

Evaluation of socio economic conditions of farmers to adopt post-harvest techniques in Bihta block in Patna District

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Abstract: A study was conducted to know how the socio economic condition of the farmers influencing post-harvest management of the food grains carried out during the year 2013-2014. The socio economic characteristics of a farmers like Age ($\chi^2 = 0.223$), Education ($\chi^2 = 1.845$), and Farm size ($\chi^2 = 0.541$) Annual Income ($\chi^2 = 1.612$), Social participation ($\chi^2 = 9.24$), and Mass Media Exposure ($\chi^2 = 7.226$) have significant association with the knowledge level of farmers to follow the desired method of post-harvest techniques. The data was elicited through the personal interview method using pre-tested schedule. The study revealed that the socio-economic status of the respondents was medium level. Sixty farmers adopting improved method and sixty farmers adopting traditional method of grain storage formed the sample for the study.

Key Words: socio economic conditions, post-harvest techniques, pre tested schedule, Chi square test.

1. INTRODUCTION:

Agriculture is the backbone of Indian economy and also one of the strong holds of Indian economy and it contributes 13.7 per cent of the country's gross domestic product in 2012-13, according to the Central Statistical Organization's (CSO) estimates. The per capita availability of food grains, which remained less than 500gm/day in the past, has reached beyond 500 gm/day in recent peak production years. It is evident that food grain production growth so is competitive with the population growth in the country so there is a huge scope to manage or avoid post-harvest losses to the greater extent.

India is experiencing colossal losses of food grains in storage. In 2012, as per official reports, loss of 11,700 tonnes of food grains was reported to have occurred in the government godowns. In a surplus producing state like Punjab alone, out of procurement during 2008-09 and 2009-10, loss of 48,000 tonnes wheat was reported to have rotten, the stock which is enough to feed around five lakh people for a year (Chahal, 2011). The actual food grain losses were however estimated much higher than the official figures in many reports. About 21-22 million tonnes of food grains per annum are lost at the present level of production in India, which values to 33-35 thousand crore rupees. In addition, about 10 percent loss of oilseeds on similar line amounts to 3 million tonnes which in monetary terms amounts to 6 thousand crore rupees.

Farmers are plays a major role to avoid this post-harvest losses because everything is in their hands, how they will manage, in order to know how the socio economic condition of the farmers to adopt any new technology or improved practices, willingness towards the new practises this study is very important which are all the factors really influencing and which are all not by which we can able to educate where we find any lacunas with the farmers.

The efforts made till now have resulted in motivating the famers to adopt storage Practices however the programme has been well taken up only in certain areas in the country and intensified efforts are also needed in other areas. Though several studies have been conducted on post-harvest management and grain losses during storage, no systematic attempt have been made to evaluate grain storage methods adopted by the farmers, management practices and grain losses. Hence it was felt necessary to evaluate socio economic condition of the farmers to adopted practices to avoid grain losses during storage. In this background, the study was conducted.

2. MATERIALS AND METHODS:

The study has been conducted in Patna districts corresponding their outs kits villages in Bihar. Patna district is situated on the banks of Ganges and coordinates 25.611N 85.144 E. Total area of Patna district is 3202 square kilometre. The city also straddles the river Sone, Gandak and Punpun. On the west of Patna, Ara District East side Beguasrai. The major crops grown in the kharif are paddy, maize. In Rabi season, wheat, lentil, Bengal gram and mustard are grown. In Patna district there are 23 blocks, out of these blocks Bihta block was selected purposively for

the present study because the block was selected for the Assessment of food grain storage method. In Bihta block there are 71 villages out of that 06 villages was selected randomly.

The lists of the farmers practicing traditional and improved method of grain storage were prepared with the help of Gram Pradhan. The twenty respondents (ten from improved method and ten from traditional method) was selected randomly from each village, thus a total 120 (60 improved method and 60 traditional method) of respondents was selected for the present study.

Personal attributes of the farmers like Age, Education, Annual Income, Farm Holdings, Mass Media Exposure data obtained through interview schedules and analyse the relationship between these factors and methods they are following to avoid the post-harvest losses.

The appropriate statistical procedure such as mean, frequency, percentage and standard deviation(O. A. Atibioko2012), chi square test was employed to analyze the data.

3. RESULTS AND DISCUSSION:

3.1 Profile characteristics of respondents

It is referred to the chronological age of the respondents in completed years at the time of investigation. The respondents have come under the category of 20-61 years and above

Table - 1 Age wise distributions of the respondents, N=120

S.No	Age	Frequency	Percentage
1	20-30	20	16.66
2	31-40	46	38.33
3	41-50	34	28.34
4	51-60	14	11.67
5	61-above	6	5
Total		120	100

The respondents 38.33 represent the middle age group followed by 28.34 percent, these groups adopt more improved method of grain storage. . The above findings got support from the studies conducted by A.T. Krishnamurthy and etal (2010) and Babanna (2001).

3.2. Family type

Family type refers to the classification of the family as nuclear and joint. The basic grouping of mates and their children is called nuclear family. The collection of more than one nuclear family on the basis of close blood ties and common residence is called joint family.

Table -2 Distribution of respondents according to their type of family.

S.No	Family Type	Frequency	Percentage
1	Nuclear family	66	55
2	Joint family	54	45
Total		120	100

3.3. Family size

In the present study the family size of the respondents was operationally defined as total number of members residing in the family, including new borne baby also. It was categorized as small, medium and large family by following general norm.

Table -3 Distribution of respondents according to their size of family

S.No	Members	Frequency	Percentage
1	Up to 5	68	56.66
2	Above to 5	52	43.34
Total		120	100

Majority 55% of the respondent's belong up to 5 member's family followed by 43.34 above to 5 members.

Table -4 Caste wise distributions of respondents

S.N.	Caste	Frequency	Percentage
1.	General	48	40.00

2.	OBC	34	28.33
3.	SC	38	31.67
Total		120	100.00

Table No-4 reveals that 40 percent respondents belong to general caste followed by backward caste 28.33 per cent, and SC 31.67 percent.

3.5. Education

It is operationalized as the extent of formal education of the rural youth had undergone. The respondents were grouped into different categories. The procedure followed by Kanavi (2000) was used with slight modifications. Scoring pattern was as follows.

Table -5 Distribution of respondents according to their qualification

S.No	Qualification	Frequency	Percentage
1	Illiterate	30	25.00
2	Primary School	24	20.00
3	Middle School	18	15.00
4	High School	20	16.66
4	Intermediate	19	15.83
5	Graduate and above	09	07.51
	Total	120	100

The finding in the above table 5 shows that 25 percent were illiterates, 21 percentage were primary schooled, 15.00 percent of respondents were from middle school, 16.66 percent were middle school, 15.33 percent were intermediate, 7.11 percent were graduate & above.

It was observed that, 55 per cent of the respondents had education above primary school. In general 75 per cent of the respondents had education at different levels. Whereas, only 25 per cent of respondents were illiterates. The possible reason might be the realization of importance of formal education in one's development by the parents of respondents, which might have motivated them to send their children for schooling. The above findings got support from the studies conducted by Krishnamurthy and etal (2010).

Table -6 Distribution of respondents according to their land holding.

Sl. No.	Land	Frequency	Percentage
1.	Small farmer (<1 ha.)	57	47.50
2.	Medium farmer (1 to 2 ha.)	42	35.66
3.	Big farmer (> 2 ha.)	21	17.11
Total		120	100

The above table shown that Most of the farmers 17.11 per cents were found to belong to big land holdings (above 2 ha.) and medium farmer category (1 to 2 ha.), respectively. Small farmer with land size less than 1 ha were found 47.33 per cent. However, 35.66 per cent fall under medium farmer; most of the respondents were found to possess 1 to 2 ha. It was evident from the results that, nearly half of the respondents were small farmers.

Table -7 Distribution of respondents according to their land type:

S.No	Types	Frequency	Percentage
1	Dry Land	19	15.83
2	Irrigated Land	101	84.17
Total		120	100

The majority 84.17 percent of land falls under irrigated land followed by 15.83 dry land.

Table - 8 Distribution of respondents according to their occupation:

S.No	Type	Frequency	Percentage
1	Farming	48	40
2	Farming + Business	35	29.16
3	Farming + Service	18	15
4	Farming +Labour	29	24.94
Total		120	100

Near about 40 percent of respondent's main occupations is farming followed 29.16 by farm business, 24.94 farming + labour, 15 farming +Service.

Table – 9 Annual incomes:

S.No	Income	Frequency	Percentage
1	Up to 18000	39	32.50
2	18001-36000	41	34.16
3	36001- 54000	21	17.50
4	54001-above	19	15.83
Total		120	100

The above table results indicated that majority of the farmers adopting improved methods and 41.33 per cent of the farmers adopting traditional method belonged to high income category (Rs. 51, 000), followed by semi-medium income category (10.00% and 25.00%) and medium income category (6.67% and 18.33%) respectively. Only 1.67 per cent of farmers adopting improved method and 6.67 per cent of farmers adopting traditional method belonged to low-income category.

Table -10 Mass media exposure of the respondents.

(N=120)

S.No	Mass media	Own source		Prgorammes	Listening/viewing / reading habit					
					Regular		Occasional		Never	
					No.	%	No.	%	No.	%
1	Radio / T.V.	67	55.83	General	45	37.50	34	28.33	41	34.16
				Agriculture	20	16.67	47	39.16	53	44.17
2	Newspaper / Magazine	36	30.00	General	24	20.00	59	49.16	37	30.83
				Agriculture	10	08.33	26	21.66	84	70.00
3	Kisanmela / Exhibition	17	14.17	General	22	18.33	37	30.83	61	50.84
				Agriculture	06	5.00	11	9.17	103	85.83

Table 10 reveals that, among the different mass media survey, 55.83 per cent of their respondents possessed radio or T.V. whereas newspaper / magazine was owned by 30.00 per cent followed by 14.17 percent subscribers to the kisanmela / exhibition. As far as utilization of radio and T.V. by the respondents was concerned 16.67 and 39.16 percent listened to Agricultural programmes regularly and occasionally, respectively. Whereas, 37.50 and 28.33 percent of the respondents listened to general programmes regularly and occasionally respectively.

In case of newspaper and magazine 18.33 per cent growers read general articles regularly and 30.83 percent occasionally followed by 50.84 per cent never practiced. 8.33 and 21.67 per cent each read agricultural articles, regularly and occasionally, and 70.00 per cent never read the newspaper and magazine.

In case of kisan mela and exhibitions 5.00 per cent viewed regularly the agricultural programmes followed by occasional (9.17%) and 85.83 percent never listener respectively. Twenty per cent respondents viewed general programmes regularly, followed by 49.16 per cent occasional and 30.83 per cent never.

3.6. Extension contacts of farmers.

Extension contacts of farmer according to their needs, respondents when they needed they contacts 24.16 with private field staff, followed by AO 19.16, BDO 13 %. Majority 80% of respondents never contacts with BDO, AO, KVK, University, ARS.

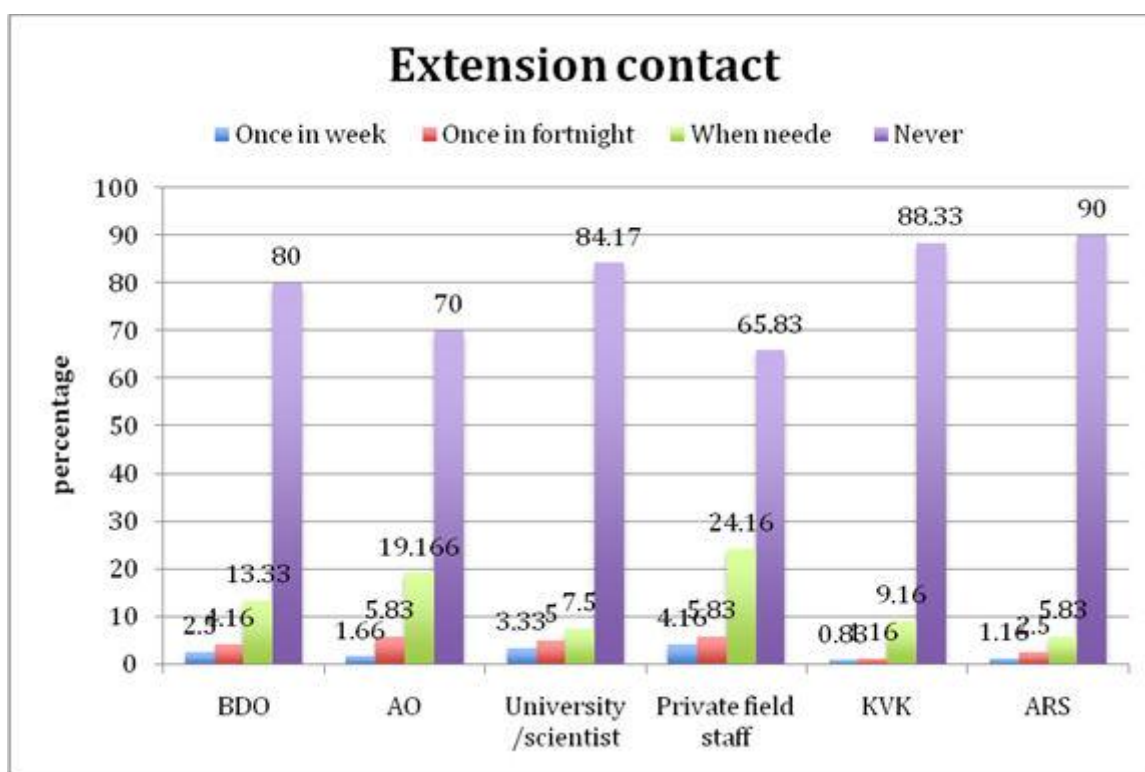


Fig No-11

3.7. Socio-economic condition of the respondent

The socio economic condition of the respondent is medium 46.67 followed by low level of socio economic condition.

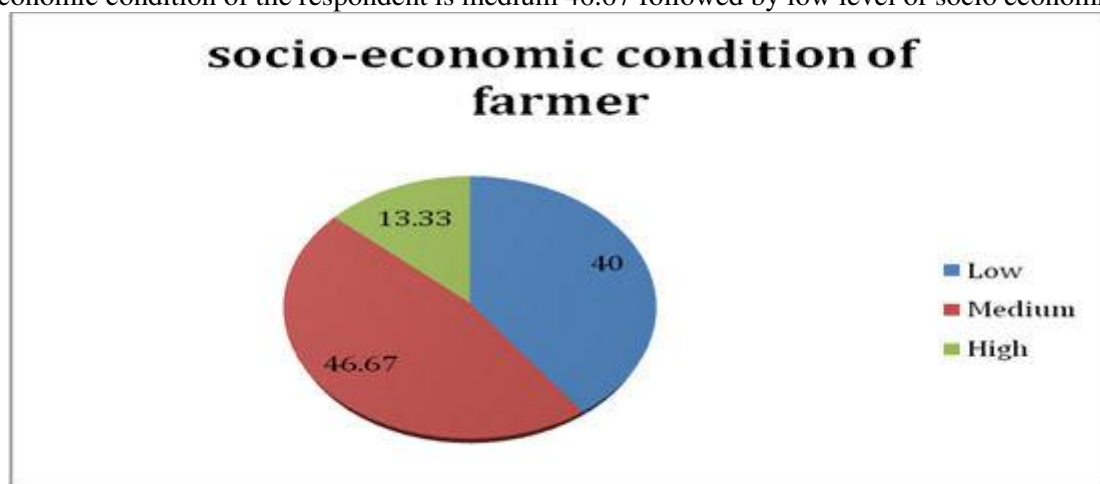


Fig -12

Association between independent variables and knowledge level of the respondents.

Table -13 shows the association between independent variable & knowledge:

S. No	Characteristics/ category	Score	Traditional farmers	Improved farmers	χ^2
			N=60	N=60	
			F(P)	F(P)	
1	Age				
	Young	<40	34(53.33)	36(56.67)	0.223*
	Middle	41-50	22(30.00)	21(26.67)	
	Old	>51	4(6.67)	3 (3.33)	
2	Education				
	Low	Up to 6th	29 (68.33)	23 (51.67)	1.845*
	Medium	7th-12 th	28 (33.33)	31(31.67)	

	High	Above 12th	3(5.00)	6(10.00)	
3	Annual Income				
	Low	<18	21 (48.33)	15 (16.67)	1.612*
	Medium	19-54	31 (55.00)	34 (48.33)	
	High	>54	8(13.33)	11(18.33)	
4	Farm size				
	Small farmer	<2 acre	29(48.33)	28(46.66)	0.541*
	Medium farmer	2-5 acre	22 (36.67)	20 (16.67)	
	Big farmer	>5 acre	9 (6.66)	12 (28.33)	
5	Mass media exposure				
	Low	<	29(31.67)	21(35.00)	7.226*
	Medium	37-42	26(15.83)	23(71.67)	
	High	>	5(20.83)	16 (23.33)	

The above table indicates that the association between independent variables and knowledge of the respondents by applying Chi-square (χ^2) test. After the test the results implied that Age ($\chi^2 = 0.223$), Education ($\chi^2 = 1.845$), and Farm size ($\chi^2 = 0.541$) Annual Income ($\chi^2 = 1.612$), Social participation ($\chi^2 = 9.24$), and Mass Media Exposure ($\chi^2 = 7.226$) have significant association with the knowledge level of respondents since the calculated χ^2 value of the variables are greater than the tabulated χ^2 value at 5% level of significance.

4. CONCLUSION:

The respondents 38.33 represent the middle age group followed by 28.34 percent, Majority 55% of the respondent's belong up to 5 member's family followed by 43.34 above to 5 members. In caste 40 percent respondents belongs to general caste followed by OBC 28.33 per cent, and SC 31.67 percent. Large population fall under illiterate 25% followed by primary school 20%. Land holding less than 1 hectare is 47.50% is followed by respondent who have 1-2 hectare 53.66%, only 17.11 Respondent have more than 2 hectare. Most of the area is irrigated 84.17 is followed by dry land 15.83, main occupation of respondent is farming 40 % followed by farming & business 29.16. Income level is 18001-36000 thousand 34.16 % followed by 18000 thousand 32.50%. among the different mass media survey, 55.83 per cent of their respondents possessed radio or T.V. whereas newspaper / magazine was owned by 30.00 per cent followed by 14.17 percent subscribers to the kisan mela / exhibition. The socio economic condition of the respondent is medium 46.67 followed by low level of socio economic condition.

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