

# Research Article STUDY ON KNOWLEDGE LEVEL OF FARMERS TOWARDS VALUE ADDITION OF MAJOR REGIONAL CROPS IN SATNA DISTRICT, MADHYA PRADESH

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Abstract: The present study was conducted in Satna district, Madhya Pradesh to investigate knowledge level of value addition of major regional crops by the farmers. There are eight blocks in Satna district but Sohawal, Nagod, Amarpatan, Majhgawan block purposive because having maximum number of farmers which are involved in value addition in regional crops. Five villages were selected by using simple random sampling. 30 farmers from each selected block will be selected using random sampling. Thus, total 120 respondents will be selected for the investigation. The data were collected by using personal interview method. The collected data were tabulated, analyzed and interpreted with the help of appropriated statistical tools. The result of this study revealed that maximum farmers had favourable attitude about the value addition process. It was observed that out of total farmers, (54.66) had medium knowledge about value addition of regional crops. The knowledge and adoption level of value addition on major regional crops by the farmers was found positive and significant relationship between independent variable with some constraints reported by the farmers likewise Lack of marketing facility in villages, Non-availability of skill-full labors followed by Inadequate storage facility.

# Keywords: Value addition, Attitude, Knowledge level, Crops, Farmers

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# Introduction

Value-added agriculture generally refers to production processes that add value to primary agricultural products. Sustainable agriculture can also refer to adding value to products through specific production methods (such as organic produce) or regional products that make the customer attractive and willing to pay for products that are not different but similar. It can also be described as the process of converting raw agricultural products into new products through packaging, processing, cooling, drying, extraction and other processes that restore products. This change has increased consumers' access to products and increased revenue from manufacturers. Some see added value in agriculture as an important aspect of rural development. In the United States, this is seen as a way for manufacturers to not only increase their revenue, but also compete with commercial and electronic products. Small scale food processing, unconventional crop production, agriculture and biofuel production are examples of many value added activities that create new jobs in some rural areas. This agreement is supported by the increasingly fragmented market, thus increasing the demand for quality and differentiated products [1-4].

Agricultural added value enables farmers to get up to 80% of the value of most of their crops, according to research. Adding value to agriculture should increase the profitability of farmers, support farmers and the poor, provide consumers with safe, good and reliable food, reduce post-harvest, reduce imports, increase exports, promote

economic development. promoting crop diversity to provide economic risk and financial security to farmers. According to findings, farmers need to understand the added value of horticultural and vegetable crops to increase income. Accordingly, the present study has been taken up with the following specific objectives.

1) Attitude of farmers towards value addition process.

2) To determine the extent of knowledge of farmers towards value addition practices.

3) To ascertain the relationship between attributes of farmers with knowledge of value addition practices.

# Material and Methods

Satna district situated in northern part of Madhya Pradesh. The geographical area of Satna district is 7,424 Sq km. It is bounded by the district of Chitrakoot (U.P.) in the north, by Katni and Umariya districts in south and Panna and Rewa districts form the western and eastern boundaries of the Satna district. The present investigation was carried out in four blocks of Satna district, which was selected purposively because of having maximum number of farmers which are involved in value addition in regional crops and a list of farmers who involved in value addition 30 farmers selected from each block. Thus total 120 respondents will be selected purposively for further study. The primary data were collected with the help of interview schedule, which was prepared on the basis of objective of the study. The interview schedule was pre-tested to a sample of ten farmers in non- sampled area before the actual collection of the data. The data were recorded; classified, tabulated and appropriate statistical tools like frequency, percentage, mean, t-test, correlation co-efficient etc. were applied according to the nature and demand of data.

# Result and Discussion

#### Attitude of farmers towards value addition practices

The result revealed in [Table-1] presented that out of total farmers, 12.50 per cent farmers had less favourable attitude toward value addition, whereas 16.66 per cent farmers had favourable while 70.83 per cent had strongly favourable attitude towards value addition of regional crops.

Table-2 Distribution of farmers according to their practice wise Knowledge level of value addition in crops

SN	Value addition practices	Knowledge level			Mean score	Rank	
	No Partial Complete						
Ι.	Value addition through storage of crops						
1	Preserve crop produce to consume in off season	10(08.33)	35(29.16)	75(62.50)	2.54		
2	Protect from sun and high temperature	00(00.00)	20(16.66)	100(83.34)	2.83		
3	Keep food in good condition	20(16.66)	30(25.00)	70(58.34)	2.41		
	Total mean score	2.59	Forth				
11.	Increase in nutritional value through value addition in crops						
4	Good techniques to preserve taste and nutritional value	45(37.50)	35(29.16)	40(33.34)	1.95		
5	Knowledge of available sugar content	38(31.66)	37(30.83)	45(37.50)	2.05		
6	Inhibits the growth of micro- organism e.g., molds, yeast, and bacteria	25(20.83)	64(70.00)	31(25.83)	2.07	1	
	Total mean score					Sixth	
III.	Value addition through processing						
7	Cleaning and sorting	00(00.00)	33(27.50)	87(72.50)	2.72	1	
8	Harvesting at proper stage	28(23.33)	43(35.83)	49(40.83)	2.17		
9	Cleaning, grading, packing & packaging	17(14.16)	45(37.50)	58(45.00)	2.34		
	Total mean score 2.41					V	
10	Knowledge about temperature	08(06.66)	38(26.66)	82(68.34)	2.76	1	
	Room cooling : placing the crops in cold storage						
	Total mean score						
IV.	Value addition through machineries and equipment						
11	Farm level fruit and vegetable washing machine	09(07.50)	27(22.50)	84(70.00)	2.62		
12	Tomato/potato grader and washer	11(09.16)	23(19.16)	86(71.66)	2.72	II	
13	Solar drier	00(00.00)	00(00.00)	120(100.00)	3.00	I	
14	Mango and tomato grader	36(30,00)	59(49.16)	2.28	IV		
	Total mean score	2.63					
V.	Value added products made by crops						
15	Potato – French fries, Fast food, Potato chips, Potato flakes	13(10.83)	21(17.50)	88(73.34)	2.65		
16	Tomato – Tomato paste, Tomato sauce, Ketchup, Chutney, Tomato soup mix, Dehydrated tomato	00(00.00)	00(00.00)	120(100.00)	3.00	I	
17	Green Leafy Vegetables - Dehydrated green powder, Leaf powder (curry leaf + coriander leaf),	07(05.84)	12(01.00)	101(84.16)	2.78		
	Green based ready-to-use vegetable soup mix, Cucumber pickles, pickles, Green chilli pickles,						
	Garlic pickles, Vegetable soup mix (onions, carrot, beans, cabbage, tomato, spinach)						
18	Other Vegetables-Totti fruity from bottle guard, Ready-to-use cluster bean poriyal,	08(06.66)	34(28.34)	78(65.00)	2.58	IV	
	Vegetables halwa, Onion powder, Corn soup mix (onion+baby corn+tomato)						
	Total mean score				2 75	Second	

Thus, it can be concluded that majority (70.83%) of farmers had strongly favourable attitude towards value addition.

Table-1 Distribution of farmers according to attitude toward value addition

SN	Categories	Frequency	Percentage		
1	Less favourable (Up to 20 scores)	15	12.50 16.66		
2	Favourable (21-40 scores)	20			
3	Strongly favourable (Above 41 scores)	85	70.83		
	Total	120	100		

#### Extent of knowledge of value addition practices by farmers

Level of knowledge of value addition in crops by farmers is depicted in the [Table-2]. It reveals that, farmers had 68.34 per cent Knowledge about temperature having the mean score for this knowledge practices was 2.76 and got rank first, Knowledge about product made by crops having the mean score for this knowledge practices was 2.75 and got rank second, Knowledge about machine and equipment having the mean score for this knowledge practices was 2.63 and got rank third, Knowledge about storage of crops having the mean score for this knowledge practices was 2.59 and got rank forth, Knowledge about value addition process crops having the mean score for this knowledge practices was 2.41 and got rank fifth, Knowledge about nutrition in crop product having the mean score for this knowledge practices was 2.01 and got rank sixth.

It was observed from [Table-3]. that out of total farmers, 54.66 had medium knowledge about value addition of regional crops, 23.33 per cent had low knowledge and only 25.50 per cent farmers had high knowledge about value addition of regional crops. Thus, it can be concluded that majority of (54.64%) farmers had medium knowledge about value addition of regional crops. This finding is supported by Rani and Shehrawat (2018) [5].

Table-3 Distribution of the farmers according to their knowledge about value addition of regional crops

SN	Categories	Frequency	Percentage
1	Low (up to 18)	28	23.33
2	Medium (19 to 36)	65	54.64
3	High (above 36)	27	25.50
	Total	120	100

# Relationship between attributes of farmers with knowledge of value addition practices.

[Table-4] revealed that the Zero order correlation coefficient between 10 different variables and knowledge of value addition [Table-4] reveals that knowledge of value addition had positive and significant relationship with annual income (r=0.303), market orientation (r=0.843), attitude of farmers toward value addition (r=0.240), extension participation(r=0.818), mass media exposure (r=0.702), at 0.05 level of probability while with age (r= -0.021), education (r= -0.074) and risk orientation (r= -0.048) was found non-significant relationship with knowledge of value addition. This finding is supported by the finding of Bala, et al., (2020) [6].

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SN	Independent variables	Correlation coefficient
1	Age	-0.021NS
2	Education	-0.074NS
3	Annual income	0.303
4	Market orientation	0.843
5	Risk orientation	-0.048NS
6	Attitude of farmers towards value addition	0.24
7	Extension participation	0.818
8	Mass media exposure	0.702

# Conclusion

It can be concluded that majority of (54.64%) farmers had medium knowledge about value addition of regional crops. A strategy for knowledge development or improvement in value addition for the farmers, consumers and related government departments, agricultural research institutions would help in spreading of value addition practices. So, there is lot of scope for increasing the existing level of knowledge through skill-based training programme, demonstrations, field days, exhibitions, camps, social media, radio/TV talks should be organized to increase the know-how of the farmers.

**Application of research:** Study of extension functionaries need to provide the value addition farmer and farm women with necessary advice and help in time.

#### Research Category: Agriculture Extension

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Study area / Sample Collection: Satna district, Madhya Pradesh

Cultivar / Variety / Breed name: Potato, Tomato

Conflict of Interest: None declared

**Ethical approval:** This article does not contain any studies with human participants or animals performed by any of the authors. Ethical Committee Approval Number: Nil

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