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ASSOCIATION OF THE SOCIO-ECONOMIC VARIABLES AND THE PRICE FIXING OF PADDY PRODUCE – A CASE STUDY OF DISTRICT KULGAM, JAMMU AND KASHMIR

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Kashmir, and Chi Square test has been used to find out the association.

KEYWORDS: *Paddy; Apple; Cropping Systems; Agriculture; Jammu and Kashmir; Crop Diversification.*

INTRODUCTION :

The process of crop diversification towards the horticultural crops in the state of Jammu and Kashmir has started with the introduction of several land reforms initiated at time to time by the government of India. The cultivation of such crops has made a noteworthy impact on the generation of household income, employment and revenue for the state. The study of factors that improved the course of crop diversification depicts the explicit consideration of geographical significance in formulating developmental strategies, resulting in the establishment of basic infrastructural services like accessibility to various markets in the neighboring states, high level of price receptiveness among the farmers and the emergence of timely policies by the government triggered the process of diversification towards the horticultural crops in the state.

Crop diversification is a best strategy to achieve the goals of development. It took the attention of policy makers in the country during the recent years. The approach envisages changes in production activities of farm sector, to adjust to changes in economic environment and to face the problems like unemployment and depletion of natural resources (Ramesh Chand, 1999). The main objective of this approach is to raise per capita income by means of opening of avenues for prolific employment

ABSTRACT:-

Crop diversification refers to the addition of new crops or cropping systems to agricultural production on a particular farm taking into account the different returns from value-added crops with complementary marketing opportunities. In the past few decades, agricultural sector in the whole state and particularly in the district of Kulgam has witnessed a heavy shift in the cropping pattern from food crops to non-food crops (cash-crops). The horticultural sector has been playing an important role in the State, largely by contributing to the State Economy and turns to be the source of livelihood for nearly thirty-three lakh people, but the paddy production on the other hand has shown an opposite trend. Paddy land is getting changed into the horticultural land, as the farmers find it to be more remunerative. Kulgam, which was once the major producer of rice in the State, and was known to be the "Rice Bowl of Kashmir", is now among the least producers of rice. Farmers witnessed that sticking only to the water-intensive crops proved to be non-beneficial and they willingly shifted to the cash crops, like: apple, almond, and walnut. In the present study, the researcher estimates the association between the different socioeconomic variables and the price fixing in case of selling of paddy produce at the household level in Kulgam, one of the districts of Jammu and

opportunities in farm and non-farm sectors and to make the economic growth broad and stable in the long-run (Amitabh Kundu, 2012). The success of the policy lies in the identification of the particular crop for the appropriate region-specific, diversification choices, establishment of physical and institutional infrastructure services and execution of suitable strategies.

Another feature of this approach is to prepare the farmers to grow excellent and profitable produce based on both demand and supply in the long run (Anjani Kumar et al., 2012). Diversification in cropping pattern is likely to save the disintegration of agriculture economy and environment of the study area. Crop diversification acquires extraordinary implication in this region because of the ecological and environmental problems and depletion of the natural resources. Crop diversification refers to the competition between the crops growing in a region. If there is eagerness in the competition, the higher will be the extent of crop diversification; and less important the competition, the better will be the trend in the direction of crop specialization (where emphasis is on one or two crops). Therefore crop diversification is an idea which is contradictory to crop specialization. The extent of crop diversification mainly depends on the geo climatic/socio-economic conditions and technological development in the area (Husain, 2000).

India is blessed with a varied set of regional, agronomic, ecological, climatic, social and economic attributes. As far the state of Jammu and Kashmir is concerned, it is totally different regarding all these features with the rest of the country. The economy of Jammu & Kashmir principally depends on agriculture, having about one-third of its population engaged with this agriculture and allied sectors. The geography setup of the area is restricting the growth of paddy cultivation. The production of paddy is not increasing in proportion to the cost involved in the farming, so in this background of stagnation in paddy production, which is not able to raise the level of employment in the region, horticulture is a possible option for exploration. The area is blessed with the appropriate climatic zones for rising temperate, sub-tropical and tropical fruits throughout the whole year. These fruits are not only the supplement diet of the local people, but also appear to be the main item of export to other parts of India and rest of world (SP Sharma et al., 2011). Kulgam which famous for the rice productivity once used to be called as rice bowl of the Kashmir is now amongst the least producers of rice (A. N. Raina, 2012). Paddy land is getting converted into horticultural land as farmers seek to earn more revenue against horticultural products (Mohmad Iqbal Reshi et al., 2010). Farmers feel that sticking only to the water-intensive crops like paddy in times of water-scarcity might prove non-beneficial and they readily switch over to cash crops like apple, almond and walnuts (J&K Govt. Report, 2012).

THEORETICAL PERSPECTIVE:

There are two ways by which the farmers go for crop diversification; one is to go for substitution and second way is to go for expansion. In the former one the farmers go directly for substituting the crop by new one, and in latter the farmers can go by increasing the land area by bringing unwanted lands or by clearing the forests under cultivation. But mostly the farmers have adopted substitution method rather than the expansion method in the study area. There are lots of theories (Theory of Production and Costs, Prof. Schultz Theory of Transforming Traditional Agriculture) which discuss about the crop diversification in detail, but the present study has used the Theory of Profit Maximisation to understand the issue very well.

METHODOLOGY:

The researcher has made an attempt to examine the ground realities in the study area to devise a methodology and research design of the present study by going through the existing literature meticulously in the area of research. The present study is exploratory in nature, mainly based on the primary data collected from thorough field survey with structured interview schedule and the units of analyses being the household heads.

SAMPLING DESIGN:

Among the three divisions (Jammu, Kashmir, and Ladakh) of Jammu and Kashmir State, Kashmir division chosen for the present study which is dominated by the cultivation of apple. Kashmir division if further divided into South, North and Central parts, comprises of ten districts. Anantnag, Kulgam, Shopian, and Pulwama form

the Southern part; while as Bandipora, Baramulla, and Kupwara forms the Northern part and Budgam, Ganderbal and Srinagar as the Central part of the region.

In all the ten districts of Kashmir region, both apple and rice are extensively cultivated. Out of which, the five districts which come under high productivity group in case of both apple and rice production are: Kulgam, Budgam, Anantnag, Pulwama, and Baramulla. Kulgam district, which was once known as the "Rice Bowl of Kashmir" has been chosen for observing the rapid trend in the shifting of paddy cultivation towards the apple cultivation over the last few decades.

Primary data were obtained from the survey samples by adopting stratified random sampling method to choose the respondents from the selected villages, with the help of an interview schedule by implementing three-stage sampling procedure as follows:

Stage I: Selection of all ten horticultural blocks of district Kulgam. (Manzgam, Waripora, D.K. Marg, Kulgam, Arreh, Kadder, Qazigund, Devsar, Qaimoh, and Yaripora)

Stage II: Selection of thirty-four highly apple populated orchardist villages from all ten blocks by the number of villages in the respective blocks.

Stage III: Selection of total of 272 sample respondents of the total thirty-four villages, eight sample respondents from each village.

Objectives:
The following objectives were set for the present research:
1. To find out the association between the different socioeconomic variables and the price fixing in case of selling of paddy produce.

HYPOTHESES:
1. There is an association between the attribute (age) and fixing of the price in case of selling of paddy produce.
2. There is no association between the attribute (gender) and fixing of the price in case of selling of paddy produce.
3. There is an association between the attribute (educational qualification) and fixing of the price in case of selling of paddy produce.
4. There is no association between the attribute (occupation) and fixing of the price in case of selling of paddy produce.
5. There is an association between the attribute (family type) and the fixing of the price in case of selling of paddy produce.
6. There is no association between the attribute (family size) and fixing of the price in case of selling of paddy produce.
7. There is an association between the attribute (land owned) and fixing of the price in case of selling of paddy produce.

RESULTS AND DISCUSSION:
Table 1 examines the association between the dependent variable, i.e. who fixes the price in case of sale of paddy (whether is it the seller or buyer who fixes the price or there is a mutual agreement between them) and the various independent variables (characteristics of the household head) such as age, gender, educational qualification, occupation, family type, family size and land owned. Out of the total sample size, N=272 respondents, 152 respondents (55.9 percent) show the mutual agreement between the seller and buyer, 90 respondents (33.1 percent) show the impact of seller and the rest of 30 respondents (11.0 percent) show the impact of buyer while fixing the price in case of paddy soil.

In the age group of 21 to 40, the highest share of 30 sample respondents (62.5 per cent of the row total) show mutual agreement and the least share of 2 sample respondents (4.2 per cent of the row total) show the impact of buyer, while fixing the price in case of sale of paddy. Similarly, in the age group of 41 to 60, the highest share of 100 sample respondents (58.1 per cent of the row total) show the mutual agreement and the least share

of 24 sample respondents (14.0 per cent of the row total) show the impact of buyer, while fixing the price in case of sale of paddy. And in the age group with respondents having age above 60 years, 26 sample respondents (50.0 per cent of the row total) show the impact of seller and the least share of 4 sample respondents (7.7 per cent of the row total) show the impact of buyer, while fixing the price in case of sale of paddy.

The Chi Square test is used for finding out the association between the attribute (age) and fixing of the price in case of selling of paddy produce. The result reveals that the calculated chi-square value (12.047) at 4 degrees of freedom is significant at 0.01 levels. Therefore, it can be concluded that there is an association between the attribute (age) and fixing of the price in case of selling of paddy produce.

In the case of gender, among the males, the highest share of 138 sample respondents (56.6 per cent of the row total) show mutual agreement and the least share of 24 sample respondents (9.8 per cent of the row total) show the impact of buyer, while fixing the price in case of sale of paddy, and among the females the highest share of 14 sample respondents (50.0 per cent of the row total) show the mutual agreement and the least share of 6 sample respondents (21.4 per cent of the row total) show the impact of buyer, while fixing the price in case of sale of paddy.

The Chi Square test is used for finding out the association between the attribute (gender) and fixing of the price in case of selling of paddy produce. The result reveals that the calculated chi-square value (3.44) at 2 degrees of freedom is > 0.05. Therefore, it can be concluded that there is no association between the attribute (gender) and fixing of the price in case of selling of paddy produce.

In the case of educational qualification, considering illiterates, the highest share of 40 sample respondents (50.0 per cent of the row total) show mutual agreement and the least share of 12 sample respondents (15.0 per cent of the row total) show the impact of buyer, while fixing the price in case of sale of paddy. Similarly, among the respondents who have studied up to middle, the highest share of 64 sample respondents (62.7 per cent of the row total) show the mutual agreement and the least share of 4 sample respondents (3.9 per cent of the row total) show the impact of buyer, while fixing the price in case of sale of paddy. Among the respondents, who have studied HSC, the highest share of 20 sample respondents (55.6 per cent of the row total) show mutual agreement and the least share of 6 sample respondents (16.7 per cent of the row total) show the impact of buyer, while fixing the price in case of sale of paddy. Among the respondents who have studied up to graduation, the highest share of 20 sample respondents (55.6 per cent of the row total) show mutual agreement and the least share of 2 sample respondents (9.1 per cent of the row total) show the impact of seller, while fixing the price in case of sale of paddy. And among the sample respondents who have studied PG or above, the highest share of 16 sample respondents (50.0 per cent of the row total) show the impact of seller and the least share of 2 sample respondents (6.3 per cent of the row total) show the impact of buyer, while fixing the price in case of sale of paddy.

The Chi Square test is used for finding out the association between the attribute (educational qualification) and fixing of the price in case of selling of paddy produce. The result reveals that the calculated chi-square value (22.2) at 8 degrees of freedom is significant at 0.01 levels. Therefore, it can be concluded that there is an association between the attribute (educational qualification) and fixing of the price in case of selling of paddy produce.

In the case of occupational structure, among the respondents practicing agriculture, the highest share of 64 sample respondents (54.2 per cent of the row total) show mutual agreement and the least share of 10 sample respondents (8.5 per cent of the row total) show the impact of buyer, while fixing the price in case of sale of paddy. Similarly, among the respondents having business as their main income generating source, the highest share of 48 sample respondents (58.5 per cent of the row total) show the mutual agreement and the least share of 8 sample respondents (9.8 per cent of the row total) show the impact of buyer, while fixing the price in case of sale of paddy. Likewise, among the respondents who are in government service, the highest share of 40 sample respondents (55.6 per cent of the row total) show the mutual agreement while fixing of the price in case of sale of paddy and the least share of 12 sample respondents (16.7 per cent of the row total) show the impact of buyer, while fixing the price in case of sale of paddy.

The Chi Square test is used for finding out the association between the attribute (occupation) and fixing

of the price in case of selling of paddy produce. The result reveals that the calculated chi-square value (4.345) at 4 degrees of freedom is > 0.05. Therefore, it can be concluded that there is no association between the attribute (occupation) and fixing of the price in case of selling of paddy produce.

In the case of family type, among the nuclear type household families, the highest share of 122 sample respondents (62.9 per cent of the row total) show mutual agreement and the least share of 20 sample respondents (10.3 per cent of the row total) show the impact of buyer, while fixing the price in case of sale of paddy. And among the joint family type households, the highest share of 38 sample respondents (48.7 per cent of the row total) show the impact of seller and the least share of 10 sample respondents (12.8 per cent of the row total) show the impact of buyer, while fixing the price in case of sale of paddy.

The Chi Square test is used for finding out the association between the attribute (family type) and fixing of the price in case of selling of paddy produce. The result reveals that the calculated chi-square value (14.33) at 2 degrees of freedom is significant at 0.01 levels. Therefore, it can be concluded that there is an association between the attribute (family type) and the fixing of the price in case of selling of paddy produce.

In the case of family size, in the group of households having family size below 5, the highest share of 94 sample respondents (60.3 per cent of the row total) show mutual agreement and the least share of 16 sample respondents (10.3 per cent of the row total) show the impact of buyer, while fixing the price in case of sale of paddy. Similarly, among the households in the group of 6-10 the highest share of 42 sample respondents (55.3 per cent of the row total) show the mutual agreement and the least share of 8 sample respondents (10.5 per cent of the row total) show the impact of buyer, while fixing the price in case of sale of paddy. And among the households having the family size of above 10, the highest share of 18 sample respondents (45.0 per cent of the row total) show the impact of seller and the least share of 6 sample respondents (15.0 per cent of the row total) show the impact of buyer, while fixing the price in case of sale of paddy.

The Chi Square test for the study of the association is used for finding out the association between the attribute (family size) and fixing of the price in case of selling of paddy produce. The result reveals that the calculated chi-square value (5.374) at 4 degrees of freedom is > 0.05. Therefore, it can be concluded that there is no association between the attribute (family size) and fixing of the price in case of selling of paddy produce.

In case of land owned, considering the group of households having land size below 2 Kanals, the highest share of 6 sample respondents (60.0 per cent of the row total) show the impact of seller and the least share of 2 sample respondents (20.0 per cent of the row total) show the impact of buyer, while fixing the price in case of sale of paddy. Among the respondents who have been having the land size of 3 to 4 Kanals, the highest share of 32 sample respondents (64.0 per cent of the row total) show the mutual agreement and the least share of 4 sample respondents (8.0 per cent of the row total) show the impact of buyer, while fixing the price in case of sale of paddy. Among the respondents, who have land size of 5 to 8 Kanals, the highest share of 74 sample respondents (68.5 per cent of the row total) show mutual agreement and the least share of 12 sample respondents (11.1 per cent of the row total) show the impact of buyer, while fixing the price in case of sale of paddy. Among the respondents who have land size of 9 to 16 Kanals, the highest share of 42 sample respondents (45.7 per cent of the row total) show mutual agreement and the least share of 10 sample respondents (10.9 per cent of the row total) show the impact of buyer, while fixing the price in case of sale of paddy. And among the sample respondents who have land size of above 16 Kanals, the highest share of 8 sample respondents (66.7 per cent of the row total) show the impact of seller while fixing of the price in case of sale of paddy, 2 sample respondents (16.7 per cent of the row total) show the impact of buyer, while fixing the price in case of sale of paddy and 2 sample respondents (16.7 per cent of the row total) show the mutual agreement, while fixing the price in case of sale of paddy

The Chi Square test is used for finding out the association between the attribute (land owned) and fixing of the price in case of selling of paddy produce. The result reveals that the calculated chi-square value (27.449) at 8 degrees of freedom is significant at 0.01 levels. Therefore, it can be concluded that there is an association between the attribute (land owned) and fixing of the price in case of selling of paddy produce.

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Table 1
Association between the Socio-Economic Variables and the Price Fixing of paddy Produce.

Variables		Decision Maker in the Price Fixing of Paddy Produce			Total
		Seller	Buyer	Mutual Agreement	
Age	21 to 40	16 (33.3)	2 (4.2)	30 (62.5)	48 (100.0)
	41 to 60	48 (27.9)	24 (14.0)	100 (58.1)	172 (100.0
	Above 60	26 (50.0)	4 (7.7)	22 (42.3)	52 (100.0)
	Total	90 (33.1)	30 (11.0)	152 (55.9)	272 (100.0)
Chi-Square		df			P-Value
12.047		4			0.017 S
Gender	Male	82 (33.6)	24 (9.8)	138 (56.6)	244 (100.0)
	Female	8 (28.6)	6 (21.4)	14 (50.0)	28 (100.0)
	Total	90 (33.1)	30 (11.0)	152 (55.9)	272 (100.0)
Chi-Square		df			P-Value
3.44		4			0.017 S
Educational Qualification	Illiterate	28 (35.0)	12 (15.0)	40 (50.0)	80 (100.0)
	Middle	34 (33.3)	4 (3.9)	64 (62.7)	102 (100.0)
	HSC	10 (27.8)	6 (16.7)	20 (55.6)	36 (100.0)
	Graduation	2 (9.1)	6 (16.7)	20 (55.6)	22 (100.0)
	PG/Other	16 (50.0)	2 (6.3)	14 (43.8)	32 (100.0)
	Total	90 (33.1)	30 (11.0)	152 (55.9)	272 (100.0)
Chi-Square		df			P-Value
22.2		8			0.001 S
Occupational Structure	Agriculture	44 (37.3)	10 (8.5)	64 (54.2)	118 (100.0)
	Business	26 (31.7)	8 (9.8)	48 (58.5)	82 (100.0)
	Government Service	20 (27.8)	12 (16.7)	40 (55.6)	72 (100.0)
	Total	90 (33.1)	30 (11.0)	152 (55.9)	272 (100.0)
Chi-Square		df			P-Value
4.345		4			0.361 NS

Variables		Decision Maker in the Price Fixing of Paddy Produce			Total
		Seller	Buyer	Mutual Agreement	
Type of Family	Nuclear	52 (26.8)	72 (37.1)	92 (47.4)	194 (100.0)
	Joint	38 (48.7)	28 (35.9)	34 (43.6)	78 (100.0)
	Total	90 (33.1)	100 (36.8)	126 (46.3)	272 (100.0)
Chi-Square		df			P-Value
14.33		2			0.001 S
Size of the Family	Below 5	46 (29.5)	50 (32.1)	80 (51.3)	156 (100.0)
	6-10	26 (34.2)	34 (44.7)	30 (39.5)	76 (100.0)
	Above 10	18 (45.0)	16 (40.0)	16 (40.0)	40 (100.0)
	Total	90 (33.1)	100 (36.8)	126 (46.3)	272 (100.0)
Chi-Square		df			P-Value
5.374		4			0.251 NS
Size of Land Owned	Below 2	6 (60.0)	4 (40.0)	4 (40.0)	10 (100.0)
	3-4	14 (28.0)	20 (40.0)	28 (56.0)	50 (100.0)
	5-8	22 (20.4)	32 (29.6)	52 (48.1)	108 (100.0)
	9-16	40 (43.5)	42 (45.7)	34 (37.0)	92 (100.0)
	Above 16	8 (66.7)	2 (16.7)	8 (66.7)	12 (100.0)
	Total	90 (33.1)	100 (36.8)	126 (46.3)	272 (100.0)
Chi-Square		df			P-Value
27.449		8			0.001 S

Source:Computed

Note: Figures in parentheses indicate percentage to the row total.

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