Perceived Marketing System Effectiveness by Pineapple Growers in Tripura

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ABSTRACT

Pineapple, an important cash crop of Tripura providing the major source of farm livelihood, has been facing marketing challenges. Present study was conducted during January-June 2020 to assess farmers' perceptions towards marketing system effectiveness of pineapple that included a random sample of 80 farmers. Marketing system effectiveness was measured on different aspects of pineapple marketing based on farmers' perceptions on 5-point continuum. Higher mean perception scores (≥ 4.0) were obtained for two aspects viz., grading & quality checking, and direct selling of produce. Contrastingly, lower perception scores (≤ 2.0) were found for many aspects like inadequate transportation system, profit and price determination by middleman, fluctuating marketing price, non-availability of up-to-date market information, excessive time to disposing produce, government marketing channel & auction, and inability of small-scale farmers to bringing produce to market. Overall marketing system effectiveness was found 47 per cent. Attributes of farmers were having significant correlation with it; out of which family size, use of personal cosmopolite information sources, mass media use and knowledge level showed significant relationship in multiple regression model. Therefore, to improve pineapple marketing system effectiveness, extension and advisory services need to undertake capacity building measures of the pineapple growers.

INTRODUCTION

Pineapple is one of the most important fruit crops of India being fifth largest producers in the world with about 116 thousand ha area, 1984 thousand tonnes production and 17.1 t/ha productivity (National Horticulture Board, 2015-16). Due to compatible agro-ecosystems, it is largely grown in north eastern states of India, out of which the state of Tripura's economy is highly influenced by it being a major source of farmers' livelihood and economic security. Tripura is 4th largest producer of pineapple in India after Kerala, West Bengal and Assam, accounting for approximately 9 per cent of country's total production from 8768 ha area with about 127 thousand tonnes production and 14 t/ha productivity (National Horticulture Board, 2015-16 & Directorate of Horticulture and Soil Conservation, Government of Tripura, r

2015-16 & 2016-17). Tripura's 'Queen', or Queen pineapple, declared 'State Fruit' in 2018, has a GI tag and regarded as the best quality of pineapple in the world. Pineapple crop has shown a decline in area and productivity due to which growers have been facing an income slump in India. According to Mission for Integrated Development of Horticulture, MoA & FW, Govt. of India (2018), area under pineapple in Tripura has decreased from about 12000 ha in 2014-15 to 8850 ha in 2016-17 due to loss incurred by the farmers in absence of processing infrastructure, reduction of price and high perishability nature of pineapple. According to pineapple growers, business is at all-time low and the fruit is sold at less than half of market rate in the months of June-July due to glut in the market (Deb, 2019). Pineapple farmers of Tripura have complained of huge losses due to absence of storage and lack of procurement facilities by the government (Panday, 2019).

The pineapple marketing sector has high capacity to reduce unemployment (Das et al., 2016) though the pineapple growers incur losses due to the perishable nature of product (Roy et al., 2022). Because of perishable nature and bulkiness, marketing of pineapple is complex and risky as well, and it requires a well-functioning marketing system to transfer the product from the point of production to the point of consumption within a specified time keeping the produce fresh (Okal, 2018). The government aims to regulate the trade practices, increase marketing efficiency by reducing marketing charges, eliminate intermediaries, and protect the interests of the producer/seller. Though regulated markets have always helped to reduce multiple charges to the producer/seller, the system has failed to check trade malpractices, making such markets highly restrictive, inefficient and dominated by traders (Dastagiri et al., 2012). So, it is very crucial for the pineapple growers to know the appropriate channel to market their yield, as this will prevent them from suffering high losses and obtaining higher income (Apandi et al., 2017). Existing marketing system determines the return on investment of the farmers from pineapple cultivation and thereby the growth and sustenance of pineapple farming. On this backdrop, present study was conducted to assess the perceived marketing system effectiveness by pineapple growers and its determinants.

METHODOLOGY

Present study was undertaken in the purposively selected state of Tripura that being one of the major pineapple growing states in India. Sepahijala district was selected occupying 750 ha area producing about 11 thousand tonnes of pineapple with productivity of 14.66 t/ha (Directorate of Horticulture and Soil Conservation, Government of Tripura, 2017-18). Out of three subdivisions, one subdivision i.e., Sonamura and two blocks from Sonamura namely Boxonagar and Mohanbhog were choosen randomly. Subsequently Kuluibari, Aralia and Kalapania, Diptali villages were selected with random sampling technique. A probability proportionate simple random sampling was done for selection of respondents; accordingly, 25 farmers (31%) from Kuluibari, 13 farmers (16%) from Aralia, 26 farmers (33%) from Kalapania and 16 farmers (20%) from Diptali were selected making a total of 80 pineapple growers.

Socio-personal (age, education, family size, earning members in the family), socio-economic (average annual income, average annual expenditure, cultivable land, farm implements holding), and communicational characteristics (mass media exposure, use of personal cosmopolite information sources, use of personal localite information sources) of the pineapple farmers as well as their overall knowledge and adoption level of scientific recommended pineapple cultivation techniques were considered as independent variables. While farmers' perception on marketing system effectiveness of pineapple was considered as dependent variable. A total of 16 items pertaining to different aspect of pineapple marketing were rated by the respondents on five-point continuum: 'strongly agree'-5, 'agree'-4, 'Undecided'-3, 'disagree'-2, and 'strongly disagree'-1 for favourable items and scoring was reversed for unfavourable items. Data were collected from the sampled respondents with the help of interview schedule developed for the purpose and pretested before administration to sampled respondents. Collected data were subjected to frequency, percentage, mean, standard deviation and range as well as relational statistics like correlation and multiple regression coefficients.

RESULTS AND DISCUSSION

It is evident from the Table 1 that pineapple farmers realized the cost efficiency on an average with farmer's receipt of Rs. 9.53 per unit, marketing cost of Rs. 4.27 per unit, labour wages of Rs. 3.85 per unit, auction price of Rs. 23.24 per unit and open market price of Rs. 27.95 per unit. In Tripura, under Mission for Integrated Development of Horticulture MoA & FW, Govt. of India (2018), an average weight of 750 gm per pineapple and selling price of Rs 5 per piece at farmer level was found. They also mentioned the transportation cost ranged Rs 7 to 10 per kg of produce. In addition, the average labour cost was Rs 100 per 1000 pieces. According to Chand et al., (2020), marketing cost of the product depends on many things like, the kind of product they produce, distance from farmer's field to market, packaging materials they used in transportation. It was observed that all the respondents used to sell their produce directly to the nearby markets without any intermediaries. Almost every one used jeep on hired basis and transport the produce directly by themselves to the nearby market. Similarly, under the Mission for Integrated Development of Horticulture MoA & FW, Govt. of India (2018), it was observed that the farmers in Tripura used jeep for transporting the produce when in smaller quantities and used mini trucks when in large quantity.

It is evident from Table 2 that the higher (≥ 4.0) mean score of perceptions of farmers towards pineapple marketing system effectiveness, were obtained for certain aspects like grading, quality checking and receiving higher price by farmers through direct selling of their produce to nearby market. The mean perception scores were found to be at lower level (≤ 2.0) for many of the aspects like inadequate transportation system for the produce, earning more profit by middleman, determining the price by middleman, the ways to ensure better price for farmer production, fluctuating marketing price and market information for facilitating smooth and efficient operation, non-availability of up-to-date market information, taking more time during disposing of the produce, marketing channel by government to help in auction to increase the return, and some small-scale farmers who have neither the time nor the money to bring their produce to market. An above average perception level (>3.0 to 4.0) of respondents is found with respect to available storage facilities, fair and accurate weighing system, marketing standards followed by market functionaries, and mandatory involvement of middlemen to sell the produce in market. Overall marketing system effectiveness (MSE) was calculated as 47.13 per cent.

Table 1. Cost efficiency realized by pineapple growers

Category	Mean (SD)
Farmer's receipt (Rs.)	9.53 (4.03)
Marketing cost (Rs.)	4.27 (1.95)
Transportation cost (Rs.)	0.41 (0.05)
Labour wages (Rs.)	3.85 (1.95)
Auction market price (Rs.)	23.24 (4.20)
Open market price (Rs.)	27.95 (3.69)

Table 2. Perceptions of farmers towards pineapple marketing system effectiveness

S.No.	Statements on different aspects of marketing system	Mean (SD)(n=80)
1	Available transportation system is not adequate according to quantity of produce	1.78 (0.45)
2	Storage facilities availability are adequate	3.36 (1.29)
3	Weighing system of produce is having fairness and accuracy	3.41 (0.94)
4	Marketing standards are followed by market functionaries	3.93 (0.82)
5	Methods of grading and quality checking are practiced in market	4.18 (0.47)
6	Middlemen (Local dealers) earn more profit than the farmers	1.35 (0.48)
7	Middlemen determine the price of produce	1.45 (0.50)
8	Farmers get higher price by directly selling their produce to nearby auction market	4.55 (0.57)
9	Limited ways to ensure better price for the farmer's production	1.36 (0.48)
10	Marketing price fluctuation every year	1.24 (0.43)
11	Market information facilitating smooth and efficient operation	1.80 (0.40)
12	Non availability of up-to-date market information	1.95 (0.22)
13	Without middleman, it is impossible to sell the produce in the market	3.10 (0.95)
14	Disposing of produce by the farmer in market takes more time	1.46 (0.50)
15	Marketing channel developed by the Government, whereby auctions are held at a nearby market town increase the return to farmers.	1.51 (0.50)
16	There are some small-scale farmers, who have neither the time nor the money to bring their produce to market.	1.28 (0.45)
	MSE (%)	47.13 (2.99)

Sharma et al., (2016) highlighted the marketing problems faced by the pineapple growers in Nagaland, which were inadequate transport facilities, non-availability of market in the locality, low marketable surplus, absence of market information, lack of organization among producers, and problems of storage, which are in conformity of the findings of present study. Reema et al., (2020) in their study in Kannauj (Uttar Pradesh) reported that 56% of the farmers faced loss due to storage, marketing constraints and fluctuation of farm produce. Under the Mission for Integrated Development of Horticulture MoA & FW, Govt. of India (2018), it is reported that there are no regulated market and storage infrastructure for pineapple in Tripura. Hossain & Islam (2017) mentioned that every year large amount of pineapple damaged for lack of storage and transportation facilities in Bangladesh. Das et al., (2016) opined that pineapple cultivation is highly remunerative provided marketing of raw fruits is done properly, pricing system of pineapple is developed. They indicated that poor processing facilities restricted the expansion of pineapple cultivation in West Bengal. During the present study, pineapple growers have mentioned that they are compelled to sell the pineapples at a low price in peak season due to lack of proper marketing facilities. Similar findings were also reported by Gupta et al., (2020). This calls for an urgent attention and marketing policy reforms to sustain the area and production of pineapple cultivation and remunerative income of the pineapple growers.

It is important to find out the factors influencing the perception level of farmers towards effectiveness of marketing system of pineapple. Therefore, the factors affecting the perceived marketing system effectiveness was identified through the correlation and multiple regression analyses considering socio personal, socio-economic, and communication attributes of the farmers along with their overall knowledge and adoption level of recommended pineapple cultivation practices as independent variables and perceived marketing system effectiveness by the pineapple farmers as dependent variable.

The perception level of the farmer was having significant associations with the farmer's attributes like family size, education, earning members of the family, available farm implement, annual income, annual expenditure, cultivable land, use of personal cosmopolite information sources, use of mass media sources, knowledge level and adoption level as evident from the significant correlation coefficient values (Table 3). However, attribute of the farmers like age was not significantly associated with perception level. While, use of personal localitie information sources has showed negative significant relationship with the farmers' perception level on marketing system effectiveness.

Correlation analyses do not indicate the functional relationship among those independent variables with the dependent variable. Therefore, to reveal functional relationship, multiple regression analysis was done considering the selected attributes of the pineapple growers as independent variables and perceived marketing system effectiveness as dependent variable.

Results given in Table 4 reveal that all of the selected variables together determined 56.3 per cent variation in perceived marketing system effectiveness. Out of 13 attributes, regression coefficients of four attributes were found to be positively significant, which

Table 3. Correlational analysis

S.No.	Attributes	Correlation coefficient (r) Perceived MSE
1.	Age	.114
2.	Family size	.559**
3.	Education	.236*
4.	Earning members	.376**
5.	Annual Income (Rs.)	.423**
6.	Farm implement	.516**
7.	Cultivable land (acre)	.552**
8.	Annual Expenditure (Rs.)	.401**
9.	Use of Personal localite information sources	-.334**
10.	Use of Personal cosmopolite information sources	.289**
11.	Mass media use	.296**
12.	Knowledge level	.557**
13.	Adoption level	.346**

**significant at 1% level of significance *significant at 5% level of significance

Table 4. Multiple regression analysis

S.No.	Attributes	Std. Error	Beta Coefficient	t	Sig.
	(Constant)	19.850	64.369 (B value)	3.243	.002
1.	Age	.031	-.092	-.882	.381
2.	Family size	.858	.250	1.937	**.057**
3.	Education	.316	.020	-.204	.839
4.	Earning members	.555	.149	1.488	.142
5.	Annual Income (Rs.)	.000	.206	.920	.361
6.	Farm implement	.576	.167	1.455	.150
7.	Cultivable land (acre)	.584	.158	1.053	.296
8.	Annual Expenditure (Rs.)	.000	-.010	-.049	.961
9.	Use of Personal localite information sources	.982	-.168	-1.629	.108
10.	Use of Personal cosmopolite information sources	.505	.198	2.081	.041
11.	Mass media use	1.887	.278	-1.767	.082
12.	Knowledge level	.108	.226	1.917	.060
13.	Adoption level	.085	-.092	-.774	.442

R value:	0.750
R Square:	0.563
Adjusted R Square:	0.494
F value:	6.535**

** significant at 1% level of significance

are family size, use of personal cosmopolite information sources, use of mass media source and knowledge level. Hassan et al., (2011) reported that education, farm size, annual income, knowledge and attitude towards Pineapple cultivation were positively correlated with increased income from Pineapple cultivation in Bangladesh. Okal (2018) mentioned that the growers having more education realized better marketing efficiency, as educated growers were more innovative and likely to adopt better marketing strategies. Therefore, to improve marketing system effectiveness of pineapple, extension and advisory services need to undertake market led extension approach and develop the capacities of pineapple growers for improving their knowledge level, use of mass media and cosmopolite information sources. Institutional innovations to developing required marketing infrastructure, which were lowly perceived by the pineapple growers, need to focus on transportation system for the produce, eradicating middleman and their interferences in price fixation, better pricing system tackling fluctuating marketing price and up-to-date market information for facilitating smooth and efficient operation, government regulated marketing channel helping farmers to participate in auction to increase their return, and cooperative marketing for small-scale farmers lacking resources to bring their produce to market. Similar observations were highlighted by Das et al., (2014); Das et al., (2015). Farmer led extension approach in terms of promotion of farmer producers' organization may be a potential option to improve pineapple cultivation and marketing scenario.

CONCLUSION

Pineapple growers have expressed their concerns on prevailing marketing system effectiveness and showed satisfaction towards a few marking aspects like grading, quality checking direct selling their produce to nearby market, fair and accurate weighing system, marketing standards followed by market functionaries. However, the involvement of middlemen and their interferences in different aspect of marketing including price fixation have raised concerns. The inadequate transportation system for the produce, fluctuating

marketing price due to non-existence of price fixation systems, non-availability of up-to-date market information, lack of government-controlled marketing channel ensuring farmers participation in auction, and market inaccessibility of resource poor farmers warrant urgent attention of the planners, policy makers and line department officials. Market led extension approach and organization of pineapple growers may be considered as way forward to sustain pineapple cultivation-based farm livelihoods in Tripura as well as other pineapple growing regions of the country facing market related constraints.

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