Journal of Extension Education
Vol. 26 No. 4, 2014

Impact of Value Addition Trainings on Farm Women of Nayagarh District of Odisha

Smt. Jyotirmayee Udgata[1] and Smt. Shelly Dash[2]

ABSTRACT

Value addition in agriculture predominantly offers a means to increase, rejuvenate and stabilize farm income. Value addition specifically to fruits and vegetables not only enhance the shelf life of the produce but also make it available in the off-season and reduces seasonal peak production loss. As the farm women are mostly involved in post harvest operation they need to be trained in this sector. Krishi Vigyan Kendra Nayagarh in its training programme always tried to aware and educate the farm women in this value addition sector.The study reported here explored, to what extent the training programmes of value addition specifically in fruits and vegetable had been changing the farm women's perceived knowledge ,acquisition of skills and level of adoption of value addition practices. The results exemplified the impact of value addition trainings in instilling positive orientation in terms of the magnitude of perceived knowledge, acquisition of skills and adoption levels. Moreover, the findings of the study revealed significant positive correlation between the demographic characteristics with the perceived knowledge, skill acquisition and adoption level of value addition practices of the rural women of the sampled area.

Value-added agriculture has attracted considerable opportunities for increasing employment and revitalize attention in recent years as a means to increase and diversify the economic base to stabilize farm incomes and to rejuvenate primary agricultural communities. Nayagarh is a coastal district situated at the eastern part of Odisha. It has a total geographical area of 3, 94,110 ha having 1,36,841 ha cultivated land. Agriculture is considered to be one of the primary occupations for this district. Sugarcane, paddy, brinjal, tomato, arrowroot, colocasia, mushroom etc., are the main crops of farmers. The perishable crops especially fruits and vegetables like brinjal, tomato, jackfruit, lemon, tamarind etc. are wasted due to poor post harvest management .Generally the rural women are involved maximum in post harvest operations. Therefore to reduce post harvest loss as well as to create employment opportunity the farmwomen were trained in both primary and secondary value addition.

METHODOLOGY

The study was undertaken with an attempt to assess the impact of the training courses conducted by Krishi Vigyan Kendra, Nayagarh on the knowledge and adoption level of farm women. The sample group for the present study comprised only the women trained

1-SMS Home Science and 2- Programme Coordinator, Krishi Vigyan Kendra, Nayagarh, Orissa University of Agriculture and Technology.

through various training programmes conducted by Krishi Vigyan Kendra, Nayagarh.

A sample of 120 women beneficiaries covered under different categories of trainings such as farmwomen, rural youth and vocational trainings in the area of fruits and vegetable preservation imparted by Krishi Vigyan Kendra, Nayagarh since last five years were selected by random sampling method. A structured interview schedule was framed through which primary data was collected.

Purpose and Objective

The purpose of the study was to determine the impact of value addition of fruits and vegetable trainings conducted by Krishi Vigyan Kendra, Nayagarh. Specifically this study focused on the impact of trainings provided to farm women on their perceived knowledge, acquisition of skills and adoption level of value addition practices.

The following objectives were formulated for the present study.

- To describe the demographic profile of the respondents
- To assess the impact of value addition trainings conducted by KrishiVigyan Kendra Nayagarh
- To determine the relationships if any between the demographic profile of the trainees and their perceived knowledge, acquisition of skill and adoption level
- To enlist the constraints faced by the farm women to take up value addition of fruits and vegetable in commercial scale.

FINDINGS AND DISCUSSION

Demographic profile of the respondents

The study revealed that minimum and maximum age of the respondents was 15 years and 40 years. Majority of the trainees (76.66%) belonged to the age group of 15- 25 years, 19.16per cent of the respondents belonged to the age group of 25-35 years and a small number of respondents (4.16 %) were above 35 years. The data also revealed that comparatively larger proportion of the respondents (44.16%) were having education up to high school, 24.16 per cent of the respondents were having education up to intermediate whereas, minimum (1.6%) of the respondents were up to primary level of education . The data revealed that 44.16 per cent of the respondents belonged to medium income category having annual family income of Rs.70,000-90,000. Thirty per cent of the respondents belonged to high income category with annual income of Rs.90,000 and above. Comparatively less proportion of respondents (25.83%) belonged to low income category having annual family income of Rs.50,000-70,000. From the data it is depicted that majority (70%) of the respondents were having moderate knowledge and a meager proportion (5.3%) were having high knowledge in post harvest management. A greater proportion (73.3%) of the respondents was having regular extension contact and 62.5% of the

Table 1. **N=120**
Distribution of Respondents by Their Demographic Profile

Sl.No.	Demographic profile	Frequency	Percentage (%)
I	**Age(years)**		
1.	15-25 (Low)	92	76.66
2.	26-35 (Medium)	23	19.16
3.	36 -40(High)	5	4.16
II	**Education**		
1.	Upto primary	2	1.66
2.	Middle school	25	20.83
3.	High school	74	44.16
4.	Intermidiate	10	24.16
5.	Graduate	9	9.16
III	**Family annual income(Rs.)**		
1.	50,000-70,000	31	25.83
2.	70,001-90,000	53	44.16
3.	90,001 and above	36	30
IV	**Post harvest knowledge(Score Min.1 - Maxi. 8)**		
1.	Score Low knowledge(1-3)	29	24.16
2.	Moderate knowledge(4-6)	84	70
3.	High knowledge(7-8)	7	5.83
V	**Extension contact**		
1.	No extension contact	32	26.66
2.	Extension contact 1-2 times/month	81	67.5
3.	Extension contact >2 times/month	7	5.83
VI	**Length of membership in SHGs**		
1.	< 3 years	34	28.33
2.	3-5 years	75	62.5
3.	> 5 years	11	9.16

respondents were members of the SHG groups for 3 to 5 years.

Respondent's perceived knowledge on value addition

It is evident from data (Table 2) that almost all the respondents were knowledgeable in different aspects of value addition. Only a meager proportion (6.6%) of the respondents was partially knowledgeable regarding the procedure of getting FPO license. This may be due to lack of facilities for getting preserved

product license in the district as well as state level.

Respondents' skill acquisition on value addition

It is convinced from the data (Table 3) that a greater proportion of respondents were skilled in value addition in tomato, lemon, papaya and ginger. A few respondents were not at all skilled when in preparation of dried mushroom (37.5%), chips making from jackfruit (19.16%), squash making from cashew apple(55.83%), wax sealing of product bottles(10.83%) and packaging and labeling of finished products(4.16%). This may be due to lack of interest in value addition of specific fruits & vegetables or may be due to the low demand of the product in the market.

Table 2.
Distribution of Respondents based on Their Perceived Knowledge on Value Addition

N=120

Sl. No.	Statements	Fully knowledgeable		Partially knowledgeable		Not knowledgeable	
		N	%	N	%	N	%
1.	Importance of fruits and vegetable preservation	120	100	-	-	-	-
2.	Causes of spoilage of fruits and vegetables	10	8.33	110	91.66	-	-
3.	Basic principles and methods of fruits and vegetable preservation	15	12.5	105	87.5	-	-
4.	Preservation of fruit juices by addition of chemicals	12	10	101	84.16	7	5.83
5.	Role of pectin in the preservation of jam and jelly	-	-	110	91.66	10	8.33
6.	Importance of sanitation and hygiene while preparing value added products	67	55.83	53	44.16	-	-
7.	Causes of spoilage in preserved products	-	-	106	88.33	14	11.66
8.	Role of Self Help Groups in creating awareness	105	87.5	15	12.5	-	-
9.	Cost Benefit evaluation in preparation of value added products	5	4.1	92	76.66	23	19.16
10.	Procedure of getting FPO license	-	-	8	6.6	112	93.33
11.	Value added product promotion and market linkage	4	40	56	46.66	16	13.33
12.	Machineries and equipments used in small scale value addition enterprise	-	-	96	0	24	20

Respondents' adoption level of value addition practices

It is evident from the data (Table 4) that all the respondents were using stainless steel containers & accessories for value added product making. A higher portion of respondents (74.16%) are using chemical preservatives. Very small proportion (2.5%) of respondents have procured food license and adopted commercial scale value added products making. This may be due to constraints prevailing in the present market scenario in the district like- non availability of sustainable market for preserved food items & difficulties in getting FPO license.

Relationships between dependent variables and demographic profile of the respondents

Significant relationships were observed between education, family income, post-harvest knowledge, extension contact, membership of SHGs and knowledge on value addition. Similarly, significant relationship existed between education, post harvest knowledge and skill level of respondents. This suggests that, for every unit of improvement on the above characteristics of the participants, there will be a corresponding significant improvement in perceived knowledge, acquisition of skill and adoption level on value addition. Substantial relationships were found between selected variables and adoption level of value addition practices. Education, family income, extension agent contact, post-harvest knowledge and membership of SHGs were highly related to adoption level of value addition practices (Table-5). The probable reasons we can attribute for this might be that, education imparts knowledge, creates awareness and makes inquisitiveness to explore and learn, which helps them to become skilled and to make desirable changes in adoption. Moreover, education favours the acquisition of knowledge and widens the horizon of knowledge by proper understanding of the

Table 3.
Distribution of Respondents Based on Their Skill Acquisition on Value Addition

Sl. No.	Statements	Fullyskilled		Partially Skilled		Not Skilled	
		N	%	N	%	N	%
1.	Sorting and grading of tomatoes	102	85	18	15	-	
2.	Preparation of value added products from tomato	13	10.83	107	89.16	-	-
3.	Preparation of value added products from lemon	33	27.5	87	72.5	-	-
4.	Preparation of mango squash	40	33.33	80	66.66	-	-
5.	Preparation of papaya jam	45	37.5	75	62.5	-	-
6.	Preparation of lime ginger RTS	64	53.33	56	46.66	-	-
7.	Preparation of ginger candy	12	10	108	90	-	-
8.	Preparation of ginger pickle	21	17.5	99	82.5	-	-
9.	Preparation of brinjal pickle	43	35.83	77	64.16	-	-
10.	Preparation of mushroom pickle	43	35.83	77	64.16	-	-
11.	Preparation of dried mushroom	9	7.5	66	55	45	37.5
12.	Preparation of chips from colocasia	18	15	102	85	-	-
13.	Preparation of chips from jackfruit	10	8.33	110	91.66	23	19.16
14.	Preparation of cashew apple squash	-		53	44.16	67	55.83
15.	Preparation of dried arrowroot	12	10	108	90	-	-
16.	Preparation of value added products from mahuaflowers	13	10.83	107	89.16	-	-
17.	Packaging and labeling of finished products	19	15.83	96	80	5	4.16
18.	Wax sealing of product bottles	26	21.66	81	67.5	13	10.83

Table 4.
Distribution of Respondents Based on Their Adoption Level of Value Addition Practices

Sl. No.	Statements	Fully adopted		Partially adopted		Haven't tried	
		N	%	N	%	N	%
1.	Sorting and grading of fruits and vegetables	45	37.5	75	62.5	-	-
2.	Washing vegetables before cutting	78	65	42	35	-	-
3.	Blanching vegetables to retard enzymatic action	43	35.83	77	64.16	-	-
4.	Using solar dryer for drying vegetable slices	10	8.33	-	-	-	-
5.	Using stainless steel containers and accessories for value added products making	120	100	-	-	-	-
6.	Using chemical preservatives for long term preservation	89	74.16	31	25.83	-	-
7.	Sealing and packaging of value added products	45	37.5	75	62.5	-	-
8.	Procured food license	3	2.5	-	-	-	-
9.	Procured FPO license for preserved food items	-	-	-	-	-	
10.	Adopted commercial scale of value added products making and marketing	3	2.5	49	40.83	68	56.66

importance of value addition practices by getting exposed to extension agencies and contacting other informal sources. Extension agent provides scientific knowledge, necessary information on agricultural innovations and technologies, which develop farmers' knowledge and help to change their attitude toward adoption. Recently, many developing countries have reaffirmed the essential role that agricultural extension can play in agricultural development.

Table 5.
Correlation of Demographic Profile of the Respondents with Their Perceived Knowledge, Skill Acquisition and Adoption Level

Demographic profile	Knowledge	Skill	Adoption
Education	0.327^{++}	0.312^{++}	0.550^{++}
Family annual income	0.217^{+}	0.153	0.480^{++}
Post harvest knowledge	0.375^{++}	0.317^{++}	0.366^{++}
Extension agent contact	0.304^{++}	0.127	0.313^{++}
Membership of self help groups	0.362^{++}	0.211^{+}	0.440^{++}

*= Significant at 5% level; **= Significant at 1% level

CONCLUSION

The study deals with one of the major issues associated with the diffusion of value added agriculture, as an important strategy for survival of small and marginal farmers in the developing state like Odisha .The study revealed the vital issues like procurement of FPO license, quality control, market linkage , enhancement of value addition knowledge and skill of rural women who play a vital role in post harvest management of fruits and vegetable s are to be taken care of at policy level. This will increase the adoption rate of commercial value addition of fruits and vegetables in an entrepreneurial mode.