International Journal of Farm Sciences **8(3):** 13-16, 2018; doi: 10.5958/2250-0499.2018.00072.1

Status and constraints in fruits and vegetables export: a Garrett ranking approach

R THULASIRAM and T ALAGUMANI*

Karunya Institute of Technology and Sciences, Coimbatore 641114 Tamil Nadu, India
***Department of Trade and Intellectual Property**
CARDS, Tamil Nadu Agricultural University, Coimbatore 641003 Tamil Nadu, India
Email for correspondence: thulasi.economics@gmail.com

 Received: 3.3.2018/Accepted: 20.3.2018

ABSTRACT

Horticulture sector in India is considered as one of the driving forces for economic growth. India's diverse climate ensures availability of all varieties of fresh fruits and vegetables. The world demand for fruits and vegetables has been constantly on the rise and the country's huge production base offers tremendous export potential. Still the exports from India are concentrated in developing country markets for most of the fruits and vegetables with low unit price realization. Though export of fruits and vegetables from India is increasing yet the proportion of export to total production is low. In this regard a study was conducted to identify the constraints faced by the farmers and exporters of fruits and vegetables. Garrett ranking technique was used to study the problems encountered by the respondents. The results revealed that the important constraints faced by fruits and vegetables growers were the inability to meet the quality requirements for export, poor storage and transport facilities. The poor infrastructure facilities and lack of standardization on postharvest handling were the major problems faced by the exporters. Hence there is high potential for exporting fresh fruits and vegetables and export targets in the future are achievable provided a concerted effort is made on production and quality aspects.

Keywords: Export markets; Garrett ranking; constraints; value chain; postharvest handling

INTRODUCTION

The diverse climate in India ensures production of all varieties of fresh fruits and vegetables. Still the demand for fruits and vegetables has been constantly increasing. The increasing trend of agricultural trade at global level benefits the developing countries in the promotion of rural development, agricultural exports and economic growth (Barbier 2000). India being an agricultural country has a large potential for foreign trade. The geographical location with good logistic and suitable climate has placed India in a favourable position for growing a variety of fruits and vegetables round the year. India is producing around 85 MT of fruits and 170 MT of vegetables every year. The present situation demands considering agriculture as the major economic and commercial activity to enhance growth and national economy. The huge production base of fruits and vegetables provides excellent export opportunities for the country. Despite this advantage India's share in the global market is insignificant and accounts for only 1.7 per cent of the global trade in vegetables and 0.5 per cent in fruits (Mattoo et al 2007).

The horticulture sector is strongly believed to be the future for agriculture through fruits and vegetables export. The major concern during policy making is much oriented towards economic and political risks as the farmers of the country are heavily dependent on local markets and industries. All India Technology of Horticultural Crops identified the problems in fruits and vegetables which discouraged the farmers from undertaking large scale cultivation of fruits (Navadkar and Shate 2004). The fresh fruits export from India is very small owing to a number of constraints and any solution would lead to realization of vision to the enhancement of exports in the near future (Chandra and Kar 2006). Owing to these creeping problems in the sector a study was proposed to identify the constraints faced by the producers and

exporters of major fruits and vegetables in India. The producers and exporters of fruits and vegetables are facing several problems and are categorized as production- and trade-related here.

METHODOLOGY

The study was done to examine the problems faced by the respondents in production and export of fresh fruits and vegetables in Tamil Nadu. Madurai district was purposively selected as it is known for horticultural crops especially fruits and vegetables. The crops like mango, banana, grapes, onion and tomato were selected for the survey to represent fruits and vegetables as they contributed high shares in total production. The study was primarily based on the field survey. The primary data were collected from sample respondents. The respondents were categorized as 40 farmers and exporters each. The data pertaining to the problems faced were collected with the help of an interview schedule prepared exclusively for the survey. The problems faced by the sample farmers and exporters were analyzed with the help of Garrett's ranking technique (Garrett and Woodworth 1969). Secondary data were collected from APEDA to know the shares of fruits and vegetables exports to the total production. The order of merit assigned by the respondents were converted into ranks using the formula:

$$\text{Percentage Position} = \frac{100 \times (R_{ij} - 0.5)}{N_j}$$

where R_{ij} = Rank given for the i^{th} factor by j^{th} individual, N_j = Number of factors ranked by j^{th} individual

By referring to Garrett's table the percentage positions estimated were converted into scores and then for each factor the scores of various respondents were added and the mean values were arrived at. These means were arranged in descending order. The constraint having the highest mean value was considered to be the most important constraint and was given the highest rank and vice versa.

RESULTS and DISCUSSION

Export share of selected fruits and vegetables in India

To know the share of Indian fruits and vegetables exports to the total production the shares of export quantity to total production were calculated and are presented in Table 1. It can be observed that the quantity share of export of mango in total production from India was only 0.22 per cent in 2013-14 which was 0.53 per cent in 2003-04. In case of grapes the export quantity share has increased from 2.11 per cent in 1994-95 to 7.45 per cent in 2013-14. Regarding banana the share of export to the total production has been increasing over three decades but it is around 0.12 per cent only. The share of onion export to the total production during 2013-14 was 7.64 per cent. It had increased to 8.60 lakh tonnes during 2003-04 as compared to 4.01 lakh tonnes in 1994-95. The export share of tomato to the total production was 2.19 per cent during 2013-14 which was only 0.15 per cent during 2003-04.

Thus India's export of onion had increased over years. Grapes and tomato had an improvement in recent years in converting huge production base into exports. The share of export quantity of mango, grapes and banana to total production in India increased over three decades from 1994-95 to 2013-14.

Hence concerted efforts are needed not only to increase production but also to increase the export share of India in world market. In the long run when banana exports are substantial India needs to have her own ripening facilities at least in UAE to begin with. The results clearly indicate India's position in export of selected fruits and vegetables. Of the total production only low percentage was exported. The reason behind such a low figure in export conversion needs to be identified.

Constraints in fruits and vegetables export

There exists a close sense of belonging between farmers producing fruits and vegetables for export and the exporters. It is inevitable to know the problem of producer which is a complementary to the export sector. Hence an attempt to analyse the problems of producer in the course of production of fruits and vegetables was made.

Problems encountered by farmers: The five constraints identified by the sample farmers were ranked using Garrett's ranking technique and the details are furnished in Table 2. The most important constraint identified by the fruits and vegetables growers was the inability to meet the quality requirements for export (63.61). This is one of the common problems in fruits and vegetables exports so to say the importing countries

Table 1. Export quantity share in total production over the years (in lakh tonnes)

Commodity	1994-95		2003-04		2013-14	
	Production	Export	Production	Export	Production	Export
Mango	109.93	0.25 (0.23)	114.90	0.61 (0.53)	184.31	0.41 (0.22)
Grape	7.98	0.17 (2.11)	14.75	0.27 (1.82)	25.85	1.93 (7.45)
Banana	57.98	0.01 (0.02)	138.57	0.11 (0.08)	297.25	0.36 (0.12)
Onion	40.80	4.01 (9.84)	62.68	8.60 (13.72)	194.02	14.82 (7.64)
Tomato	49.30	0.0047 (0.01)	76.17	0.11 (0.15)	182.27	4.00 (2.19)

Figures in parentheses indicate percentages to production of respective commodity

Table 2. Constraints of fruit and vegetable growers (n= 40)

Constraint	Mean score	Rank
Inability to meet quality requirements for export	63.61	I
Poor storage and transport facilities	53.01	II
Dependency on pesticide usage	50.27	III
Lack of institutional support	43.83	IV
Lack of information on organic cultivation of fruits and vegetables	39.61	V

propose particular quality specifications for each commodity. Due to this the farmers could not capture distant markets for want of increased net price. The second major constraint ranked by the sample farmers was poor storage and transport facilities (53.01) as most of the fruits and vegetables are perishable. Dependency on pesticide usage (50.27), lack of institutional support (43.83) and lack of information on organic cultivation (39.61) were the other important problems encountered by the sample farmers.

It is worth mentioning that the production problem was spelled little by the farmers compared to facilitative constraints. On the whole the results indicated the importance of quality produce to meet the requirements of importing countries. There was also high demand for organic products especially mangoes in Germany, France, Netherlands and UK. The pesticide consumption of 39.73 thousand tonnes during 2005-06 in India has reached 52.98 thousand tonnes in 2011-12 (Indira Devi et al 2017). Hence efforts are needed to reduce the usage of pesticides to make fruits and vegetables accepted by the European markets.

Problems encountered by exporters: The problems faced by the exporters of fruits and vegetables are presented in Table 3.

The poor infrastructure facilities was the most important problem faced by the exporters with a mean score of 61.40. It was reported that timely infrastructural facilities namely reefer vans, pack houses, quality packing materials, cool chain and controlled atmosphere (CA) containers were not adequately available for export. Lack of standardization on postharvest handling (50.90) was the second most important problem expressed. This shows the need for

Table 3. Constraints of fruit and vegetable exporters (n=40)

Constraint	Mean score	Rank
Poor infrastructure facilities	61.40	I
Lack of standardization on postharvest handling	50.90	II
Tedious documentation procedures for export	43.85	III
Collision among commission agents and auctioneers	34.55	IV
Unavailability of market information and strategies	21.25	V

standardization of protocol and training on postharvest handling and controlled (CA) and modified (MA) atmosphere storage facilities. The third important problem was the documentation procedure for export with mean score of 43.85. The other problems included collision among commission agents and auctioneers (34.55) and unavailability of market information and strategies.

CONCLUSION

The export share of major fruits and vegetables to the total production was found to be low except onion. The important constraints faced by fruit and vegetable growers were the inability to meet the quality requirements for export and poor storage and transport facilities. The poor infrastructure facilities and lack of standardization on postharvest handling were the major problems faced by the exporters. Hence the study suggests that there is a need for linking production and export activities in order to achieve the best results in terms of productivity, quality and value addition.

REFERENCES

Barbier E 2000. Links between economic liberalisation and rural resource degradation in the developing region. Agricultural Economics **23(3):** 299-310.

Chandra P and Kar A 2006. Issues and solutions of fresh fruit export in India. International Seminar on Enhancing Export Competitiveness of Asian Fruits, Bangkok, Thailand, pp 17-23.

Garrett HE and Woodworth RS 1969. Statistics in psychology and education. Vakils, Feffer and Simons, Pvt Ltd, Bombay, 329p.

Indira Devi P, Thomas J and Rajesh K. Raju RK 2017. Pesticide consumption in India: a spatiotemporal analysis. Agricultural Economics Research Review 3**0(1):** 163-172.

Mattoo A, Mishra D and Narain A 2007. Produce and perish: how India is failing its farmers. The Times of India, 26 April 2007.

Navadkar DS and Shate SM 2004. Processed fruits and vegetables: a review of growth. Agricultural Situation in India, pp 551-555.