



Research Article

Constraints faced by farmers during storage of food grains

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SUMMARY : Storage is an important post-harvest function which involves holding and preserving of agricultural commodities from the time they are produced until they are needed for consumption. Farmers store different quantity of food grains for different durations and in this storage period they face many problems due to various factors. An attempt has been made to document various problems faced by farmers during storage of food grains and their suggestions for better storage of food grains. The study was conducted in Dharwad taluk of Dharwad district of Karnataka state. The study revealed that most of the farmers store all the food grains like jowar, paddy, wheat etc., in the range of 1-10 quintals. About 50 per cent (47.5%) of respondents felt that lack of proper storage space is major problem faced by farmers. Arrangements for the training on improved methods of food grain storage (30.00%) and disseminating information on insecticides and fumigants (22.55) were the suggestions given by the respondents.

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Food grains, Storage quantity, Storage duration, Problems, Suggestions

BACKGROUND AND OBJECTIVES

Farmers and traditional grain processors have been evolving number of traditional practices through trial and error method, to avoid huge loss that are occurring in stored pulse grains due to insect and pest infestation (Pushpamma and Rao, 1980). Certain practices are unique to a given culture of a society and vary between countries, regions, villages and even communities. Indigenous practices emanate from the cultural contact of the people concerned and evolve in close contact with specific environmental conditions and are based on traditional societies intimate knowledge of their environment. These reasons imply that indigenous knowledge is ecofriendly and safe both to man and his environment. It is estimated that 60-70 per cent of food grains produced in the country is stored at home level in indigenous structures ranging from bamboo baskets to mud structures, gunny bags

and modern bins (Kanwar and Sharma, 2003; Channal *et al.*, 2004). Indigenous knowledge is a type of knowledge, which has evolved within the community and has been passed on from one generation to another (Natarajan and Santha, 2006). Proper storage of food grains is necessary to prevent spoilage, increase keeping quality and for monetary reasons. The practice of using natural sources for storage of various household items dates back to the very earliest periods of known history. There is evidence of ash, sand and herbs used in ancient civilization, which have been credited with mystical power for increasing storage life. Many of these practices find their credibility even in the modern era. The logic behind the use of this material is that they are user friendly and are also associated with scientific reasoning (Nagnur *et al.*, 2006).

A break – through in the production of food grains was achieved by the application of science and technology in Indian agriculture. Productions

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being seasonal in India, farmers retain about 70 per cent of the farm - produce. Grain during storage is attacked by insects, rodents, birds and microorganisms leading to damage and loss of grains stored. The post-harvest losses of food grains and oilseeds are estimated to be 10 to 20 per cent, while that of different horticultural crops vary from 15 to 50 per cent (Chahal and Kataria, 2010). Parvathi *et al.* (1996) and Thakur *et al.* (1996) worked on the adoption of indigenous and modern post harvest practices followed by dry land farm women. Savanur (1993) and Dhaliwal and Kaur (1984) worked on the related topic in developing countries including India. The bulk of these losses occur during storage for most of the commodities. Hence, it is important to create storage facilities along with increase in production of food grains.

RESOURCES AND METHODS

The study was conducted in the year 2010-2011 in

Dharwad taluk of Dharwad district of Karnataka state. Dharwad district was purposively selected because farmers in this district are following both improved and traditional method of grain storage. Two villages were selected for the study. Total of 40 respondents constituted sample for the study. The pretested interview schedule was used to collect the data by personal interview method. The data collected were tabulated and analyzed by using suitable statistical measures (Panse and Sukhatme, 1985).

OBSERVATIONS AND ANALYSIS

The experimental findings obtained from the present study have been discussed in following heads:

Age:

It is clear from the Table 1 that majority of respondents (55.00%) belonged to middle age group, whereas 25.00 per

Table 1: Profile characteristics of the respondents

				(n=40)
Sr. No.	Variables	Category	Frequency	Percentage
1.	Age	Young (< 31 years)	8	20
		Middle (31 - 50 years)	22	55
		Old (> 51 years)	10	25
2.	Education	Illiterate	10	25
		Primary School	6	15
		Middle School	10	25
		High School	10	25
		PUC	4	10
		Graduate	-	-
3.	Land holding	Marginal farmers	25	62.5
		Small farmers	7	17.5
		Semi -medium farmers	5	12.5
		Medium farmers	3	7.5
		Big farmers	-	-
4.	Type of family	Nuclear	23	57.5
		Joint	17	42.5
5.	Income	Low income	15	37.5
		Semi-medium income	11	27.5
		Medium income	9	22.5
		High income	5	12.5
6.	Social participation	Participation	23	57.5
		No participation	17	42.5
		Regular	13	56.52
		Occasional	10	43.47
		Never	-	-
7.	Extension	Contact	18	45
		No contact	22	55
8.	Participation in extension activities	Participation	14	35
		No participation	26	65

cent and 20.00 per cent of respondents were in old and young age group, respectively. The most probable reason that could be attributed to this observation is that because of the inability and weakness due to old age, the old age farmers in Dharwad taluk are not interested in improved storage methods. Moreover, they are conservatives towards old methods and practices, and they did not want to change. Then, because of the modernization and attraction towards less laborious and attractive jobs, interest in business, strong urge to undergo education, young people might not be interested in agriculture and storage of food grains. But, this was not the case with middle aged respondents, who were strong enough to face all odds encountered in improved storage practices and were already engaged themselves in the profession, who were born and socialized in rural areas. They had their own families and their profession in villages.

Education:

It is clear from the results that 25.00 of the respondents were illiterates. 15.00, 25.00, 25.00 and 10.00 per cent of the respondents were educated up to primary school, middle school, high school and PUC, respectively. None of the respondents were graduates. It is obvious that 25.00 per cent of the respondents were illiterates which were understandable that due to ignorance, poverty and pressure on individual to join hands with elders at the very young age were some of the reasons for this much per centage of

illiterates. About 25.00 and 15.00 per cent of the respondents were educated up to primary and middle school. This might be due to the reason that the environment they developed and socialized might not have realized the importance of education and due to their parental ignorance. Discontinuation from the studies at the earlier age may also be due to family problems like inadequate income and requirement of additional man power to earn livelihood. A close observation of the results showed that 25.00 and 10.00 per cent of the respondents educated up to high school and PUC level.

Annual income:

It was found that nearly 37.5 per cent of the respondents belonged to low income group which is up to Rs.17000, 27.5 per cent of the respondents belonged to semi medium income group, 22.5 and 12.5 per cent of the respondents belonged to medium and high income group *i.e.* 34001-51000 and above 51000, respectively. This is due to subsistence farming, much dependence on rainfall and left over produce for sales is less.

Land holding:

It was clear from the results that majority of the farmers (62.5 %) are marginal farmers, 17.5 per cent of the respondents were medium farmers, 12.5 and 7.50 per cent of them belonged to semi-medium and medium category, this might be due to division of families. This can be explained

Table 2 : Quantity and duration of storage by the respondents

(n=40)

Food grains	Quantity (in quintals)			Duration	
	1-10	11-20	>20	Up to 3 months	6-12 Months
Jawar (n=34)	26 (76.47)	8 (23.52)	-	5 (14.70)	29 (85.29)
Maize (n=22)	12 (54)	6 (27.27)	4 (18.18)	3 (13.63)	19 (86.36)
Paddy (n=20)	13 (65)	7 (35)	-	4 (20)	16 (80)
Bengal gram (n=28)	21 (75)	4 (14.28)	3 (15)	4 (14.28)	23 (82.14)
Wheat (n=34)	29 (85.29)	5 (14.70)	-	2 (5.88)	32 (94.11)
Green gram (n=19)	19 (100)	-	-	6 (31.57)	13 (68.42)

Table 3: Problems encountered during storage of food grains

(n=40)

Sr. No.	Problems	Number	Percentage
1.	Lack of proper storage place	19	47.5
2.	Lack of awareness about fumigants and insecticides	11	27.5
3.	Lack of knowledge of improved methods of storage of food grains	14	35
4.	High cost of storage methods	9	22.5

Table 4 : Suggestions for better adoption of improved methods of food grain storage

(n=40)

Sr. No.	Suggestions	Number	Percentage
1.	Arrangements for training on improved methods of food grain storage	12	30
2.	Disseminating information on insecticides and fumigants	9	22.5
3.	Providing storage place facility	5	12.5

with the fact that as majority of the respondents had small sized families they tend to live separately, hence, possessed small farms.

Extension contact:

Generally, farmers do not adopt innovations as soon as they become aware about them. There will be a need for some other agency to bring about desirable changes in their behavior and motivate them to accept the innovations.

It is observed from the Table 1 that 45.00 per cent of the respondents had extension contact and 55.00 per cent of the respondents had not contacted extension personnel at all. This might be due to lack of time because of hard nature of agriculture and some farmers had small land holdings which made them to think that there is no necessity of contact with the extension personnel to guide them in their activities, who simply followed their old way of practicing agriculture and another reason might be distant location of the respective offices which make difficult for the farmers to get needed information.

Mere contact with extension agency alone may not help the farmers to adopt the practices. There is a need for intensive education about the improved methods of food grain storage and reinforcement of the ideas.

The extension personnel should know the availability of resources with the farmers and emphasis the adoption of such methods wherever farmers approached them. More than practices this demands specific knowledge and resources on the part of farmers.

The Table 2 indicates that most of the farmers store all the food grains like jowar, paddy, wheat etc., in the range of 1-10 quintals. Only few per cent of the farmers store some of the grains in the range of 10 to 20 quintals and above. The possible reasons for this might be that small sized land holdings and production of food grain is also low and they lack proper storage facilities in their houses. These reasons might be made them to store in the range of one to ten quintals. It was observed that majority of the respondents stored the grains for a duration of six to twelve months. The possible reasons for this might be due to the fact that most of the farmers stored the grains for house hold consumption and stored still the sub sequent harvest season and to some extent for resale purpose to get good market price in future market. For these purpose they might have stored the grains for six to twelve months.

An appraisal of Table 3 indicates the problems faced during storage of food grains. 47.5 per cent of them felt that lack of proper storage space. This is because of the small size of the house. Lack of awareness about improved methods of storage, low participation and lesser contact with the extension personnels might be the possible reasons for 35.00 per cent of respondents to express that lack of knowledge

about improved methods of storage of food grains and their use as a problem.

In order to popularize the adoption of improved methods of food grain storage and the important suggestion were obtained (Table 4). Among them some are very important ones are as follows.

Arrangements for the training on improved methods of food grain storage. So that they could get more knowledge and adopt improved methods of storage and minimize the losses during storage by various factors.

Broadcasting and telecasting of programmes related to storage of food grains more scientifically in radio and television. So that farmers could get timely information and more knowledge about the improved methods. Similar work on the same topic done by Khule *et al.* (2011); Gotyal *et al.* (2011); Darbha *et al.* (1997) and Uplap and Lohar (2010 a and b).

Conclusion:

It can be concluded from the study that various problems have been faced by farmers during storage of food grains. Lack of proper storage space and lack of knowledge about improved methods of storage of food grains were the major problems faced by the respondents. There is need to create storage facility by commercial banks or farmers service society (FSS) where farmers can deposit their grains for later sale and get part of the payment and also it is essential to organize awareness campaigns on use improved methods for effective storage.

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