



ISSN (E): 2277-7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2023; SP-12(11): 705-708
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www.thepharmajournal.com
Received: 18-08-2023
Accepted: 23-09-2023

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A study on participation of farm women in value addition activities of tomatoes in Kolar district of Karnataka state

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Abstract

The study was conducted to know the extent of participation of farm women in value addition activities of tomato in Kolar district. A sample of 300 tomato growers were purposively selected from five taluks of Kolar namely Malur, Kolar, Mulbagal, Srinivasapur and Bangarpet. The data was analysed using frequency, mean, percentage and correlation test was used to find out the relationship between variables. It was found that the participation index of respondents was high in Harvesting (67.42%) followed by grading and sorting (54.08%), storage of fresh fruit (37.00%), marketing (22.92%), packing of fresh fruits (19.33%) and transportation of fruits (8.33%). The overall participation index of respondents in post harvest activities was to the extent of 69.00. This is because, post harvest activities like harvesting, grading storage are usually performed by women folk to a large extent as these involve light and less muscle power. The study also revealed that 78.67 percent of the respondents were found under low participation in value addition category followed by 17.33 percent under medium and only four percent were found under the high participation in value addition of tomato. The overall participation index of farm women in value addition activities of tomato was low to the extent of 28.83. This was due to lack of knowledge about value addition and absence of processing units in the district. Therefore, there is an urgent need to organize interventional programmes to empower farm women for sustainable livelihood.

Keywords: Participation, shelf life, value addition, interventional programmes

Introduction

In recent years, processing of fruits and vegetables has assumed greater importance with the increase in production due to high yielding varieties. It is estimated that about 15% of total production which accounts to 30.45 million tonnes is being lost in post harvest phase during handling, threshing, storage, transportation and distribution. Kolar district accounts for 16% of tomato area in the state and it contributes 28% to production because of high productivity (56.5 tons/ha). But Tomatoes are highly perishable and weather condition is also not much suited to extend its shelf life. During the uncertainties in the market created by lockdowns has created the problem of transportation, marketing and storage. In fact the situation arises very frequently due to the glut periods of tomato crop. It is seen pathetically when farmers could not harvest the crop due to lowest rate for tomatoes in the market. In addition to this there is a sizable loss of fruits in quantity and quality due to inadequate storage facilities available in the district. Because of this situation tomatoes are thrown on the roads by the farmers as protest. Though many interventional programmes have been taken up to educate and develop vocational skills among folk men to prevent post harvest losses instead of farm women, who actually perform all the activities related to post harvest of tomatoes. Therefore the present research was conducted to study the extent of participation of farm women in activities related to value addition of tomato in Kolar district.

Methodology

The present study was conducted in Kolar district of Karnataka state which is major producer of tomato in India, with respect to area (17,410 ha) and production (9, 79,338.94 M. tonnes) according to State Horticultural database, 2022. The five taluks namely Malur, Kolar, Mulbagal, Srinivasapur and Bangarpet were purposively selected among them four villages from each taluk and fifteen farm women from each village were selected thus, contributing a sample of 300 respondents for the study. The data was analysed using frequency, mean, percentage and correlation test was used to find out the relationship between extent of participation of respondents in value addition and other independent variables.

Results and Discussion

Harvesting

Data from Table 1 showed that 76.00 percent of the farm women were involved partially in tomato harvesting activities and 24.00 percent of them had full participation in identification of maturity index of the tomato for harvesting with mean score of 2.24. About 55.00 percent of the respondents were rarely involved in plucking of fruits with mean score of 1.67. About 81.00 percent of the respondents were involved partially for harvesting of fruits for home purpose with mean score 2.19 followed by two percent of them involved completely in long distance marketing with mean score of 0.45. In case of harvesting of red tomatoes to local APMC market, 19.33 percent of respondents were participated fully with mean score 1.37. The overall participation index for harvesting was to the extent of 67.42.

Grading and sorting

It is evident from the table 1 that 43.33 percent of the respondents were involved fully in grading based on size, shape, variety and colour with mean score 2.43 followed by 26.00 percent of them involved in removal of damaged and diseased fruits with mean score 1.70. About 45.00 percent of the respondents had full participation in manual grading for local market with mean score 1.91, whereas 54.67 percent of them didn't participate in mechanical grading for international market with least mean score 0.45. The overall participation index of respondents in grading found to the extent of 54.08.

Storage

More than fifty percent (54.67%) of the respondents partially

participated in the storage of fresh fruits in open air and only 19.33 percent had full participation in storage with mean score 1.67. But it could be observed that none of the respondents had full participation in storage of fresh fruits in cold chamber with mean score 0.55. The overall participation index of respondents in storage of fresh fruits was 37.00 percent.

Packing

Only two percent of the respondents had partial participation and none of them had full participation in packing of fresh fruits with mean score of 0.58. The overall participation index of respondents in packing of fresh fruit found to the extent of 19.33.

Transportation

It is evident from table 1 that none of the respondents had full participation in transporting fresh fruits either to local market or distant market and three fourth percent of them didn't participate at all; therefore the participation index of transportation was to the extent of 8.33.

Marketing

Results of table 1 indicates none of the respondents had full participation in marketing of tomato with mean score of 1.09 for APMC and commission agents, followed by 0.55 mean score for local traders / retailers and only 0.02 mean score found in involvement of marketing of fresh fruits to the processing units. The overall participation index of respondents in marketing was to the extent of 22.02.

Table 1: Participation of respondents in Post harvest activities of tomato

N= 300

S. No	Post harvest activities	No participation	Rare participation	Partial participation	Full participation	Mean
A Harvesting						
1.	Identification of harvesting maturity	0 (0.00)	0 (0.00)	228 (76.00)	72 (24.00)	2.24
2.	Plucking of fruits	0 (0.00)	164 (54.67)	72 (24.00)	64 (21.33)	1.67
Purpose of harvesting						
	a. Home purpose	0 (0.00)	0 (0.00)	242 (80.67)	58 (19.33)	2.19
	b. Long distance transport	236 (78.67)	0 (0.00)	58 (19.33)	6 (2.00)	0.45
	c. APMC market	6 (2.00)	236 (78.67)	0 (0.00)	58 (19.33)	
	Participation Index	67.42				
B Grading and sorting						
1	Grading based on size, shape, variety, colour	0 (0.00)	0 (0.00)	170 (56.67)	130 (43.33)	2.43
2.	Removal of damaged & diseased fruits	2 (0.67)	164 (54.67)	56 (18.67)	78 (26.00)	1.70
3.	Manual grading for local market	0 (0.00)	164 (54.67)	0 (0.00)	136 (45.33)	1.91
4.	Mechanical grading for international market	164 (54.67)	136 (45.33)	0 (0.00)	0 (0.00)	0.45
	Participation Index	54.08				
C Storage of fresh fruits						
1.	Storage of the fruits in open air	78 (26.00)	0 (0.00)	164 (54.67)	58 (19.33)	1.67
2.	Storage of the fruits in cold chamber	136 (45.33)	164 (54.67)	0 (0.00)	0 (0.00)	0.55
	Participation Index	37.00				

D Packing of fresh fruits						
	1. Fresh Fruits	130 (43.33)	164 (54.67)	6 (2.00)	0 (0.00)	0.58
	Participation Index	19.33				
E Transportation of fresh fruits						
1.	To the nearby/local market	228 (76.00)	72 (24.00)	0 (0.00)	0 (0.00)	0.24
2.	To the distant market	222 (74.00)	78 (26.00)	0 (0.00)	0 (0.00)	0.26
	Participation Index	8.33				
F Marketing						
1.	APMC	136 (45.33)	0 (0.00)	164 (54.67)	0 (0.00)	1.09
2.	Commission agents	136 (45.33)	0 (0.00)	164 (54.67)	0 (0.00)	1.09
3.	Local traders / retailers	136 (45.33)	164 (54.67)	0 (0.00)	0 (0.00)	0.55
4.	Processing units	294 (98.00)	6 (2.00)	0 (0.00)	0 (0.00)	0.02
	Participation Index	22.92				
	Overall Index	69.09				

Results from table 2 revealed that cent percent of the respondents were removing pedicel (fruit stalk) with mean score 1.00 followed by 74.00 percent of the respondents had participation in value addition activity like washing of fruits with mean score 0.74. The respondents participated in sun drying (45.33%), use of natural preservatives (33.00%), identification of fruits for minimal value addition (19.33%) and none of the respondents were involved in packing, sealing, labelling of value added products of tomato. The

participation index of respondents in value addition activities was poor only to the extent of 28.83. This is due to lack of knowledge on value addition, less exposure to training programmes and lack of processing procedure. But they were preparing the products like gojju, pickle and chutney for their home consumption and not for sale. This calls for training on value addition to tomato to develop entrepreneurial behaviour among farmwomen.

Table 2: Participation of respondents in value addition activities of Tomato

N=300

S. No	Value addition activities of tomato	Yes		No		Mean score
		F	%	f	%	
1.	Identification of the fruits for minimal value addition	58	19.33	242	80.67	0.19
2.	Processing of the ingredients	36	12.00	264	88.00	0.12
3.	Washing of the fruits	222	74.00	78	26.00	0.74
4.	Removing of the pedicel (fruit stalk)	300	100.00	00	0.00	1.00
5.	Drying of fruits	136	45.33	164	54.67	0.45
	a. Sun drying					
	b. Hot air oven drying	02	0.67	298	99.33	0.01
6.	Use of natural preservatives	99	33.00	201	67.00	0.33
7.	Blanching of tomato	12	4.00	288	96.00	0.04
8.	Packing of value added products	00	0.00	300	100.00	0.00
9.	Sealing of value added products	00	0.00	300	100.00	0.00
10.	Labelling of value added products	00	0.00	300	100.00	0.00
	Participation index (%)	28.83				

Results in the table 3 indicated the relationship between socio personal characteristics with extent of participation in value addition of tomato. It was observed that age, education and family size were non significant whereas occupation was negatively correlated with extent of participation of farm women in value addition of tomato. The variable namely annual income, organisational participation, extension contact, mass media, training exposure and social media participation found to have significant relationship with extent of participation of farm women in value addition of tomato. The increase in land holding gives more quantity of produce

so their participation also increased. Since tomato crop prices highly fluctuates, more income group interested to have participation to avoid risks. The respondents also had more participation in social media and organisations. Extension contact helping them to give as resource person in value added products of tomato. Training programmes attended might have boosted their participation in value addition practices of tomato.

The findings are in line with the findings of Babanna (2001)^[1], Singh (2001)^[5], Neelaveni *et al.* (2002)^[3] and Padmavathi (2002)^[4].

Table 3: Relationship between Dependent and Independent variable

N=300

S. No	Independent variable	Computed 'r' value
1	Age	0.051445 ^{NS}
2.	Education	-0.0822 ^{NS}
3.	Family type	0.667**
4.	Family size	-0.065 ^{NS}
5.	Family occupation	-0.13905*
6.	Land holding	0.139048*
7.	Annual income	0.160948**
8.	Organizational participation	0.622897**
9.	Extension Contact	0.160948**
10.	Social media participation	0.445936**
11.	Training programmes attended	0.622897**
12	Research Extension linkage	0.546032**

* Correlation is significant at 5% ** Correlation is significant at 1%

Conclusion

The study revealed that majority of the respondents participated in harvesting and grading because both the activities are done manually which is usually carried out by farm women it doesn't require any special skill. The results showed that none of the respondents had full participation in value addition related activities. This was due to lack of knowledge on value addition and absence of processing units in the district. They were preparing value added products for home purpose not on commercial scale. Therefore to overcome the challenges of uncertainties and short shelf life of tomato fruit the above study concludes that, there is an urgent need to organize interventional programmes to build the capacity of farm women about value addition of tomatoes and to empower them for sustainable livelihood.

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