

EMERGING CHALLENGES AND PROBLEMS FOR HORTICULTURE IN BIHAR

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Abstract : Horticulture includes the cultivation of fruits, vegetables, potato and tuber crops, ornamental, medicinal and aromatic crops, spices and plantation crops. Today horticulture in the country is more vibrant and dynamic sector than ever before. It contributes nearly 30 percent of the agricultural GDP. And the state of Bihar is one of the largest producers of fruits and vegetables in the country. Horticulture, mainly fruits and vegetables play an important role in the economy of Bihar. Despite their utility, the cultivation, consumption and marketing aspects of fruits and vegetables are generally neglected. This is mainly due to severe handicaps associated with the production and marketing of fruits and vegetables. The cultivation of fruits and vegetables in the district is distorted by many factors like low yield and poor quality. This paper is an attempt to highlight the challenges and problems for horticulture in Bihar.

Keywords: Horticulture; Production constraints, Cultivation, Gestation, Bacterial Diseases, Bihar.

Introduction

Fruits and vegetables play an important role in the economy of Bihar. Despite their utility, the cultivation, consumption and marketing aspects of fruits and vegetables are generally neglected. This is mainly due to severe handicaps associated with the production and marketing of fruits and vegetables. The cultivation of fruits and vegetables in the district is distorted by many factors like low yield and poor quality. The farmers get poor returns and a very little incentive to improve their farm management. State agriculture faces multifaceted challenges that emanate both from within the system and also from outside. Low productivity across all the enterprises, crop, horticulture, milk, meat, egg and fishes has traditionally described the state agriculture. The low productivity has consequential effects on low income and high poverty of its population. The major factors contributing to low productivity is described as below.

Production Constraints

The extent of production related constraints vary inversely with the farm size. Smaller farms face production related constraints more as compared to the larger ones. The most common production related constraints found to be long gestation period of the crop, followed by low profit margin of the producer, damage to crop due to diseases, wind, etc. As a result, the overall production level is not satisfactory. The production related constraints are discussed below:

Traditional Methods of Cultivation: The advanced agricultural practices like soil testing, seed testing, appropriate time of sowing, timely irrigation, proper time of harvesting, etc. are not adopted by the farmers because they are not aware of them. As a result, there is no significant improvement in the yield of fruit and vegetable crops.

Use of Traditional Varieties of Seeds: Good returns cannot be obtained from the poor quality of raw material. Almost 90 per cent of the farmers use traditional varieties of seeds that are responsible for low yield of fruits and vegetables. They are ignorant regarding the latest varieties of seeds such as hybrid, easy adaptability to climate, early ripening and disease resistant varieties.

Long Gestation Period: The main constraint in the way of increasing the area under fruits is the long waiting period (up to 4-5 years). It requires a lot of patience on the part of farmers. The fruit crops like mango, pear comes into bearing very late. During all these years, the growers have to spend money from their own pocket for various operations like irrigation, fertilizers, weeding, plant protection, etc. and a small or middle level farmer cannot wait such a long period without substantial income.

Higher Input Costs: The other major constraint faced by the farmers at the production level is the lack of application of recommended fertilizers and plant protection chemicals during the development stage. Besides this, the fungicides/pesticides like Bavistin, Karathene, etc. used by the farmers are also duplicate. Because of substandard fertilizers and pesticides, these crops are prone to many diseases. Moreover, the charges paid to the labour for cleaning, plucking, loading and unloading are also found high. All these factors increase their cost of production. But, as compared to production, the prices received by them from the sale of their produce are quite less.

Bacterial Diseases: The invasion of fungi, bacteria, insects and other organisms on fruits and vegetables is a major problem. These micro-organisms spread easily because of humid weather and mild temperature. Late-blight of tomato and powdery mildew in the case of peas are quite common. In the case of guava and ber, the attack of insects and pests like fruit fly adversely affect the yield of the crop, thereby giving low returns to the farmers.

Lack of Technological Advancement: The production technology of fruits and vegetables is not adequate. The farmers do not adopt the advanced and protected production technologies like net house and poly-house technologies. The net-house technology not only increases the productivity of vegetables but also helps in the improvement of their quality. But, the farmers of Bhagalpur district grow the crops on open fields and as a result due to temperature changes, heavy rains, etc. the yield of these crops is low. There are two agricultural universities, five agricultural colleges, one horticulture college, one agriculture engineering college, one dairy technology college and one veterinary college in the state. All the 38 districts have a functional Krishi Vigyan Kendra (KVK). ICAR has also a presence with eastern states regional headquarter at Patna. Besides, National Research Centre for Litchi and Makhana are established in state. However, State productivity remains low because of the slow adoption of modern technologies by the farmers. Dominance of cereals in cropping pattern reflects on the subsistence nature of state agriculture. Institutional extension system faces the challenge to take latest technologies to farmers field.

The Size of Farm Holdings: The size of farm holdings has a direct effect on the output of fruit and vegetable crops. Sub-divisions and fragmentation of the farms lead to uneconomic holdings and result in lower output. So far as fruits and vegetables are concerned, it has been identified that 70 per cent of the farmers in Bihar have uneconomic holdings. They cannot efficiently use the farm management practices like planting the trees at an appropriate distance, spray of insecticides, etc. Therefore, the production is very less.

Marketing Constraints : An efficient marketing is an important means of raising the income level of farmers and the level of satisfaction of the consumer. In Bihar, the marketing system of fruits and vegetables is not efficient and lacks proper infrastructure. Fruit and vegetable growers are considered to be bad marketers not only because of their ignorance of modern methods of marketing but also due to the peculiar structure of marketing over which they have no control. The main problems faced by the producers and sellers during the marketing of fruits and vegetables in the study are as follows:

Large Number of Functionaries: A large number of functionaries/intermediaries such as pre-harvest contractors, commission wholesalers, retailers, etc. is involved in the marketing of fruits and vegetables in Bihar. Prevalence of intermediaries in the marketing channel results in unfair and exploitative practices in marketing of fresh produce. Dominance of many of the intermediaries in between the supply chain rob the lion's share of the producers by deeply penetrating the consumer's pocket.

Transport Difficulties: Another major problem is the non-availability of adequate transport facility. Although the roads are pucca in the selected villages but the means of transport that growers and sellers hire are very much costly. The whole transportation is done through canton, tempo and tractor-trolley in Bihar. The rent of these hired means of transport is found to be high. Moreover, during rainy season, it becomes more difficult to transport the produce.

Rejection by Purchasing Agency: Due to perishable nature of fruit and vegetable crops and lack of proper grading system, sometimes the purchasing agency in Bihar market rejects the farmer's produce due to bad quality. Moreover, the quantity purchased by the agency is very less. They purchase only that quantity which is easily sold in the market. In such a condition, the farmers incur a great loss and get a very low price of their produce.

Faulty Method of Sale: The general method of sale is that produce of the farmer is sold by auction in the market. Auction is done under the supervision of market committee by the commission agents who act as wholesalers. No doubt, auction/bid is done under the supervision of market committee, but the market committee does not work honestly. It favours the commission agents/wholesalers who act as big traders. Further, because of the collusion of these commission agents with traders (retailers), the farmers do not get remunerative price of their produce. Generally, each producer sells the produce to the particular commission agent because of previous contacts or loan taken. Also, most of regular retailers have contacts with a particular commission agent. Sometimes the produce is not even accompanied by the producer and sent to the commission agent with whom the producer has a regular contact. The commission agents take advantage of this practice and after keeping their due share, they sell the produce to the retailers at low price.

Inadequate Marketing Intelligence: Price information helps the farmers to take decisions about when and where to sell the produce so that a better price may be obtained. But, they are not aware about the prices prevailing in the nearby markets. Moreover, the awareness about the prices of the distant markets through the government agencies is negligible. Only one or two large farmers observed to have knowledge about the prices in the distant markets and it is through their personal contacts. But, majority of the farmers do not have any source to get information about the market prices of fruits and vegetables in the nearby markets of the district as well as in the distant markets. Therefore, they are compelled to sell the produce at throw away prices in the local market. Marketing and processing infrastructure are not adequate affecting farmer's income.

No Procurement Policy: In the case of wheat/paddy, there is an adequate government policy. The government announces minimum support prices (MSP) as well as procurement prices for these crops. So, the prices are assured because of government intervention, i.e., government purchase but in the case of fruit and vegetable crops, there is no such government intervention. Government does not announce any support price or procurement price of these crops. These crops are totally dependent on market forces due to their perishable nature. Sometimes farmers do not get appropriate returns for their produce. Therefore, they prefer to grow wheat and paddy because of assured income.

Lack of Infrastructure Facilities: Another problem faced by the fruit and vegetable growers in Bihar is related to infrastructural facilities for the quick disposal of the produce. The infrastructural facilities like cold stores, processing industries, cheap transportation charges, etc. are necessary in the case of fruits and vegetables as these are of perishable nature and cannot be store usual conditions. But in Bihar, the market system is deprived of infrastructure for post-harvest handling of fresh produce. Because of this, the small growers cannot afford to send their produce to distant markets for better returns. Road connectivity, storage godown and power availability to agriculture sector is inadequate to usher accelerated agriculture development in the state.

Financial Difficulties: There is no adequate credit facility to the farmers by the agencies in the study area. These people are usually dependent upon commission agents (money lenders) for finance. More than 95 per cent of the farmers take loan from these money lenders to fulfil the requirements related to the production of these crops. But, these people charge a very high rate of interest from producers and compel the farmers to sell their produce through them. Slow pace of implementation of kisan credit card leave large number of farmers dependant on high cost non institutional lending sources seriously impeding use of modern agri inputs and adoption of modern technology.

Lack of Cold Storage Facility: Because of seasonal and perishable nature of fruits and vegetables, these get spoiled easily. So, the farmers cannot retain them for longer periods to reap more benefits. Therefore, the cold storage facility to store the fresh produce at the time of low price offered in the market is necessary.

Lack of Processing Industry: The horticulture development is not possible without the establishment of processing industries. Fruits and vegetables are processed into very useful products such as jams, jellies, sauce, squash, syrup, etc. These industries play an important role in generating the income of the farmers. But in Bihar, there is no such processing industry, which uses fresh fruits and vegetables as raw materials to make the useful by-products.

No Grading and Standardization: The grading should be regularly practiced before the produce is marketed so that the producers can sell the produce at premium price. In Bihar, grading is not done on standardized basis. Moreover, there is a lack of grading facilities in the market. It has also been brought out that the grading is voluntary except for export in the case of few commodities like potato and peas. Traders for some commodities practice informal grading based on size, freshness and

appearance of the produce at different levels of marketing. Most of the cultivators fear that if the produce is graded and sold, it may become difficult to dispose of the low graded produce.

High Cost of Packaging Material: As regards packaging, the present method of packaging of horticulture produce has resulted in post-harvest losses. For packaging the produce, containers like wooden boxes, plastic crates and gunny bags are used by the farmers. The rent of empty plastic crate was found to be Rs.5 and gunny bags also cost Rs. 2-3 to the producer. Additionally, the farmers do not have much information regarding the comparative costs of present packing material used and improved ones like corrugated fibre board boxes. Moreover, the farmers are not aware of ethylene absorbent papers to prevent losses due to spoilage.

Lack of Unity and Organization Skill: Farmers can get better prices by selling through co-operative and marketing societies and can avoid the possibility of being cheated. Moreover, these societies can arise the spirit of self-confidence among the farmers, eliminate the intermediaries and ensure fair prices to both producers and consumers. But, there is a lack of unity and organization skill among farming community in Bihar, which has proved a major impediment in the formation of cluster groups and co-operatives among the selected farmers.

Malpractices Adopted by the Middlemen: The malpractices adopted by the middlemen in the marketing of the produce. The malpractices adopted by the middlemen during the auction of the produce and in price fixation are under weightment, low prices through collusion, and refusal to purchase the low graded produce, etc. The cultivators face the risk of being cheated by the middlemen because of illegal deductions such as market fee.

Lack of Approach to Distant Market: The farmers cannot approach distant/desired markets to sell their produce at better prices. The reasons responsible for this are the low volume of the produce, high transportation cost and lack of awareness regarding desired distant markets. The other reasons being that the farmers are dependent upon commission agents for their financial requirements. The commission agents in turn compel them to sell their produce to them as the farmers have taken loan from them. The commission agents thus exploit the farmers by giving them low price for their produce.

Improper Pre and Post-harvest Handling: The present system of handling and marketing of fruits and vegetables is found to be inefficient, unsatisfactory and outdated in the study area. The improper pre and post-harvest handling techniques like absence of refrigerated vans for transportation, inappropriate packaging, lack of storage facility, etc. lead to heavy losses to the farmers. Not only producer gets the low price and consumer pays more, but a substantial quality of the nutritious produce goes waste. This wastage ranges between 20-40 per cent of the produce by the time when it reaches to the final consumer.

Land Issues: More than 91 percent of all holdings fall in the category of marginal holdings with farm size less than 1 hectare. Each such holding is again fragmented in small parcels. Land records are obsolete, making any institutional investment virtually impossible. Small farm agriculture creates serious problems for economy of scale.

Rainfed agriculture: State agriculture still heavily depends on monsoon. In the last 5 years, there has been drought or drought like situation in four consecutive years. Kharif crops are almost a gamble leaving little prospect for investments in costly inputs. Canal Irrigation is scanty. Irrigation is majorly (70 percent) dependent on diesel based tube wells. High cost of diesel based irrigation makes it a very difficult input for even Rabi crops.

Flood & Drought: State agriculture is dependent on Monsoon. A heavy rainfall lead to flood and a deficient rainfall could lead to drought. The paradox of flood and drought occur simultaneously almost every year making agriculture highly vulnerable and unstable.

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