Assessment of the farmers attitude towards banana cultivation and export in Coimbatore and Erode districts of Tamil Nadu

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ABSTRACT

Banana is not only the staple food of millions of people but also the most important commercial fruit crop of the tropical region. The economic importance of banana has been increasing on account of increase in domestic as well as international demand for it. But for the past few years the share has been decreasing. So it is necessary to understand the reasons behind the decline. The study was conducted in Coimbatore and Erode districts of Tamil Nadu taking 120 samples using well-structured interview schedule. Factor analysis was used to study the factors influencing the production and export of banana and it was found that there was high incidence of pests and diseases and there were not enough or less marketing facilities available for export of banana. It was suggested to create more awareness on export of banana and also to create better marketing facilities.

Keywords: Small farmers; marginal farmers; attitude; banana; export; factor analysis

INTRODUCTION

India is an agricultural economy since the times immemorial. It produces around 10 per cent of the world's agricultural output. Banana (*Musa* spp) is grown throughout the year and is well within the reach of a common man. Banana is not only the staple food of millions of people but also the most important commercial fruit crop of the tropical region. The economic importance of banana has been increasing on account of increase in its domestic as well as international demand. India ranks second in production of fruit crops and first in banana production which accounts for 24.5 per cent of share. According to prevailing data from FAOSTAT in 2016 (http://www.fao.org), banana occupied approximately 5.5 Mha of land in the world with respect to the production of about 113280.3 ('000) ton. The production of banana was only 12105 ('000) MT in 2005-06 and it increased to 29135 ('000) MT in 2015-16 which shows a 17 per cent increase in production. Similarly productivity increased from 28.6 MT/ha in 2005-06 to 34.6 MT/ha in 2015-16 that shows an increase in productivity of about 6 per cent. In 2015-2016 Tamil Nadu stood first in area under banana with 94.61 ('000) ha and also in production with 4331.65 ('000) MT.

Attitude is acquired through experience and it exerts a directive influence on subsequent behavior and also helps individuals to interpret new information and to make decisions more efficiently than would otherwise be the case (Baron and Byrne 1991). Grouping of farmers is the most important for achieving higher export growth. Therefore considering these aspects in mind the study was conducted to analyse the farmers attitude towards banana cultivation and export.

METHODOLOGY

The primary data were collected from banana growers in two districts viz Erode and Coimbatore in western zone of Tamil Nadu as they had higher share in total area covered under banana farming. The respondent farmers were selected randomly from villages (three villages from each selected district). A sample of total 120 banana growing farmers was drawn randomly with 10 farmers from each village. The data

were collected by personal interview method using well-structured questionnaire during January to March 2018. Exploratory factor analysis was used to know about the farmers' perception towards banana export. A list of factors on farmers attitude towards banana cultivation and export was developed by reviewing the existing literature. The sample respondents were asked to indicate their responses for the items on a five-point scale viz 'strongly agree' to 'strongly disagree' with score range of 5 to 1. Factor analysis was done using SPSS 16.0 package. Principle component analysis with varimax rotation method was used to identify the Eigen values. After rotating factors with Eigen values greater than one were retained.

RESULTS and DISCUSSION

KMO and Bartlett's test of sphericity is a measure of sampling adequacy that is recommended to check the case to variable ratio for the analysis. The test plays an important role for accepting the sample adequacy where ranges should be from 0 to 1. The results of the test of sphericity are given in Table 1.

Table 1. Results of KMO and Bartlett's Test

Kaiser-Meyer-Olkin measure of sampling adequacy		0.728
Bartlett's test of sphericity	Approximate chi-square	637.780
	df	253
	Significance	0.000

It is evident from Table 1 that KMO value was 0.728 and significant value for Bartlett's test of sphericity was 0.000. Thus the results of KMO and Bartlett's test proved the sampling adequacy of the data to run the factor analysis.

Table 2. Extraction of factors for farmers attitude on banana cultivation and export (n= 120)

Component	Initial Eigen value		
	Total	Variance (%)	Cumulative percentage
1	2.43	12.15	12.15
2	1.96	9.82	21.97
3	1.91	9.55	31.52
4	1.57	7.87	39.39
5	1.54	7.72	47.10
6	1.27	6.34	53.44
7	1.24	6.19	59.63
8	1.13	5.67	65.30

Extraction method: Principal component analysis

Data given in Table 2 provide information that how many variables could be clubbed together to make single factor. Totally eight factors were extracted by assuming Eigen value criterion more than one. These eight factors thus explained 65.30 per cent of variance.

The study of Harman (1976) indicated that factors with loading score greater than 0.29 at the 5 per cent level of significant could be considered. In the present study the factors having component loading greater than 0.5 were included to define the factor and the remaining factors were eliminated. Most of the communalities were above 0.5 indicating that good percentage of the variance in variables was explained by the factors. For more simplification the factors which were similar in sense were clubbed together manually and named.

The details on the factors are given in Table 3.

It could be concluded from the results of explanatory factor analysis that the farmers' attitude towards banana cultivation and export were linked to economic attributes, affective attributes, behavioural attributes and antagonistic attributes. Factors included in all the groups named above explained the study to a significant level.

Table 3. Identification of major factors influencing farmers attitude towards banana cultivation and export

Factor	Factor loading
Economic attributes	
Banana cultivation is the best way of increasing the income of the farmers	0.684
The economic conditions of small farmers can be improved to a great extent by export of banana	0.687
Other crops are better than banana cultivation in terms of marketing	0.540
Export of banana will help to increase the income of small and marginal farmers	0.750
Affective attributes	
Banana cultivation is not beneficial to the small and marginal farmers	0.521
Banana export requires large investment and money therefore small and marginal farmers cannot afford it	0.798
Small and marginal farmers can become exporters by joining organizations	0.688
Behavioural attributes	
Family members' help is not necessary in banana cultivation	0.745
Banana cultivation is simple and easy to adopt	0.624
Most of the banana varieties are suitable to the area	0.639
Small Indian farmers cannot export banana at their own	0.817
There is more disease and pest attack on banana than other crops	0.840
Banana cultivation is a time consuming job	0.796
Export of banana is more profitable as government pays more attention to it	0.502
Antagonistic attributes	
Banana cultivation is not highly profitable	0.588
In banana cultivation return is more per unit area of land than other crops	0.779
Banana cultivation is not suitable for the district	0.769
Banana cultivation is a risky vocation	0.645

CONCLUSION

From the study it was seen that pest and disease attack was more in banana crop as compared to other crops. Cultivation and export of banana was considered to be not suitable for small famers as they could not export banana of lesser production level. Hence necessary steps were needed to be initiated to reduce the pest and disease occurrence in banana cultivation. The cooperative type of marketing should be initiated in the study area. Sufficient market provision and programmes to create awareness among farmers should be arranged to increase the banana marketing and export. The government should take necessary steps in the study area to encourage the positive attitude of small and marginal farmers towards banana cultivation and export.

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