Adoption Status of Nagli Production Technologies in the Tribal District Dang of Gujarat

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ABSTRACT

Nagli (Ragi) is the main staple food crop in the Dang district, as it is cultivated since long in this tribal area. Hill Millet Research Station is doing research on developing Nagli varieties and cultivation practices of Nagli for the situation prevailing in the district. KVK, Dang organizing different activities in order to increase the awareness, knowledge, skill and adoption among farming community through training, demonstration, on farm trial and other extension activities. In order to assess the adoption of newly released Nagli production technology in the Dangs district, present study was planned. From the study it was found that majority of the respondents were falls in middle age group, having low education, marginal to small land holding size with low annual income and small size of family. About half of the respondents have membership in one organization and good participation in extension activities. The overall knowledge of scientific cultivation of Nagli was found medium, while the adoption was found medium in majority of the respondents. The main constraints perceived by the farmers were the sloppy land, high cost of pesticide and fertilizer and poor economic condition. It was observed during the study that in the Dang district, Nagli is being cultivated in sloppy land only and average area under nagli cultivation is 0.29 ha. per respondent. The average yield of Nagli is 1048 kg/ha of surveyed sample. The farmers in the Dang, generally cultivate Nagli for their own consumption, so they mostly prefer local / deshi varieties and not using chemical fertilizers and pesticides.

Keywords : *Nagli, Technology, Adoption, Training, Constraints.*

INTRODUCTION

Nagli (Ragi) is the main staple food crop in the Dang district, as it is cultivated since long in this tribal area. Hill Millet Research Station is doing research on developing Nagli varieties and cultivation practices of Nagli for the situation prevailing in the district. KVK, Dang organizing different activities in order to increase the awareness, knowledge, skill and adoption among farming community through training, demonstration, on farm trial and other extension activities. In order to assess the adoption of newly released Nagli production technology in the Dangs district, present study was planned.

OBJECTIVES

(i) To study the socio-economic and personal characteristics of the farmers of the district

(ii) To study the level of knowledge regarding scientific cultivation of Nagli.

(iii) To know the extent of adoption of newly released Nagli production technologies by the farmers.

(iv) To study the constraints perceived by the farmers in adoption of Nagli production technologies.

METHODOLOGY

Ex-post facto research design was used for the study. Eight villages from Dang district were selected randomly and 13 farmers were selected from each village, thus total 104 farmers considered as sample and termed as respondents in the study. The information of each respondents was collected with the help of pre tested, structured interview schedule by personal interview. The collected data were analysed and interpreted in the light of the objectives with appropriate statistical tools like percentage, rank, mean and standard deviation.

RESULTS AND DISCUSSION

The outcome of the present study has been presented

here after applying the appropriate statistical analysis. The results have been described under the following sub heads in the light of the objectives of the study.

Socio-economic and personal characteristics of the respondents

The data regarding socio-economic and personal characteristics of respondents were analyzed and presented in the following table.

Table 1: Distribution of respondents according to their Socio-economic and personal characteristics

n= 104

Sr. No.	Characteristics	Frequency	Percentage
I	**Age**		
1	Young age	19	18.00
2	Middle age	67	65.00
3	Old age	18	17.00
II	**Education**		
1	Illiterate	24	23.00
2	Primary level of education	49	47.00
3	Secondary and Higher secondary level of education	26	25.00
4	College level of education and above	05	05.00
III	**Land holding**		
1	Marginal farmer	47	45.00
2	Small farmer	47	45.00
3	Medium farmer	09	09.00
4	Big farmer	01	01.00
IV	**Annual income**		
1	Up to Rs. 50,000	93	89.00
2	₹ 50,001 to ₹ 1,00,000	07	07.00
3	₹ 1,00,001 to ₹ 1,50,000	02	02.00
4	₹ 1,50,001 to ₹ 2,00,000	00	00.00
5	Above ₹ 2,00,001	02	02.00
V	**Size of family**		
1	Small size of family(Up to 5 members)	84	81.00
2	Medium size of family(6 to 8 members)	20	19.00
3	Large size of family (More than 8 members)	00	0.00
VI	**Social participation**		
1	No membership	22	21.00
2	Membership in one organization	50	48.00
3	Membership in more than one organization	32	31.00
VII	**Extension participation**		
1	No participation	04	4.00
2	Participation in one activity	11	11.00
3	Participation in two activities	12	11.00
4	Participation in more than two activities	77	74.00

It is clear from the data in the Table 1 that more than half (65.00 per cent) of the respondents were in the middle age group. Slightly less than half (47.00 per cent) of the respondents were found to have primary level education. Majority of the respondents belonged to the (45.00 per cent each) category of marginal and small farmer, having annual income up to Rs. 50,000 (89.00 per cent) and small size of family (81.00 per cent). Slightly less than half (48.00 per cent) of the respondents had membership in one organization and about three fourth (74.00 per cent) of the respondents had participation in more than two extension activities.

Level of knowledge regarding scientific cultivation of Nagli

Knowledge word is normally mean out as an individual "aware about or know how" of their enterprise. The responses from the respondents about their level of knowledge regarding scientific cultivation of Nagli were collected and grouped in to three categories such as, (i) low level of knowledge (Up to 5 score) (ii) medium level of knowledge (Between 6-14 score) and (iii) higher level of knowledge (Above 14 score). The data in this regarding are presented in Table 2.

Table 2: Distribution of respondents according to their overall Knowledge level n= 104

Sr. No.	Knowledge level	Frequency	Percentage
1	Low level of knowledge	14	14.00
2	Medium level of knowledge	73	70.00
3	High level of knowledge	17	16.00

Table 2 clearly indicates that more than half (70.00 per cent) of the respondents had medium level of knowledge regarding scientific cultivation of Nagli followed by 16.00 per cent and 14.00 per cent of the respondents had high level and low level of knowledge, respectively.

Table 3: Distribution of respondents according to their Knowledge regarding selected technologies

n= 104

Sr. No.	Name of technology	Knowledge	
		Frequency	Percentage
1	Improved varieties	63	61.00
2	Seedling method	40	38.00
3	Seed rate	44	42.00
4	Transplanting method	66	63.00
5	Manure	73	70.00
6	Fertilizer	27	26.00
7	Pest and disease control	5	5.00

In case of knowledge regarding selected technology for nagli cultivation, 61.00 per cent had knowledge regarding improved varieties, 63.00 per cent had knowledge about transplanting method, while 70.00 per cent of the respondents having knowledge about application of manure, while 42.00 and 26.00 per cent having knowledge about seed rate and fertilizer application. Only 5.00 per cent had the knowledge about pest and disease control.

Extent of adoption of newly released Nagli production technologies

Adoption level for each respondent was calculated on the basis of maximum score obtained by him.

Table 4: Distribution of respondents according to their Extent of overall adoption

n= 104

Sr. No.	Extent of adoption	Frequency	Percentage
1	Low level of adoption	09	09.00
2	Medium level of adoption	85	81.00
3	High level of adoption	10	10.00

From Table 4 it is clear that majority (81.00 per cent) of the respondents had medium level of adoption followed by 10.00 per cent and 9.00 per cent had high level and low level of adoption, respectively.

This might be due to the fact that the KVK had convinced them for increasing the crop production and thereby increasing income.

Table 5: Distribution of respondents according to their Extent of adoption of selected technologies

n= 104

Sr. No.	Name of technology	Adoption	
		Frequency	Percentage
1	Improved varieties	25	24.00
2	Seedling method	06	06.00
3	Seed rate	36	35.00
4	Transplanting method	06	06.00
5	Manure	40	38.00
6	Fertilizer	03	03.00
7	Pest and disease control	05	05.00

Regarding adoption of selected technology for nagli cultivation, 24.00 per cent had adopted the improved varieties, 35.00 per cent had recommended seed rate, 38.00 had applied manure, while only 6.00, 6.00, 5.00 and 3.00 per cent adopted seeding method, transplanting method, pest and disease control and fertilizer, respectively.

In the Dang district Nagli is being cultivated in sloppy land only and average area under nagli cultivation is 0.29 ha. per respondent. The average yield of nagli is 1048 kg/ha of surveyed sample. It was observed during the study that generally they cultivate nagli for own consumption, so they mostly prefer local / *deshi* varieties and not using chemical fertilizers and pesticides.

Constraints perceived by the farmers in adoption of Nagli production technologies

In this study constraint is operationalized as the items of difficulties faced by the respondents to carry out their day to day operations and adoption in Nagli production technologies. Constraints play a vital role in adoption as well as transfer of technology. To obtain better result of any type of services it is very essential to minimize the constraints. The information regarding constraints experienced by the respondents were collected by using open end questions. Agreement of each respondent against enumerated constraints

was sum up separately and converted into percentage. Later on, rank was assigned. The classified data are presented in table 6.

Table 6: Distribution of respondents according to their constraints n=104

Sr. No.	Constraints	Frequency	Percentage	Rank
1	Non availability of improved Seed	15	14.00	VI
2	Poor economic condition	81	78.00	III
3	Sloppy land	94	90.00	I
4	Can't take care due to large size of land holding	08	08.00	VII
5	High cost of pesticide and fertilizer	82	79.00	II
6	Sub standard pesticides	34	33.00	IV
7	Lack of irrigation facility	19	18.00	V

The data presented in table 6 clearly indicated that the sloppy land (90.00 per cent) was perceived by the farmers as their main constraint and ranked first followed by high cost of pesticide and fertilizer (79.00 per cent) ranked second, poor economic condition (78.00 per cent) ranked third, sub standard pesticides (33.00 per cent) ranked fourth, lack of irrigation facilities (18.00 per cent) ranked fifth, non availability of improved seeds (14.00 per cent) ranked sixth and can't take care due to large size of land holding (8.00 per cent) ranked seventh.

CONCLUSION

From the study it can be concluded that majority of the respondents were found in middle age group, low education, marginal to small land holding size with low annual income and small size of family. About half of the respondents have membership in one organization and good participation in extension activities. The overall knowledge of scientific cultivation of nagli was found medium, while the adoption was found medium in majority of the respondents. The main constraints perceived by the farmers were the sloppy land, high cost of pesticide and fertilizer and poor economic condition.

In the Dang district Nagli is being cultivated in sloppy land only and average area under nagli cultivation is 0.29 ha. per respondent. The average yield of nagli is 1048 kg/ha of surveyed sample. It was observed during the study that the farmers in dang generally cultivate Nagli for their own consumption, so they mostly prefer local / *deshi* varieties and not using chemical fertilizers and pesticides.

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