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Role of Agricultural Marketing in Crop Diversification- A Comparative Study

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ABSTRACT

Crop diversification *refers to the raising of varieties of crops in a given area in a crop season. To achieve agricultural sustainability there must be crop diversification. In present research paper an attempt has been made to examine the effect of different factor on the decision of crop diversification among different size group of farmers. The study focused on the role of marketing facility for their effect in crop diversification. Study also highlights a comparison with other variables. The study based on primary data collected among different size farmers. Statistical tools like Mean, St. Deviation and Kruskal-Wallis test has been used. The study concluded that Marketing facilities was the maximum effected variable in all size groups of farmers and the minimum effected variable were environment concern of farmers as reported by the farmers. The study also concluded that there were no significance differences among different group for considering the variable.*

Key words- Crop diversification, Marketing, Farmers, Environment

INTRODUCTION-

Agriculture is the main stay of our state and country economy as well. Recent years the share of Agriculture is declining in our GDP due to several reasons. As scholar and research agencies indicate time to time that the decreasing land holding for per family is not sufficient for their lively hood. Normally, as farm size decreases, the cropping pattern gets more and more intensified, diversified and oriented to high-value crops, in order to maintain, if not increase income level and also to guard against risk. The transformation to commercial agriculture took place in this regard as known as Agricultural diversification from one crop to other.

Diversification is basically understood as the shift from one sector to other sector. But in the present research paper we used the diversification from one crop to another crop. Though the former type of diversification indicates shift from one crop to another crop, the other type of diversification may involve income-enhancing enterprises in addition to the existing ones. In essence, the diversification to commercial crops/ commodities becomes an essential strategy that can increase incomes in agriculture; minimize risks due to crop failures. In India, diversification has occurred both across and within the crop. Within the agriculture, the share of output and employment in the non-crop sectors, i.e. animal husbandry, forestry and fisheries, has been gradually increasing. Thus, diversification is taking place in terms of moving away from crop

production to other agricultural activities. More significant changes are taking place within the crop sector, as is evident from the changes in cropping pattern. But as mentioned in present research paper deals with crop to crop diversification.

Need for diversification- in agriculture, the economic, social, cultural, political and technological factors in a country influence farmer's decisions. For example, changes in income in the society change the demand for agricultural products, and the cost of living has a large influence on farmer's conditions. As mentioned size of land holding is continuous declining. Higher wages and employment opportunities outside the agriculture sector have induced labor. Farm planning generally focuses on optimal diversification with respect to risk and uncertainties, where the risk-management strategies includes production, marketing, financial and environmental responses of the production of farm firm. In this respect, farm diversification may be considered as a spontaneous response to avoid many of these uncertainties. There are several reasons why diversification is an option for managing these uncertainties.

Agricultural marketing and agricultural diversification- several factor are responsible for changing farming pattern. Out of these factors agricultural marketing play a significant role. Agricultural marketing involve all function and activities in movement of goods from farmer to consumer. It is multistage task. It involves packing, transportation, sailing price fixation timely payment etc.

In present research paper an attempt has been made by researcher to examine the role of agricultural marketing in crop diversification.

Diversification involved many reasons as technology, atmospheric condition, size of land holding, availability and facilities by agricultural marketing, personal labor and convenient, market demand of particular product, crop rotation, and environment protection, any special assistance given by government and other problem.

Keeping the importance of subject matter in view many study was conducted and presented by researcher from time to time. In present research paper some of the studies is reviewed and presented by researcher. **Ashrit R.R. (2014)** in their research work examines the cropping pattern and diversification in India. The study concluded that all India level there was an increase in percentage share of area under wheat while the area under rice was remain the same. Haryana, Karnataka were showing high diversification in crop and less diversification were among Orissa and West Bengal and Assam. **Tuteja U (2015)** in their paper examined the possibilities and constraints as in adopting alternative crop in Haryana. The study concluded that diversification from paddy to another crop is not easy as paddy was high returned crop. Crop diversification in Haryana required favorable price policy and technology. **Goyal and Kumar (2013)** in their examined the agricultural production, trends and cropping pattern in UP. The study concluded that cropping pattern is important in the state. The study concluded that high quantity of water could be saved by crop diversification.

Keeping in view the importance of factors that effected farmer's decision for crop diversification the present research work is an attempt in this direction. The present research work focused on relatively role of agricultural marketing with other reported variables. The main objective of the

study is different reported variables responsible for crop diversification among different size group of farmers.

Research methodology-

The study is conducted in Gannaur, Sonipat. The basic purpose for select the Gannaur block i.e. Gannaur were reported increasing area under vegetable and decreasing for paddy, sugar cane and wheat as well by Agricultural departmet of Haryana. Gannaur was also in the focused of policy makers for the India International Horticulture Market at Gannaur IIHM Gannaur. This market is assumed as an alternate of Azadpur Sabji Mandi New Delhi, and it will claim the largest fruit and vegetable market in India.

The study is based on primary as well as secondary data. The secondary data based on regulated market and production is being collected from different government officials.

For collecting primary data a pre tested questionnaire has been used.

The respondent farmers is divided into three categories as per their land holding basis i.e

0-3 acre – small farmers

3-7 acre- medium farmers

7- And above – large farmers

Tools-

During the pilot survey and review of previous work It was found that there were many factors those were responsible for crop diversification. Lists of these factors were prepared in questionnaire and respondent from different group were asked to rank these factors according their effectiveness for the crop diversification. These factors indicate as by-

X^1- Cost Benefit ratio

X^2- Different production risk

X^3- Personal labor or personal cost

X^4- Lack of Inputs or resources

X^5- Marketing facilities

X^6- For the changing of crop pattern/ crop cycle

X^7- Government schemes of other benefits offer by Govt.

X^8- By inspiring other farmers

X^9- Environment t concern

X^{10}- Any Other Reasons

Ranks were given by 10 to 1 as maximum effect to minimum according to different size group of farmers.

Hypothesis- Different sizes of farmers were identically ranked the variables.

Research Tools- To examine the rank of variable according to their maximum effect to minimum effect statistic tools like mean and Std. Deviation has been used. Future to examine the role of above said variables on crop diversification among different size group of farmers Kruskal- Wallis test has been used.

The Kruskal-Wallis test statistic is approximately a chi-square distribution, with k-2 degrees of freedom where x1 should be greater than 5. If the calculated value of the Kruskal-Wallis test is less than the critical chi-square value, then the null hypothesis cannot be reject. If the calculated value of Kruskal-Wallis test is greater than the critical chi-square value, then we can reject the null hypothesis and say that the sample comes from a different scale.

Table 1.1

Rank of different variable among all sample farmers

Descriptive Statistics

	Statistic				
	N of far	Minimum	Maximum	Mean	Std. Deviation
Variable					
x^1	75	1.00	8.00	3.8667	1.68726
x^2	75	1.00	10.00	5.2667	1.89118
x^3	75	1.00	8.00	3.5867	2.16291
x^4	75	1.00	10.00	5.0267	2.31898
x^5	75	1.00	5.00	1.8533	1.11129
x^6	75	1.00	10.00	6.3867	2.43784
x^7	75	1.00	10.00	5.9867	2.70881
x^8	75	2.00	10.00	7.8533	1.83578
x^9	75	3.00	10.00	8.4400	1.93991
x^{10}	75	1.00	10.00	6.6267	2.93982
Valid N (listwise)					

Source- primary survey

Table 1.2

Mean rank of variables among different size group

Source- primary survey

Type of farmer	X^1	X^2	X^3	X^4	X5	X^6	X^7	X^8	X^9	X^{10}
small	25.96	22.88	61.78	27.26	36.50	46.48	32.72	42.54	34.12	41.66
medium	34.70	44.64	29.02	35.58	38.02	51.72	26.20	31.16	37.34	52.26
large	53.34	46.48	23.20	51.16	39.48	15.80	55.08	40.30	42.54	20.08

Table 1.1 high lights the mean value of variables among different size of farmers. Table shows that farmers reported **X^5** (availability of marketing) variables ranked for maximum effected factor out of all factor. Mean value was high for **X^9** (**Environment concern)** followed by **X^8** (**By inspiring other farmers)** and **X^{10}** (other reason).

Std. value also shows that **X^5**reported minimum followed by **X^1 X^8 X^2**.

Table 1.2 highlights variable rank among different group of farmers. Table explain that Indicate the mean value of the variable among different size of farmers. It was highest among small farmers for the variable **X^3**i.e personal labor. Variable **X^6** (**For the changing of crop pattern/ crop cycle**) reported with maximum difference in different group of famers, it reported high in medium farmers and lower in large size farmers. That shows that large size f farmers were more aware in case of crop cycling process to keep their soil fertile. The significance means difference was lower among all farmers in case of **X^5** (**Marketing facilities)**.

It can be concluded from above result that large farmers were more aware about crop cycling process of land and they apply it through crop diversification where medium and large category farmers almost ignore this variable. Marketing facility was reported most reported reasons for crop diversification followed by other variable.

Table 1.3

Ranking of the variables

	X^1	X^2	X^3	X^4	X5	X^6	X^7	X^8	X^9	X^{10}
Chi-Square	21.283	18.641	47.557	15.789	.277	40.636	24.456	4.069	2.100	29.032
df	2	2	2	2	2	2	2	2	2	2
Asymp. Sig.	.000	.000	.000	.000	.870	.000	.000	.131	.350	.000

a. Kruskal Wallis Test

b. Grouping Variable: Type of Farmers

c.df- degree of freedom

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of x1 is the same across categories of Type of Farmers.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
2	The distribution of x2 is the same across categories of Type of Farmers.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
3	The distribution of x3 is the same across categories of Type of Farmers.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
4	The distribution of x4 is the same across categories of Type of Farmers.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
5	The distribution of x5 is the same across categories of Type of Farmers.	Independent-Samples Kruskal-Wallis Test	.870	Retain the null hypothesis.
6	The distribution of x6 is the same across categories of Type of Farmers.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
7	The distribution of x7 is the same across categories of Type of Farmers.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
8	The distribution of x8 is the same across categories of Type of Farmers.	Independent-Samples Kruskal-Wallis Test	.131	Retain the null hypothesis.
9	The distribution of x9 is the same across categories of Type of Farmers.	Independent-Samples Kruskal-Wallis Test	.350	Retain the null hypothesis.
10	The distribution of x10 is the same across categories of Type of Farmers.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Tables 1.3 and hypothesis test summery explain the result of **Kruskal Wallis** Test. It can be concluded that the null hypothesis i.e. different sizes of farmers were identically ranked the variables" stand not rejected for seven variables. Where, the hypothesis was rejected in case of X^5, X^8 and X^9 respectively. Out of these variable results indicate that X^5(**Marketing facilities)** valued high as compare to other variables. On an average it can be said that the size of farmers does not make any significance difference in considering the variable in order to know the effect of variables on crop diversification.

Conclusion and suggestion-

The study concluded that availability of marketing facility was the highly effected reason for crop diversification among all category farmers. On the other hand environment concern or crop cycling were reported less effect that shows that famers were not concerned about the

sustainability of environment, soil and water in this regard. It can also be concluded from above result that large farmers were more aware about crop cycling process of land and they apply it through crop diversification where medium and large category farmers almost ignore this variable. Out of these variable results indicate that **marketing facilities** valued high as compare to other variables according to Kruskal Wallis Test. Finally, it can be said that the size of farmers does not make any significance difference in considering the variable in order to know the effect of variables on crop diversification. If the marketing facility of a particular crop will increase it will also increase the area under that particular crop.

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