



Research Article

## Impact and constraints analysis of tribal farm women in adoption of kitchen gardening

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**SUMMARY :** Kitchen gardening plays an imperative role for rural families to recover diversified vegetables in their daily diet. Demonstrations on kitchen gardening have distorted the eye site of the tribal farm women among health and hygienic safety measures. The KVK Tapi had demonstrated the kitchen gardening in tribal area. Since last three years about 150 FLDs on kitchen gardening were undertaken. To know the impact of the alleged technology along with constraints faced by tribal farm women the attempt were made. FLDs on kitchen gardening have paved the way of healthier, long, prosperous and biodegradable life of the tribal farm women. The results seen the overall knowledge of kitchen gardening indicated that the low, medium and high level of knowledge before contact with KVK was 85.00 per cent, 11.00 per cent and 04.00 per cent, respectively. It was altered up to 07.00 per cent, 13.00 per cent and 80.00 per cent, respectively after contact with KVK. In case of knowledge regarding selected scientific innovations for kitchen gardening high knowledge regarding selected scientific innovations were found except IPM. The perusal of data indicated that majority of the tribal farm women had low level of knowledge (75.00 %) before contact with KVK. After contact with KVK, 89.00 per cent of the tribal farm women had high level of knowledge. At the end it can be suggested that these FLDs in the region found an important for increasing the income, improving the soil health, fertility and productivity and also to raise the standard of living of the tribes. However, some constraints were also faced by tribal farm women in adoption of kitchen gardening in scientific way. The constraints faced by them were categorized input constraints, technical constraints, socio-cultural and post harvest constraints, respectively in rank order as per their perception. The input constraints were the most important constraints and were ranked in first position which needs to be solved for betterment of the tribes in the region.

**KEY WORDS :**

KVK, FLD,  
Constraints, IPM,  
Impact, NAU,  
Kitchen gardening

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### BACKGROUND AND OBJECTIVES

The tribal farm women cannot have enough wealth to purchase costly vegetables for their family. The sickle cell anemia and other diseases are great constraints in the region. The main reason behind this is malnutrition, imbalanced ration and illiteracy. Krishi Vigyan Kendra, NAU, Vyara is an pioneering knowledge based institution which is engaged with transfer of scientific technology related to agriculture and allied fields in adopted villages of Tapi district (Kokate, 2011). Tapi district is a tribal dominated district with poor economic condition of farmers. The farm women of this area are mostly engaged with daily wages

farm work which is available in particular crop season. Majority of tribal farm women have lack of knowledge about health and nutrition, dietetic blueprint of pregnant and lactating women and complementary feeding for children. Due to poor economic condition, they are unable to purchase fruits and vegetables from market for their daily dietary need. This is resulted in poor health and imbalance nutritional status of farmers, farm women and children. The farm women of this area are growing one or two vegetable crops of local variety in their backyard in traditional way. To motivate the farm women towards growing improved varieties of different vegetables to

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accomplish their nutritional requirement, it has been decided to conduct front line demonstrations on kitchen gardening in adopted villages of Tapi district. Kitchen gardening model developed by NAU were demonstrated in satellite villages. total 150 demonstrations have conducted on kitchen gardening in total 17 villages of Vyara, Songadh and Uchchhal Talukas of Tapi district. To improve the health and nutritional status of tribal farm families to increase the income of tribal farmers, to demonstrate kitchen gardening in scientific way, to make farm women familiar with different vegetables and high value dietary vegetable crops. In spite of the importance of all facts still kitchen gardening is not a very successful venture in most of the families. The predominant reasons for the poor adoption may be due to lack of technical guidance, lack awareness and knowledge factors such as seed, water, protection measures, storage, processing and so on. Considering the significance of constraints and impact, the study was undertaken with following objectives, to know the overall knowledge of scientific package of practices of kitchen gardening, to study the knowledge regarding selected scientific innovations for kitchen gardening, to study the overall adoption of scientific package of practices of kitchen gardening and to find out the adoption of critical kitchen gardening (%) and constraints faced by them in adoption of the technology.

## RESOURCES AND METHODS

The present study was conducted in Tapi district of Gujarat State. Four blocks were selected. From each block five villages were selected purposively for the study. Among each village 5 tribal farm women were selected randomly. Hence, total sample size was 100 tribal women. The data were collected through personal interview. The interview schedule was prepared by keeping the objectives of the study in mind. The necessary care was taken to collect the un-biased and correct data. The data were collected, tabulated and analyzed to find out the findings and drawing the conclusion. The statistical tools like frequency, percentage and rank were employed to analyze the data. The constraints as perceived by respondents were scored on the basis of magnitude of the problem as per Meena and Sisodiya (2004). The respondents were recorded and converted in to mean per cent score and constraints were ranked accordingly as per Warde *et al.* (1991).

## OBSERVATIONS AND ANALYSIS

Results of overall knowledge of kitchen gardening indicated that the low, medium and high level of knowledge before contact with KVK was 85.00 per cent, 11.00 per cent and 04.00 per cent, respectively and it was increased up to 07.00 per cent, 13.00 per cent and 80.00 per cent after contact with KVK (Table 1). Javat *et al.* (2011) reported the same result.

In case of knowledge regarding selected scientific

**Table 1 : Overall knowledge of package of practices of kitchen gardening (n=100)**

Category	Before contact with KVK (%)	After contact with KVK (%)
Low level of knowledge	85.00	07.00
Medium level of knowledge	11.00	13.00
High level of knowledge	04.00	80.00

innovations for kitchen gardening high knowledge regarding selected scientific innovations were found, except IPM (Table 2).

**Table 2 : Knowledge regarding selected scientific innovations for kitchen gardening (n=100)**

Sr. No.	Selected scientific innovation	Low	Medium	High
1.	New high yielding varieties	09	6	85
2.	IPM	12	75	13
3.	Bio fertilizer	11	18	71
4.	Weeding	23	8	69
5.	Integrated nutrient management	09	13	78

Data presented in Table 3 indicated that majority of the farmer had low level of knowledge (78.00 per cent) before contact with KVK. After contact with KVK, 88.00 per cent of the farmers had high level of knowledge regarding scientific cultivation of kitchen gardening. Godawat (2011) supported the facts.

**Table 3 : Overall adoption of scientific cultivation of kitchen gardening (Percentage) (n=100)**

Category	Before contact with KVK (%)	After contact with KVK (%)
Low level of adoption	78	07
Medium level of adoption	12	05
High level of adoption	10	88

Attempts were also made to study and categories the major constraints into suitable topics *viz.*, - input, technical, socio-economic, post harvest and general constraints faced by tribal farm women in kitchen gardening (Table 4). Unavailability of quality planting materials for fruits and vegetables (81.26%) was the most important problem faced by the farmers as it ranked on first position (Table 5). Similar result was reported by Kanbid and Sharma (1994). The major constraints faced by the tribal farm women regarding technical was Lack of knowledge regarding sowing time, improved varieties and seed rate (82.00 %) and it was supported Sisodia and Rathore (2004) and Shethy *et al.* (2010). In case of socio-cultural constraints the most important was fear of farm produce robbery (72.31%). Difficulties in selling of surplus small quantity produce (69.78%) was the major constraint faced

**Table 4 : Constraints in adoption of scientific cultivation of kitchen gardening**

Sr. No.	Particulars	MPS	Rank
<b>Input constraints</b>			
1.	Unavailability of quality planting materials for fruits and vegetables	81.26	1
2.	Lack of irrigation facility due to scarcity of water in area	75.50	2
3.	Unavailability of land for kitchen gardening near residential zone	73.14	3
4.	Cow dung is utilized as fuel hence organics are less available	64.81	4
5.	Specific ecofriendly insecticides are unavailable in market	51.55	5
	Overall	69.25	
<b>Technical constraints</b>			
1.	Lack of knowledge regarding sowing time, improved varieties and seed rate	82.00	1
2.	Lack of knowledge regarding nutritious fruits and vegetables selection	74.45	2
3.	Lack of knowledge regarding major pests. it's identification and management	65.64	3
4.	Lack of knowledge regarding critical growth stages for irrigation	54.75	4
5.	Lack of knowledge regarding manures and fertilizers recommendation	53.76	5
6.	Lack of knowledge regarding seed multiplication	52.12	6
7.	Lack of knowledge regarding seed treatment	47.35	7
	Overall	61.43	
<b>Socio-cultural constraints</b>			
1.	Fear of farm produce robbery	72.31	1
2.	prejudices/ orthodoxy	64.55	2
3.	Age old traditional practices adoption	60.76	3
4.	Migration of Rural youth towards urban area	55.26	4
5.	Low involvement of housewife in cultivation practices	51.23	5
	Overall	60.82	
<b>Post harvest constraints</b>			
1.	Problem in surplus small quantity produce selling	69.78	1
2.	Lack of storage facility for surplus small quantity produce	63.45	2
3.	Unavailability of local market at village level	59.55	3
4.	Difficulty in immediate payment after selling at local level	54.10	4
5.	Lack of knowledge regarding fruit and vegetable preservation	46.25	5
	Overall	58.62	
<b>General constraints</b>			
1.	High poultry and monkey menace	71.86	1
2.	Problem of proper protection of local goat and cattle grazing	60.15	2
3.	Less priority of kitchen gardening as compared with other farm activities	52.19	3
4.	Frequent deluge of kitchen garden during rainy season	40.78	4
	Overall	56.24	

**Table 5 : Major constraints faced by farm women in adoption of kitchen gardening**

Sr. No.	Particulars	MPS	Rank
1.	Input constraints	69.25	I
2.	Technical constraints	61.43	II
3.	Socio-cultural constraint)s	60.82	III
4.	Post harvest constraints	58.62	IV
5.	General constraints	56.24	V

under post harvest constraints. High poultry and monkey menace (71.86%) was the main general constraint faced by kitchen gardening growers.

#### Category-wise constraints as perceived :

In order to find out the relationship between the ranks accorded by groups of respondents to different category of constraints, rank order correlation was calculated (Table 5). It is clear that major category of constraint *i.e.* input constraint (69.25 %) was the top ranked as perceived by the farmers having kitchen garden. Other major category of constraints as perceived by the respondents in kitchen gardening like technical (61.43 %), socio-cultural constraints (60.82%), post harvest constraints (58.62 %) and general constraints (56.24%) were accorded II, III and IV ranks in rank order by respondents. Whereas, the general constraints (56.24%) were perceived least important and ranked on fifth rank. Shethy *et al.* (2010) and Kumar *et al.* (2011) supported the same.

#### Conclusion:

It was observed that the overall knowledge of respondents regarding kitchen gardening was increased significantly after contact with KVK. In case of knowledge regarding selected scientific innovations regarding kitchen gardening high knowledge regarding selected scientific innovations were found except IPM. The perusal of data indicated that majority of the tribal farm women had low level of knowledge (75.00 per cent) before contact with KVK. After contact with KVK, 89.00 per cent of the tribal farm women had high level of knowledge. At the end it can be suggested that this crop in the region is important for increasing the income, improving the soil health, fertility and productivity and also to raise the standard of living of the tribes. However, some constraints were also faced by tribal farm women in adoption of kitchen gardening in scientific way. It was also studied and ranked based on mean score. The constraints faced by them were categorized input constraints, technical constraints, socio-cultural and post harvest constraints, respectively in rank order as per their perception. The input constraints were

the most important constraints and it was ranked in first position. This was followed by technical, socio-cultural and post harvest constraints which were accorded II, III and IV the rank in rank order by respondents. Whereas, the general constraints (56.24%) were perceived least important. These were the major constraints causing serious concern to the growers of kitchen garden needs to be refined.

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