

A STUDY ON FACTORS INFLUENCING BANANA EXPORT FROM INDIA

Dr. S. Manoharan

Associate Professor, Department of Business Administration,
Chikkaiah Naicker College, Erode, India

Abstract: *In the world, each and every business activity is influenced by numerous factors. The purpose of this study is to identify the factors, which are influencing the banana export in the international trading. In this study, the Multiple Regression analysis is used to identify the factors influencing banana export. Among the ten independent variables, four factors such as age of the exporter, experience in banana export business, business profit and frequency of export are positively associated with the dependent variable performance of banana exporters. Apart from these factors, facilities available with the exporters, and exporters preference in the sources of procurement for export of bananas were analysed using Multiple Response analysis. It shows that the proper guidance and intensive training to be given to exporters, to increase the export of banana from India.*

Key Words: APEDA, NHB, FAO, Multiple Regression and Multiple Response Analysis.

1. INTRODUCTION:

India is the largest producer and consumer of banana in the world, and India can be safely referred to as the fruit basket for people of India. Banana is a more balanced diet than any other fruits and it is composed of mainly water and carbohydrates. India produces large quantity of banana and at the same time its export is negligible.

2. STATEMENT OF THE PROBLEM:

As the largest producer of banana, India's share in the international trade of banana is not visible, that is only 0.39 percent in 2017. It is necessary to study the factors which are influencing the performance of banana export from India, there by enable to improve the economic condition of the banana producer and exporter. Hence, this study.

3. OBJECTIVES OF THE STUDY:

- To analyse the factors influencing the banana exporters in international trading.
- To assess the facilities available with banana exporters.
- To assess the preference in the sources of procurement for export of bananas.

4. DATA AND METHODOLOGY:

In this study both primary and secondary data were used, in order to achieve the objectives of the study. A field survey technique was employed to collect the primary data from all the banana exporters of Tamil Nadu, through a well-structured questionnaire. The secondary data were collected from the records of Agricultural and Processed Food Export Development Authority (APEDA), National Horticultural Bard of India (NHB), and Food and Agricultural Organisation of the United Nations (FAO), as well as from the leading journals, well-equipped libraries and Internet web sources.

The possible background factors that influencing the banana exporters were classified into personal, social and economic variables. The export performance was chosen as the dependent variable based on the volume of business turnover performed in the export market, and the background factors were selected as independent variables. The relationship between dependent and independent variables was analysed using Multiple Regression.

To assess the facilities available with the banana exporters and to assess the preference in the sources of procurement for export of bananas by banana exporters Multiple Response Analysis was used.

a. Multiple Regression Analysis:

The regression is a statistical relationship between two or more variables. When there are two or more independent variables, the analysis that describes such relationship is the multiple regression. This analysis is adopted where there is one dependent variable that is presumed to be a functionary of two or more independent variables. In multiple regression, a linear composite of explanatory variables is formed in such a way that it has the maximum correlation with an active criterion variable. The main objective of using this technique is to predict the variability of the dependent variable, based on its co-variance with all the independent variables. It is useful to predict the level of dependent phenomenon through Multiple Regression Analysis models, if the levels of independent variables were given. The linear multiple regression problem is to estimate coefficients $\beta_1, \beta_2, \dots, \beta_j$ and β_0 such that the expression,

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_j X_k$$

provides a good estimate of an individual Y score based on the X scores,

Where,

- Y = Value of banana export
- X₁ = Age
- X₂ = Educational Qualification
- X₃ = Family Size
- X₄ = Generation
- X₅ = Experience
- X₆ = Type of Organization
- X₇ = Business Profit
- X₈ = Total Business Turnover
- X₉ = Frequency of Export
- X₁₀ = Status of Acceptance

and $\beta_0 + \beta_1 + \beta_2 + \dots + \beta_j$ are the parameters to be estimated.

b. Multiple Response Analysis

Multiple Response Analysis is an analysis which concentrates to analyse the response in the form of multiple choice answers given by the respondents for a single survey question. In this analysis, instead of treating each response as separate variable, multiple responses for a single survey question is analysed together. In multiple response analysis, percentage of responses indicates what percentages of total responses were in each category and percentage of cases indicates what percentage of cases mentioned in each category. The sum of percentage of cases will be more than 100, even if one respondent has made more than one response.

5. RESULTS AND DISCUSSION:

Annual Growth Rate and Standard Deviation of Production and Export of Banana. Multiple Regression Analysis and Multiple Response Analysis of responses of the respondents.

5.1 Production and Export of Banana of India

Table 1. Production and Export of Banana of India (in Thousand Tonnes)

PRODUCTION			EXPORT		
Year	Production	AGR	Year	Export	AGR
2008	26217		2007	16662	
2009	26470	0.97	2008	30402	82.46
2010	29780	12.50	2009	54273	78.52
2011	28455	-4.45	2010	60813	12.05
2012	26509	-6.84	2011	40921	-32.71
2013	27575	4.02	2012	53793	31.46
2014	29725	7.80	2013	37150	-30.94
2015	29221	-1.70	2014	54496	46.69
2016	29135	-0.29	2015	80189	47.15
2017	30477	4.61	2016	111803	39.42
2018	30808	1.09	2017	89837	-19.65
Mean	28579.27			57303.55	
S.D	1654.783			27647.87	
C.V	5.790152			48.2481	

Source : FAO Statistics

The table 1. Reveals that there is a wide fluctuation in the export of banana, whereas, the fluctuation in the production of banana over the years is very low. The coefficient of variation for export also indicates the same. The annual growth rate of production of banana was at its highest during 2010 with 12.5 percent and it was highest during 2008 for export of banana with 82.46 percent.

5.2 Factors influencing banana export – Multiple Regression

The following table shows the analysis of the relationship between export performance of banana exporters and ten independent variables that were studied.

Table 2. Multiple Regression Analysis of Performance of Banana Exporters (Coefficient Table)

S.No	Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std	Beta		
	(Constant)	3.113	0.616		5.055	0.00
1	Age	-0.402	0.127	-0.337	-3.152	0.00
2	Education	0.093	0.098	0.096	0.951	0.34
3	Family Size	-0.036	0.134	-0.024	-0.264	0.79
4	Generation of Entrepreneur	-0.16	0.178	-0.009	-0.088	0.93
5	Experience	-0.360	0.125	0.290	2.888	0.00
6	Type of Organisation	-0.209	0.185	-0.110	-1.130	0.26
7	Business Profit	0.353	0.135	0.296	2.616	0.01
8	Total Business Turnover	3.787E-10	0.000	0.005	0.042	0.96
9	Frequency of Export	-0.997	0.165	-0.535	-6.037	0.00
10	Status of Acceptance	0.065	0.155	0.036	0.416	0.68

R-Value	R ² - Value	Adjusted R Square	Std. Error of the Estimate
0.818	0.669	0.613	0.56348

ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	37.910	10	3.791	11.940	0.000
Residual	18.733	59	0.318		
Total	56.643	69			

The multiple linear regression component (dependent variable) is found statistically a good fit a R value is 0.818, Which shows that four independent variables contribute about 67% to the variations in export performance and this is statistically significant at 1% level.

Table No. 2 indicates that, the coefficient of age, experience in banana export business and frequency of export are significant at 1% level whereas business profit is significant at 5% level. Further it was observed that education, experience, business profit, total business total turnover and status of acceptance were positively associated with the export performance of banana exporters. It also indicates that these variables which contribute to the export performance of banana exporters are statistically a good fit.

5.3 Multiple Response Analysis

5.3.1 Facilities available with the respondents to export banana.

The facilities available with the exporters will increase their export performance. The facilities such as refrigerated van, cold storage, quality control laboratory, cleaning, grading, ripening and packing will increase the export performance of exporters. The details about the facilities available with the respondents are shown in the Table 3.

TABLE. 3 Facilities available with the respondents

S.No	Facilities	Responses		
		N	Percent	Percent of cases
1	Refrigerated van	10	9.4	15.6
2	Cold storage facility	36	19.6	56.3
3	Quality control laboratory	7	3.8	10.9
4	Cleaning	37	20.1	57.8
5	Grading	25	13.6	39.1
6	Ripening	28	15.2	43.8
7	Packing	41	22.3	64.1
	Total	184	100.0	287.5

It is observed from the above table that, out of 70 respondents 64(91.4) of them possess any one of the facilities. Packing facility is possessed by 64.1percent of cases of respondents and 57.8 percent and 56.3percent of cases of respondents have cleaning and cold storage facility. It is clear that packing, cleaning and cold storage facilities are the facilities possessed by majority of the respondents.

5.3.2 Sources of procurement for export of bananas

The exporters have to select the right source for procurement of banana to export high quality banana, to increase their performance and to ensure the acceptance of the lots in the export business. The sources of procurement available to the banana exporters are own production, wholesale market, agents and spot buying. The details about the source of procurement are shown in the following table:

Table. 4 Sources of procurement for export of bananas

S.No	Sources of procurement	Responses		
		N	Percent	Percent of cases
1	Own production	16	16.0	22.9
2	Wholesale market	25	25.0	35.7
3	Agents	47	47.0	67.1
4	Spot buying from farmers	12	12.0	17.1
	Total	100	100.0	142.9

It is found from the above table that 67.1 percent of cases of respondents procure banana for export from agents and 35.7 percent of cases of respondents procure their requirement for banana export from the wholesale market. It is inferred that majority (67.1 percent) of the respondents depend mainly on procurement agents for their export requirement.

6. CONCLUSIONS:

India's share in the world banana production and export was 26.65 percent and 0.39 percent in the year 2017. There is a high volatility in the export of banana during the study period. The Multiple Regression Analysis result reveals that the export performance of banana exporters is positively associated with the factors like age, experience in banana export business, business profit and frequency of export. The multiple linear regression component shows that four independent variables contribute about 67 percent to the variations in export performance and this is statistically significant at 1 percent level. Hence, middle aged persons with some expertise to be given special training in product marketing, advanced agricultural techniques and post-harvest techniques and also to be encouraged to enter into exporting banana. The facilities such as packing, cleaning and cold storage are available with majority of the exporters and most of the other facilities needed for export of banana are outsourced by the exporters. The Government of India should setup refrigerating facility at airports and port trusts, common facility centre with facilities such as cold storage, vapour heat treatment, quality control laboratory and centre for ripening, at major production and export centres. With regard to modes of procurement for export of banana, majority of the exporters depend mainly on procurement agents for their export requirement, to avoid rejection of lots and maintain quality, the exporters have to produce banana on their own and also purchase directly from the farmers, to increase their export of banana.

REFERENCES:

1. Arora, V.P.S., R. Saxena and K. Tiwari (1997). Present status and export potential of horticultural products. Indian Journal of Agricultural Economics. 52(3):660-661.
2. Jha, Brajesh (2000) Towards measuring comparative advantage of agricultural commodities in India. Agricultural Economics Research Review. 13(2):159-168.
3. Chand, R. and Raju, S.S. (2007). Risks in Indian Agriculture – A Case of Six Major Crops. Agricultural Situation in India. 64(7):283-289.
4. National Horticulture Board Database (2015). National Horticultural Board (<http://nhb.gov.in>)
5. National Horticulture Board Database (2017). National Horticultural Board (<http://nhb.gov.in>)
6. FAO (Food and Agricultural Organisation of the United Nations) FAO, Database, Rome, Italy.