

## IMPACT OF TRAINING ON ADOPTION OF FRUITS AND VEGETABLE PRESERVATION TECHNOLOGY BY TRIBAL WOMEN

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### ABSTRACT

India currently produces about 50 million tonnes of fruits and 90 million tonnes of vegetables. The force of those engaged in agriculture are still illiterate and just 5% have completed higher secondary education. Even in 2004-05, around 60% of rural male workers and 85% of rural female workers are either illiterate or have been educated upto primary level. Besides, when we think about the tribal, they are generally resource poor and economically backward. With due attention to that ATMA of Tapi and Navsari district have formed various FIGs to empower tribal farm women as both the districts are tribal dominated. Majority of tribal farm women of both the districts have little knowledge about processing and preservation technology. Therefore, KVK, Tapi has decided to conduct training programmes on processing and preservation for FIGs members in collaboration with ATMA, Tapi and ATMA, Navsari to motivate the tribal farm women towards adoption of scientific preservation technology. The information was collected with the help of questionnaire and telephone. It is found that in Tapi district, the 36.63 percent and 25.55 percent of tribal farm women prepared tomato ketchup and papaya jam respectively while 16.62 and 18.49 percent of tribal farm women prepared tomato ketchup and papaya jam in Navsari district. Not only that in economic point of view, the tribal farm women saved Rs.90/Kg for tomato ketchup and Rs.157/Kg for papaya jam than the market price after adopting the fruits and vegetable preservation technology.

**Keywords:** training, adoption, fruits and vegetable preservation, knowledge, ATMA, FIGs, economic benefit

### INTRODUCTION

According to Chanakya- self initiative and self-realization are very powerful weapons in empowering the poor and eradicating poverty from the world. The Granny's proverb says that your kitchen shows very much about you. India currently produces about 50 million tonnes of fruits and 90 million tonnes of vegetables. Only 2% of these fruits and vegetables are processed in against of 23% in China, 78% in Phillippines, 83% in Malaysia. The force of those engaged in agriculture are still illiterate and just 5% have completed higher secondary education. Even in 2004-05, around 60% of rural male workers and 85% of rural female workers are either illiterate or have been educated upto primary level. Besides, when we think about the tribal, they are generally resource poor and economically backward. As they have no knowledge about preservation except mango pickle. In this situation it is very difficult to empower them with various value added tasty food items available in the market. With due attention to that ATMA of Tapi and Navsari district have formed

various FIGs to empower tribal farm women as both the districts are tribal dominated. Majority of tribal farm women of both the districts have little knowledge about processing and preservation technology i.e. value addition in fruits and vegetables. For speedy transfer of scientific technologies, role of research and training for tribal farm women has been recognized according to their requirement. Thus, the importance of training as an indispensable instrument for human resource development at any level cannot be ignored. As empowerment is a holistic process which should address several aspects of living and livelihoods of women. Needless to say that knowledge, awareness and training are the basic ingredients which will help women in particular and society in general to realize the potential of women. Therefore, it was felt necessary that KVK, Tapi can play a significant role to empower tribal farm women of FIGs through training on fruits and vegetables preservation technology. Keeping these points in view, the present study was conducted with the following objectives.

**OBJECTIVE**

To know the adoption of fruits and vegetable technology by tribal farm women and the economic gained by them after training.

**METHODOLOGY**

The study was conducted in 79 villages of Tapi and Navsari district of South Gujarat. Project Director, ATMA, Tapi and Navsari decided to provide training to tribal farm women of FIGs in the field of agro-processing (Value added products) i.e fruits and vegetables preservation technology. In view of this KVK, Tapi has decided to conduct training programmes on processing and preservation for FIGs members in collaboration with ATMA, Tapi and ATMA, Navsari to motivate the tribal farm women towards adoption of scientific preservation technology. KVK, Tapi organized 29 training programmes on ‘Fruits and vegetable preservation’ which benefitted to 1222 tribal farm women of FIGs from 79 villages during the year 2012-13 to 2016-17. The principle of learning by doing and seeing is believing was adopted to provide the training in an effective manner. Method demonstration on ‘Preparation of Papaya jam and Tomato ketchup’ was also conducted by the Home Scientist during training. Besides, facility was also provided to all tribal farm women in groups of FIVE to prepare the product themselves. This method leads to empower their knowledge in the field of fruits and vegetable preservation technology, also builds confidence among the women. The trainees were also enriched with proper literature in local language which was enough to prepare the product at their home. The information was collected with the help of questionnaire and telephone. The data were analyzed with appropriate statistical tools such as frequency, percentage etc. The detail of training programmes is given in Table 1.

**Table 1 : Detail of training programmes**

Particulars	Year	No. of Training	No. of FIGs' members	No. of villages covered in district
ATMA, Tapi	2012-13 to 2016-17	18	849	58
ATMA, Navsari	2013-14 to 2015-16	11	373	21
<b>Total</b>		<b>29</b>	<b>1222</b>	<b>79</b>

**RESULTS AND DISCUSSION**

The results were very encouraging for us as well as ATMAs. After participating in training programmes, about 47 per cent of trainees of both districts have adopted the preservation technology. During season, they have prepared Tomato ketchup and Papaya jam in scientific way for domestic use. The adoption of fruits and vegetable preservation technology and economic benefit of tribal farm women of FIGs by preparing tomato ketchup and papaya jam are given in Table 2, Table 3 and figure 1 and 2.

**Table 2 : Adoption of fruits and vegetable preservation technology by tribal farm women n=659**

Name of District	Food Product	No. of Trainees	Adoption by tribal farm women of FIGs	
			Frequency	Per cent
ATMA, Tapi	Tomato ketchup	849	311	36.63
	Papaya jam		217	25.55
ATMA, Navsari	Tomato ketchup	373	62	16.62
	Papaya jam		69	18.49

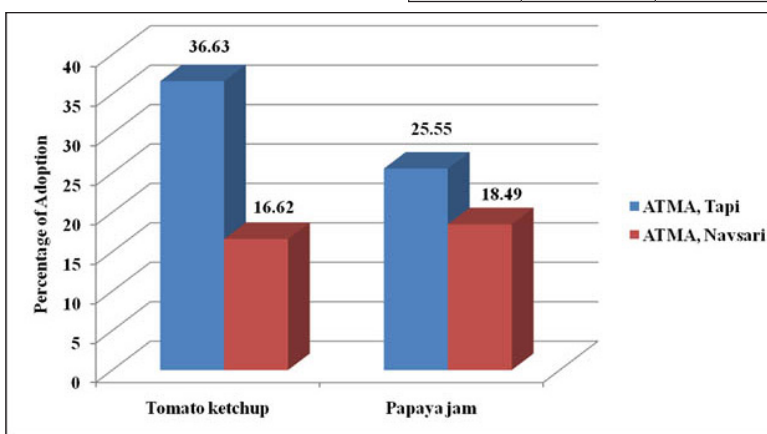


Fig. 1 - Adoption by tribal farm women FIGs

**Table 3 : Economic benefit of FIGs by preparing Tomato ketchup and Papaya jam for domestic utilization n=659**

Name of District	Food Product	No. of Trainees adopted the technology	Quantity per year (Kg)	*Homemade Cost (₹)	**Market Price (₹)	Economic Benefit (₹)
ATMA, Tapi	Tomato ketchup	311	709	38995.00	102805.00	63810.00
	Papaya jam	217	268	17420.00	59496.00	42076.00
ATMA, Navsari	Tomato ketchup	62	191	10505.00	27695.00	17109.00
	Papaya jam	69	88	5720.00	19536.00	13816.00
<b>Total</b>			<b>1256</b>	<b>72640.00</b>	<b>209532.00</b>	<b>136811.00</b>
<b>*Homemade cost:</b>			<b>**Market Price:</b>			
Tomato ketchup: ₹55/Kg			Tomato ketchup: ₹ 145/Kg(Maggi)			
Papaya jam: ₹ 65/Kg			Mix fruit jam: ₹111/500gm (KISSAN)			

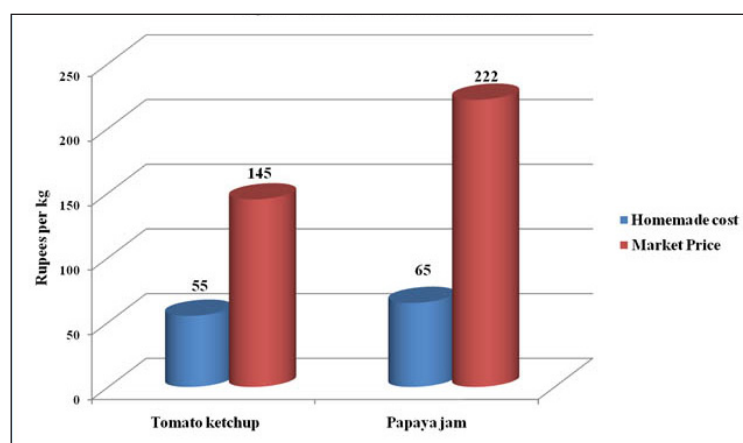


Fig. 2 : Economic Benefit of FIGs

Trained tribal farm women have prepared Tomato ketchup and Papaya jam for household consumption by using processing and preservation technology. It is found that 36.63 percent and 16.62 percent of the tribal farm women prepared tomato ketchup while 25.55 percent and 18.49 percent of the tribal farm women prepared papaya jam with use of citric acid in Tapi and Navsari district respectively. The tribal farm women have prepared 900 kg tomato ketchup and 356 kg papaya jam per year and they saved total ₹ 1,36,811/- as compared to market price. Besides, they saved ₹ 90/Kg for tomato ketchup and ₹ 157/Kg for papaya jam than market price by adopting the preservation technology. The cost of Tomato ketchup and papaya jam in market is approximately **three times more** than the cost of homemade products. No wonder that the kitchen of tribal women is filled with the fragrance of jam and tomato ketchup which they never prepared at home.

Based on the above results tribal women expressed their views about the importance of this type of training programmes in the form of feedback given below.

**Feedback of tribal farm women of FIGs:**

- (1) These products may be prepared when the fruits and vegetables available in the market at cheaper rate.
- (2) Homemade product is cheaper than market.
- (3) Quality of product is better.
- (4) Product can be prepared as per taste and quantity required.
- (5) Product can be used during off season of fruits & vegetables.
- (6) Stored in sterilized bottle which helps to increase the shelf life of product.

Not only that many neighbours and relatives of trained women contacted them to prepare these value added products and get a better social acceptance in their area itself.

## CONCLUSION

It is clear from the training conducted by KVK, Tapi that in Tapi district, the 36.63 percent and 25.55 percent of tribal farm women prepared tomato ketchup and papaya jam respectively while 16.62 and 18.49 percent of tribal farm women prepared tomato ketchup and papaya jam in Navsari district. Not only that in economic point of view, the tribal farm women saved ₹ 90/Kg for tomato ketchup and ₹ 157/Kg for papaya jam than the market price after adopting the fruits and vegetable preservation technology i.e. the price of these food products is three times more than the cost of homemade products .

Looking to the importance of processing and preservation technology the tribal farm women from surrounding villages of Tapi and Navsari district have showed their keen interest and readiness to participate in the training programme (Source: ATMA, Tapi and ATMA, Navsari). Besides this type of training programmes may be the torch bearer approach for agro-based entrepreneurship development among tribal women. Training is critical input for tribal farm women for quick transfer of technology and a way to uplift their socio-economic condition.

## REFERENCES

- Kalsariya B.N., Bharad N.D. and Jadeja M.K. (2015). Impact of training programme in terms of gain in knowledge for sustainable agriculture. *Guj. J. Ext. Edu.* 26(2): 154-157
- Patel G.J., Patel D.P. and Ramjiyani D.B. (2016). Knowledge of nutritional practices among the tribal women. *Guj. J. Ext. Edu.* 27(1): 24-26
- Sharma P., Singh G.P. and Jha S.K. (2013). Impact of training programme on knowledge and adoption of preservation technologies among farm women: a comparative study. *Indian Res. J. Ext. Edu.* 13(1): 96-100
- Soni D.N. and Kamaliya K.B. (2013). Evaluation of knowledge on nutritional facts of tribal women. *Guj. J. Ext. Edu.* 24: 58-61
- Soni D.N., Soni A.N. and Timbadia C.K. (2016). Impact of training on knowledge level of participants regarding value addition in papaya. *Guj. J. Ext. Edu.* 27(2): 126-129

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