Adoption of Recommended Cultivation Practices Regarding Pineapple Cultivation in Sepahijala District of Tripura

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

Article Information

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ABSTRACT

The study was conducted in Sepahijala District of Tripura to measure the Adoption of recommended cultivation practices regarding Pineapple cultivation. A total number of 120 respondents were selected randomly from five villages under Mohanbhog block which were selected purposively because productivity, production and area under Pineapple cultivation were found to be maximum. The data were collected by personnel interview method by using pre structured interview schedule and later appropriate statistical analysis was done to find out the meaningful results. The findings of the study revealed that majority of the respondents 60.00 per cent belonged to the middle- aged, 23.34 per cent had medium level of education and majority of the respondents annual income was between Rs 80,000 – Rs2lakh. The findings also revealed that 51.67 % had medium level of knowledge followed by 32.50% and 15.83% of the respondents with low and high levels of knowledge regarding improved Pineapple production practices. It was found that the independent variables i.e. Age, Caste, Education, Size of family, Land holding, Annual income, Farming experience, Extension agent contact, Social participation, Mass media exposure, source of information and Risk orientation & Economic motivation were positively and significantly correlated with knowledge of Pineapple growers towards Pineapple production practices at 0.01% of

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probability. Therefore, the null hypothesis was accepted for these variable, where as variable Occupation & Decision making ability availed was negatively and significantly correlated with the knowledge of Pineapple growers towards Pineapple production practices at 0.01% of probability respectively.

1. INTRODUCTION

India is an agricultural country. The majority of its population depends upon agriculture. Agriculture sector is considered to be the most important industry in India. Agriculture sector is considered to be the most predominant sector of Indian economy. India is a developing country. A country's development is depending on its agriculture and education. India is an agriculturist country, many people life were to be depend on agriculture [1-3].

India is the fruit and vegetable basket of the world. India being a home of wide variety offruits and vegetables holds a unique position in production figures among other countries. Over 90 percent of India's exports in fresh products go to West Asia and East European markets. However, it need stoaugmentits food processing industry at a mega scale.

India is the fifth largest producer of pineapple with an annual output of about 1.2 million tonnes. National Horticulture Board (2001-02).

Pineapple (*Ananascomosus*) is one of the commercially important fruits crops of India. Pineapple is cultivated in an area of 89 thousand ha and total production is 1,415.00 thousand tons. It is abundantly grown in almost entire north east region, W.B, Karnataka, Kerala, Bihar, Goa & Maharastra states.

Most common variety grown under in India are Kew, Queen, Mauritius, Jaldhup, Lakhat etc. Among these variety Kew/ Giant Kew and Queen are commonly grown in the north eastern part of India and believed to be best suited for these part of country [4,5].

Tripura is one of the largest producers of pineapple in the country. Pineapple is a traditional fruit crop of Tripura. The agro-climatic conditions of Tripura make it suitable for large scale pineapple cultivation. The state is 4th largest producer of pineapple in India.

The area under pineapple cultivation in the state almost 12,000 ha. The crop productivity 22.6mt/ha.Tripura shares 9.30% of India's total pineapple production. Pineapple does not flower uniformly even after physiological maturity so 80% of pineapple fruit are harvested within only 2-3 months, resulting in a huge market glut in almost all markets of the state. Spreading producyion into the off season plays vital role in nutrition and livelihood opportunity for rural and tribal areas of the state for employment and income generation [6,7]. The productivity of pineapple and profit can be increased with timely and efficient use of agro inputs, better farm management practices and overcoming markets constraints.

2. RESEARCH METHODOLOGY

Descriptive research design was adopted for the study as it describes the characteristics or phenomena that are being studied. The present study was conducted in Sepahijala district of Tripura. Out of 7 blocks in Sepahijala district, Mohanbhog block is selected purposively based on maximum area covered under Pineapple cultivation. From the selected block, 5 villages were selected purposively based on the maximum area covered under Pineapple cultivation. A total number of 120 respondents were taken and 24 respondents from each villages were selected randomly for the study.

2.1 Selection of District

Tripura have 8 districts. Among them Sepahijala district is selected purposively for the study because maximum number of farmers are pineapple grower.

2.2 Selection of Blocks

There are 7 blocks in Sepahijala district of Tripura, out of which one block has been selected purposively based on maximum area covered by pineapple cultivation.

2.3 Selection of Villages

5 villages were selected purposively for the present study. The selection of these villages

was based on maximum number of pineapple growing farmers.

2.4 Selection of Respondents

Twenty-four Pineapple growers were selected randomly from each of the 5 selected villages, Thus a total of 120 respondents were selected for the present study.
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2.5 Objectives of the Study

1. To ascertain the socio -economic characteristics of the respondents.
2. To understand the knowledge regarding recommended cultivation practices by the respondents.

3. RESULTS AND DISCUSSION

More than (60.00%) of the Pineapple farmers belong to the middle age group, followed by 22.50 % of the Pineapple growers fell in to the young age category and one fifth (17.50%) of the Pineapple farmers were old aged.

(48.34%) Pineapple grower belongs to OBC category, followed by (35.83%) belongs to General category & (15.83%) belongs to ST/SC.

(23.34%) of the Pineapple growers had completed their middle education, followed by 20% Pineapple growers in the study have a knowledge up to primary education, about 19.16per cent of the farmers in the study have undergone intermediate education, the Pineapple farmers fell into the category of educational status education functionally, high education (15.84%) and illiterate (10.83%). Very few (10.83%) of the farmers have completed their graduate and above education. The knowledge can be accumulated either by formal study or through experience.

That nearly two-third (61.66%) of the Pineapple farmers have doing agriculture alone as their occupation, followed by 17.5% of the farmers took agriculture labourer profession, 12.5% of the Pineapple growers have depended agriculture as a side stick along with business and 8.34% of the farmer have depend on agriculture and government service.

It was understood that higher percentage of the Pineapple growers had small family (49.16%), followed by medium (40%) and large family (10.84%).

That more than half (49.16%) of the Pineapple farmers were having annual income of eighty thousand to two lakh rupees followed by 35% of the Pineapple farmers were having annual income of less than eighty thousand rupees and 15.84% of Pineapple farmers in the study area were having annual income of more than two lakh rupees.

That more than half (51.66%) of the Pineaple farmers hold 1 – 2 hac of land and fall under small farmers category, whereas nearly (32.5%) of the farmers have below 1hac of land and (15.84%) of the Pineapple growers had above 2hac of land.

(40%) of the Pineapple farmers having medium farming experience, whereas nearly (35.84%) of the farmers falls under high farming experience and (24.16%) of the Pineapple growers having low farming experience.

It was understood that higher percentage (49.17%) of the Pineapple farmers had medium level of contact with extension agent, more than one-third (34.16%) of the Pineapple farmer's contact with extension agents were in low level and (16.67%) of the Pineapple farmers had high level of contact with extension agent.

Majority (52.5%) of the Pineapple farmers had low social participation, subsequently 34.16% of the Pineapple growers had medium level of social participation and only 13.34% of the Pineapple growers had high level of social participation.

Majority (63.33%) of the Pineapple farmers have been utilizing media at medium level. About 28.33% Pineapple farmers had low level of utilization of media and media platform had used at high level by 8.34% of the Pineapple farmers.

That (45%) of the Pineapple farmers have been utilizing source of information at low level. About 36.66% Pineapple farmers had medium level of utilization of source of information had used at high level by 18.34% of the Pineapple farmers.

In this table distribution of the respondents according to their decision making ability. It indicates that out of total 120 respondents 40 percent belongs to high category where as 35 percent farmers belongs to medium category, followed by 25 percent belongs to low category.

Table 1. Socio-economic profile of the respondents

S.NO	Independent variables	Category	Frequency	Percentage
1.	Age	Young	27	22.50
		Middle	72	60.00
		Old	21	17.50
2.	Caste	General	43	35.83
		OBC	58	48.34
		SC/SC	19	15.83
3.	Education	Illiterate	13	10.83
		Primary	24	20
		Middle	28	23.34
		High	19	15.84
		Intermediate	23	19.16
		Graduation & above	13	10.83
4.	Occupation	Farming	74	61.66
		Farming + Labour	21	17.50
		Farming + Service	15	12.50
		Farming + Buisness	10	8.34
5.	Size of family	Small	59	49.16
		Medium	48	40
		Large	13	10.84
6.	Annual income	Low	42	35
		Medium	59	49.16
		High	19	15.84
7.	Land holding	Marginal	39	32.50
		Small	62	51.66
		Big	19	15.84
8.	Farming experience	Low	29	24.16
		Medium	48	40
		High	43	35.84
9.	Extension agent contact	Low	41	34.16
		Medium	59	49.17
		High	20	16.67
10.	Social participation	Low	63	52.50
		Medium	41	34.16
		High	16	13.34
11.	Mass media exposure	Low	34	28.33
		Medium	76	63.33
		High	10	8.34
12.	Source of information	Low	54	45
		Medium	44	36.66
		High	22	18.34
13.	Decision making ability	Low	30	25
		Medium	42	35
		High	48	40
14.	Risk orientation	Low	34	28.34
		Medium	57	47.50
		High	29	24.16
15.	Economic motivation	Low	33	27.50
		Medium	58	48.34
		High	29	24.16

In this table distribution of the respondents according to their risk orientation. It indicates that out of total 120 respondents 47.5 percent had medium level of risk orientation where as 28.34 percent farmers were having low risk orientation, were having high level of risk orientation followed by 24.16 percent.

In this table distribution of the respondents according to their economic motivation. It indicates that out of total 120 respondents 48.34 percent had medium level of economic motivation where as 27.5 percent farmers were having low level of economic motivation, were having high level

of economic motivation followed by 24.16 percent.

It can be reported that regarding field preparation, 40.83%, 42.5% and 16.67% of respondents reported fully correct, partially correct and not correct response respectively. Regarding variety, 43.33 %, 35 % and 21.67% of respondents reported fully correct, partially correct and not correct response respectively. Regarding sowing time, 38.34 %, 48.34% and 13.33% of respondents reported fully correct, partially correct and not correct response respectively. Regarding spacing, 28.33 %, 48.33 % and 23.33% of respondents reported fully correct, partially correct and not correct response respectively.

Meanwhile, regarding fertilizers, 39.70 %, 52.50% and 8.33% of respondents reported fully correct, partially correct and not correct response respectively. Regarding irrigation, 32.50%, 54.70% and 13.33% of respondents reported fully correct, partially correct and not correct response respectively. Regarding weeding and hoeing operations, 30.83 %, 57.50 % and 11.66% of respondents reported fully correct, partially correct and not correct response respectively. Regarding weed control, 28.33 %, 53.34 % and 18.33% of respondents reported fully correct, partially correct and not correct response respectively. Regarding diseases, 35.00%, 47.50% and 17.5% of respondents reported fully correct, partially correct and not correct response respectively.

Table 2. Knowledge of the respondents recommended cultivation practices regarding Pineapple cultivation

| Sl. No.	Statement	Evaluation					
		Fully correct		Partially correct		Not correct	
		f	%	f	%	f	%
1.	Field preparation: i.Traditional method (ploughing,digging,lavelling) ii. Use of zero tillage machine	49	40.83	51	42.5	20	16.67
2.	Variety: Queen Kew	52	43.33	42	35	26	21.67
3.	Sowing time: July- September Oct - Nov	46	38.34	58	48.34	16	13.33
4.	Spacing 60x90cm	34	28.33	58	48.33	28	23.33
5.	Fertilizers:(per hectare) NPK: 16:4:12 FYM – 40-50t	47	39.7	63	52.5	10	8.33
6.	Irrigation: 1 times 2 times	39	32.5	65	54.7	16	13.33
7.	Weeding and hoeing operations: 1 time 2 times	37	30.83	69	57.5	14	11.66
8.	Weed control: Manual weeding on every 6 monthsTop dressing	34	28.33	64	53.34	22	18.33
9.	Diseases: 1. Soft rot 2. Storage rot 3. Fruit rot	42	35	57	47.5	21	17.5
10.	Harvesting: May- June June- July	36	30	58	48.33	29	24.7
11.	Yield: 40-45t/hac 50 -55t/hac	58	48.33	39	32.5	23	19.16
12.	Soil: I. Loamy II.Sandy Loamy	42	35	54	45	24	20
13.	Soil PH I. 5.5 II. 7	46	38.33	63	52.5	11	9.16

Similarly, regarding harvesting, 30.00%, 48.33 % and 24.70% of respondents reported fully correct, partially correct and not correct response respectively. Regarding yield, 48.33%, 32.50 % and 19.16 % of respondents reported fully correct, partially correct and not correct response respectively. Regarding soil, 35.00 %, 45.00 % and 20.00% of respondents reported fully correct, partially correct and not correct response respectively. Regarding chemical weed control, 24.17 %, 59.17 % and 16.67 % of respondents reported fully correct, partially correct and not correct response respectively. Regarding soil pH, 38.33%, 52.5 % and 9.16% of respondents reported fully correct, partially correct and not correct response respectively.

It was clearly visible that majority (51.67%) of the Pineapple growers had medium level of knowledge on improved Pineapple cultivation practices, 32.50% and 15.83% of the maize growers had low and high level of knowledge on Pineapple production practices respectively.

Table 3. Distribution of respondents according to their overall knowledge level

S.No.	Category	Number	Percentage
1.	Low (16-24)	39	32.50
2.	Medium (25-32)	62	51.67
3.	High (33-40)	19	15.83
	Total	120	100.00
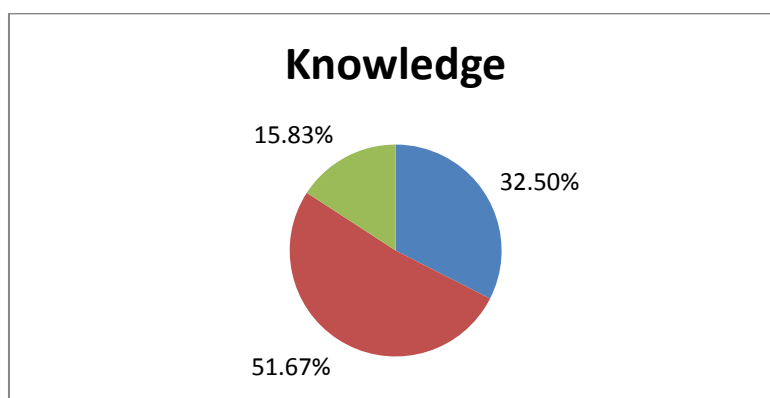
Fig. 1.

Table 4. Relationship between selected independent variables with knowledge of respondents towards Pineapple production practices were depicted in below,

Sl.No.	Variables	Correlation coefficient ®
1	Age	0.930*
2	Caste	0.985*
3	Education	0.920*
4	Occupation	-0.107**
5	Size of family	0.700*
6	Annual income	0.991*
7	Land holding	0.999*
8	Farming experience	0.292**
9	Extension agent contact	0.996*
10	Social participation	0.497**
11	Mass media exposure	0.993*
12	Source of information	0.641*
13	Decision making ability	-0.282**
14	Risk orientation	0.950*
15	Economic motivation	0.937*

*=Correlation is significant at the 0.01 level of probability; **= Correlation is significant at the 0.05 level of probability; NS= Non-significant

From above the Table 4 analyzed that the variables namely Age, Caste, Education, Size of family, Land holding, Annual income, Farming experience, Extension agent contact, Social participation, Mass media exposure, source of information and Risk orientation & Economic motivation were positively and significantly correlated with knowledge of Pineapple growers towards Pineapple production practices at 0.01% of probability. Therefore, the null hypothesis was accepted for these variable, where as variable Occupation & Decision making ability availed was negatively and significantly correlated with the knowledge of Pineapple growers towards Pineapple production practices at 0.01% of probability respectively. Therefore, the null hypothesis was rejected for this variable.

4. CONCLUSION

It is concluded that the age of the majority respondents was medium and their educational level is also medium. Majority of respondent belonged to small size of family. Majority of them were having medium farming experience. Majority of the respondents possessed middle level of risk orientation & social participation. The respondents were mostly utilizing medium level as their source to get the information on Pineapple production. The overall knowledge of the respondents was found under medium level. The independent variable age, caste, education, size of family, land holding, annual income, farming experience, extension agent contact, social participation, mass media exposure, source of information, risk orientation and economic motivation were positively and significantly correlated with knowledge of Pineapple growers towards Pineapple production practices at 0.01% of probability. Therefore, there is a need for establishing better farming techniques and a sound marketing system with forward and backward linkage so that vast potential of Pineapple can be exploited through adoption of improved production technology.

CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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