respondents (68-100%) have not adopted the practice of preparing soya products like soya flour, curd, milk, *papadand badi*.

Table 2: Adoption of the soya processing practices by the respondents

n=100

S. No.	Practices	Extent (f/%)			Adoption index (%)
		Always	Sometimes	Never	
1	Consume soybean	20	40	40	40
2.	Processing of soybean before consumption				
	a) Soaking				
	b) Boiling	12	30	58	27
		12	30	58	27
3.	Soya products				
	a) Soya milk	0	0	100	0
	b) Soya flour	15	17	68	23.5
	c) Soya curd	0	0	100	0
	d) Soya badi / papad	0	0	100	0

With respect to adoption of fruit and vegetable preservation practices Table 3 shows that majority of the respondents (71-100%) have not adopted the practice of preparing preserved products like squash, jam, jelly and sauce. However, mango pickle was found common among the respondents (80%). Similarly *anolamurabba* was also prepared by 56.0 per cent respondents either regularly in every season or occasionally. The reason for non adoption of jam and jelly was lack of knowledge about these products. Similarly squash and sauce were not prepared by majority of the respondents due to high cost of lemon, orange, tomato etc. even during the season.

The results are in line with the findings of Mandowara (2005) who concluded that among various preserved products, pickle was prepared by majority of the respondents (89.5% adoption index), squash by nearly one third of them (28.5 % adoption index) and a very few respondents (5.5% adoption index) adopted items viz. *murabba*, sauce and *chutny*. Findings also revealed that mango pickle was prepared frequently by majority of the respondents (82%).

Table 3: Adoption of fruit and vegetable preservation practices by the respondents

n=100

S. No.	Practices	Extent (f/%)			Adoption index (%)
		Always	Sometimes	Never	
1.	Preserved products from fruits and vegetables				
	a) Jam				
	b) Jelly	0	0	100	0
	c) Squash (lemon, orange)	0	0	100	0
	d) Sauce	16	13	71	22.5
	e) Chutney (mango, anola)	0	0	100	0
	f) Mango pickle	11	45	44	33.5
	g) Anolamurabba	80	0	20	80
		28	28	44	42

Conclusion:

Based on the findings it could be concluded that the respondents had medium adoption level about grain storage component however, their adoption was found to be very poor in preservation and processing components. Hence, in order to improve knowledge of the rural women about grain storage and preservation and processing.

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