# MARKETING OF HORTICLULTURE CROPS IN INDIA : A WAY TO DIVERSIFICATION IN AGRICULTURE

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*According to the National Accounts Statistics the total annual value of the horticultural products produced in the country with fruits and vegetables together contributing over 65 per cent of this value. This value has been steadily increasing since the last three decades. These crops claimed a share of 34.5 per cent of the total value of the agricultural produce, despite the former covering only 7.2 per cent of the gross cropped area. This share has more than doubled that in 1984-85, when it was only 16.5 per cent. Earlier it was only 15.3 per cent, thus confirming the fact that economic liberalisation boosted the growth of these crops.*

**Keywords:** Horticulture, Diversification and Marketing.

## INTRODUCTION

At the outset, it needs to be clarified that horticulture as a discipline of agricultural science encompasses study of large groups of fruits, vegetables, mushrooms, flowers, plantation crops including cashew, spices; medicinal and aromatic plants. India is rich in the diversity of these crops due to immense agro-climatic variations, enormous bio-diversity, fertile soil, large cultivable area and above all long history of crop husbandry. The rich cultural diversity of this country has further contributed to the planned exploitation of crops and trees, giving rise to a large variety of culinary recipes.

## HORTICULTURAL CROPS AND DIVERSIFICATION IN AGRICULTURE

Horticulture plays a big in crop diversification, human nutrition, and industrial growth and in generating income and employment under Indian situation. That analysis is more valid today when Indian agriculture is getting more and more commercialised and competitive. These crops have been identified as most remunerative crops for replacing subsistence farming in the rainfed dryland, hills, arid and coastal agro-ecosystems. Diversification in favour of horticultural crops is driven by hard economic factors. These crops are characterised by high productivity per unit area, much higher returns, higher potential for employment generation and exports, comparatively lower requirement of water, and easily adaptable (particularly tree crops) to adverse soil and wasteland situations. The input-output ratio is much higher than the field crops. Their role in improving environment is an added advantage. The biomass available particularly from the tree crops is phenomenal, which either gets recycled into the soil to add to its fertility, or is amenable to industrial use for value addition, thus further enhancing their economic viability.

Trends in favour of such a diversification are sweeping across the country. This is evident from the steady increase in the share of these crops in the total net (NCA) and gross cultivable area (GCA) of the country. These crops covered over 7 per cent of the NCA and 5.9 per cent of GCA, while the coverage rose to 8.6 and 6.7 per cent respectively. At this rate the coverage is expected to go up further to 10.5 per cent of NCA and 8 per cent of GCA. States like Maharashtra, Karnataka, Haryana, Punjab, Kerala, Andhra Pradesh, Gujarat, Rajasthan, etc., have taken lead in this diversification. In Kerala, the area under rice, pulses and sugarcane has steadily gone down registering a decline ranging from 17 to 49 per cent in the last ten years, while the area under fruits rose by 514 per cent in the same period. Similar is the case in Karnataka where coarse grains and pulses have yielded area to horticultural crops like fruits, vegetables and garden crops in the order of 15 to 42 per cent. In this state, oil palm, a newly introduced oil crop, is taking a sizeable area in the irrigated belt, while cocoa, as an inter-crop, is spreading as another industrial crop. In the northern state of Punjab, millets, pulses and maize have yielded place to fruits and vegetables during this period, the latter two increasing by 43 and 61 per cent respectively. Rice too gained ground in the process. In fact, the State Government came out in open support of diversification in favour of fruits and vegetables, endorsing the recommendation of Johl Committee and fixed the targets under these crops at 6.4 per cent of the total cultivated area of the state. In Gujarat, the increase in the area under fruits, vegetables and spices, while in Andhra Pradesh it ranged between 40 and 45 per cent.

**Horticultural Crops and Income**

According to the National Accounts Statistics the total annual value of the horticultural products produced in the country with fruits and vegetables together contributing over 65 per cent of this value. This value has been steadily increasing since the last three decades. These crops claimed a share of 34.5 per cent of the total value of the agricultural produce, despite the former covering only 7.2 per cent of the gross cropped area. This share has more than doubled that in 1984-85, when it was only 16.5 per cent. Earlier it was only 15.3 per cent, thus confirming the fact that economic liberalisation boosted the growth of these crops.

Comparison of cost-benefit analysis of these crops confirms their potential for generating higher income per unit area. In typical dryland situations of Rayalaseema and Telangana tracts in Andhra Pradesh, the benefit-cost ratio (BCR) for mango was 3.39 as against 1.67 for groundnut and 1.71 for sorghum (Sudha and Reddy). The total value added by these crops to a unit area is also much higher than that by cereal and other crops, as compared by Sengupta. At 1986 prices, the value added per hectare by fruits was Rs. 9,418 and by vegetables Rs. 5,829, as against Rs. 1,629 by wheat, Rs, 2,219 by rice and Rs. 5,288 by groundnut. Extending the comparison to the export potentials, the per hectare export earning at 1995-96 prices (in US $) of mango was $ 4,446, of grapes $ 10,407, and of vegetables $ 2,892, while for wheat, it was only $ 416, for rice (non-basmati) $ 466 and for rice (basmati) $ 976.5. This is due to higher yields per hectare combined with higher unit price in international markets available for horticultural commodities. This provided a strong ground for several

governmental policy initiatives in the last ten years encouraging free imports of seed and planting material of horticultural crops, liberalizing procedures, extending tax reliefs, introducing several incentive packages, etc., for promoting their exports to earn foreign exchange.

**Horticultural Crops and Human Nutrition**

Most of the horticultural crops play an important role in human nutrition, preventing diseases, and contributing to the nation's development and prosperity. Fruits and vegetables are not only rich and cheap sources of carbohydrates but also of minerals and vitamins, particularly calcium, iron and magnesium, and vitamin A and C, essential for building resistance against diseases. The energy (calorific value) produced by one hectare of these crops is much higher than that of cereals. Their role in combating the global problem of malnutrition, therefore, becomes obvious. According to the World Health Organisation (WHO) (1992), 190 million people are at risk of vitamin A deficiency (VAD), and over 2 billion are suffering from iron deficiency anemia (IDA). Children, and pregnant and lactating mothers are the most vulnerable to the disorders linked to these deficiencies. At the national level, management of VAD and IDA is a vital element of the National Nutritional Policy, providing for promotion of regular intake of foods of plant origin rich in vitamin A and iron. Consumption of fruits and vegetables will, therefore, be crucial to the success of the strategy conceived under the above policy.

Under the horticultural intervention combined with nutrition education project in Thailand, regular consumption of ivy-gourd for three years brought down night blindness in children. Similar results were reported from Bangladesh and India under this project. According to the Indian Council of Medical Research (ICMR), a balanced diet should have nearly 280 grams of vegetables including tubers, and 90 grams of fruits per day. However, the average Indian diet had only 46 grams of fruits and 92 grams of vegetables in the eighties, which has now improved in the last 5 years, particularly in urban areas due to higher income levels following economic reforms.

**Status of Hortiocultural Exports**

Major commodities in the export basket are cashewnut, spices, fresh fruits and vegetables, processed products, cut and dry flowers, and seeds. Of these, cashew leads with an overall share of about 41 per cent of the total value of horticultural exports. Among fresh fruits, mango, particularly Alphonso, Kesar, Dasheheri and Banganpalli varieties, and grapes constitute the bulk of the exports. Other fruits being exported in smaller quantities are banana, sapota, litchi, kinnow, etc. In vegetables, the bulk of the exports is made up of onion and potato. Other vegetables being exported in smaller quantities are okra, brinjal, tomato and chillies. Presently most of our exports, particularly in mango and vegetables, are made to West Asian countries, such as Saudi Arabia, Bahrain, Kuwait, etc. Mango is not allowed into U.S.A., Europe, Australia, New Zealand and Japan because of fear of fruit fly infestations, for which Vapour Heat Treatment of fruits is mandatory before exports are considered.

Grapes, however, have been quite popular in Western countries because of their excellent quality and availability during European winter/spring months.

India is the major exporter of cashew kernals, and enjoyed complete control on the export market with more than 90 per cent share of the world's exports. However, the situation changed gradually with the entry of Brazil into the world trade, reducing Indian share, which now is over 64 per cent. Apart from kernals, other products of high value for exports are cashewnut shell liquid (CNSL), cashew shell, tannins, etc. In spices, India has emerged as one of the largest exporters of red chilies. Other spices exported from India are black pepper, small cardamom, ginger, turmeric, spice oil and oleoresins.

In floriculture, the export of cut flowers is a recent phenomenon, following economic reforms introduced in 1991-92, allowing easy import of technology including planting material, incentives for exports, etc. The total world trade in floriculture products is expanding annually at 15 per cent. Our contribution to the world trade is quite insignificant, but the encouraging feature is that the Indian entrepreneur has been able to compete in the international market on his own, and the Indian cut-flowers have met the international standards. Consequently, new markets other than Holland are gradually showing interest in our flowers. Most significant among these is the Japanese market, which is likely to grow in the future. This sector has also has been attracting foreign companies for setting up joint ventures both for technical know-how and for investments for equity participation.

**Marketing of Horticultural Crops**

Organised marketing of fruits and vegetables is almost absent. Consequently, fluctuation in daily prices and a large margin between the wholesale and retail prices is a common feature. The large margins are meant to cover risks of loss due to perishability of the produce accentuated by the very weak post-harvest infrastructure. However, in commodities such as grapes, where organised marketing is done by the Grape Growers' Association in Maharashtra backed by strong infrastructure, the farmers are least exploited and distribution is quite widespread, despite high degree of perishability of the fruits. Similar experiences are available with onion and mango in Maharashtra, apple in Himachal Pradesh marketed by the Himachal Pradesh Marketing Corporation, sapota in Gujarat, etc. India has about 4,000 regualted markets of fruits and vegetables, most of these are in urban and semi-urban areas, using almost primitive methods. These function under the agencies of the Agricultural Produce Marketing Act (APMC) of the individual states. Any attempt to introduce organised marketing using modernised systems at the wholesale levels will have to be done under the purview of the Act in the face of stiff opposition of the vested interests. Fruits (60 to 90 per cent) are generally marketed through pre-harvest contracts, while (70 to 98 per cent) vegetables are mostly disposed off through commission agents. The marketing cost varies from 17 to 21 per cent of the market price in vegetables, which includes commission at the rate of 7 to 10 per cent of the total value of the produce, which is quite high. In fruits, the pre-harvest contractors carry away exorbitant profits at the cost of the producers, in some cases, being as high as 60 per cent on their investment. This can be avoided to a large extent if the

marketing is undertaken by the farmers' organisation/co-operatives, or production is taken up under a contract farming system, which is gradually becoming popular, particularly for exports and processing. At present, there are 12 state/central level co-operative societies and 275 primary marketing societies directly engaged in this activity, handling only 4 to 5 per cent of the total production. There is no exclusive federation of fruits and vegetable co-operatives at the national level for marketing of horticulture produce. This work is being undertaken by the National Agricultural Co-operative Marketing Federation of India (NAFED) in collaboration with state federation and primary marketing societies.

Contract farming carries several advantages such as assured supplies, quality production, higher productivity through faster adoption of new technologies, and above all assured returns to the producer. The Pepsi model was the first major enterprise built on this concept. Several other units, such as Kisans and Nijjer, have since come up. M/s Reitzel India Limited is involved in contract farming of gherkins and cucumber. This practice can gain wide acceptance if certain constraints are overcome in right earnest. These include legal back support for enforcing contracts and speedy redressal of disputes, an effective crop insurance scheme, short-term financing, etc.

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