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An Appraisal Of Socio-Economic Constraints Of Horticultural Crop Production In Baruipur Block In South 24 Parganas (West Bengal, India)

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Abstract

Horticulture makes a substantial contribution to society by offering nutritious foods, vitamins, and minerals, as well as leisure activities. The horticulture sector in the Baruipur block faces numerous obstacles and limitations in terms of production and marketing, just like most of the agricultural sector there. Low farm output, low productivity, production swings, and subpar product quality continue to be hallmarks of horticultural farming. Hence, the present study is undertaken to evaluate the major environmental and physical constraints of horticultural crop production in Baruipur block in South 24 Parganas of West Bengal in India. Face-to-face interviews, quick assessments of rural areas, and a review of relevant literature were all used as data collection techniques. 150 agricultural homes in the sub division were surveyed to gather the data. Both qualitative and quantitative analysis were performed on the data. Descriptive statistical analysis was used, such as frequency tabulations. Results of the analysis showed less erratic monsoon or the distribution of rains is not as per the requirements is the prime constraints of horticultural production in the study area, followed by unsuitable climate and soil erosion are considered as second and third major constraints respectively. Application of nitrogen and phosphorus to soil is a persistent problem for horticulture's soil fertility in the study area. Even though organic farming has been shown to be a low-cost technology for cultivating crops, some farmers in particular have found it difficult to market their products. Most farmers continue to use conventional seeds. The poor productivity and quality of farmers' output is one of their biggest problems. Some of these issues, like immigration law, trade protection, supply chain resiliency after the farm gate, land use, skill development and recruiting, and the promotion of health advantages, are outside the purview of Frontiers in Horticulture. One of the best methods to collaborate with regional horticulture growers to find solutions and encourage technology adoption is through a participatory-based approach. This strategy also makes sure that produced solutions are appropriate for their intended use and are simple to apply in commercial horticulture.

Keywords: Horticulture, Social constraints, Economic constraints, Enhance efficiency

Introduction

Fruits, vegetables, root and tuber crops, and other goods are all included in the broad category of horticulture (Liliane and Charles, 2020). The meteorological and edaphic conditions in West Bengal, India, are perfect for raising a variety of crop products. Furthermore, the entire economic potential of these horticulture crops remains unrealized (Haileab, 2017). Fruits and vegetables add diversity and nutritional value to the diet, balance nutrition, and protect the local population's marginalized communities from health issues brought on by vitamin and mineral deficiencies (Ali, 2008). Studies show that most of the fruits and vegetables that are commonly grown in Baruipur are grown primarily for the local market. Possessing an abundance of opportunities and resources is insufficient unless study, research, and training are carried out to properly utilize those enormous resources (Darling-Hammond et al., 2020). About half of horticulture products are lost because of subpar post-harvest processing, even if financial and human resources are devoted to numerous agronomic scientific research projects (Olayemi et al., 2010). According to Olayedemi et al. (2010), the primary causes of post-harvest damages and environmental degradation in horticultural crops include improper post-harvest handling, microbial infections, insect and disease pests, crop perishability, and environmental factors like temperature, solar radiation, ventilation, and so forth. Harvesting, handling, storing, processing, packing, transporting, and selling are some or all the post-harvest activities that lead to it (Zenebe et al., 2015).

The production, productivity, and marketing strategies of horticulture commodities heavily depend on factors related to horticulture cultivation. Because horticultural products are by their very nature highly perishable, a variety of issues in the research domains are related to the different stages from crop cultivation to crop selling. Because horticultural products are by their very nature highly perishable, several issues arise in the research region that are linked to the various activities involved in farming from crop sale to agricultural production. It is crucial to identify the constraints on horticulture crop yield and output in the Baruipur area. Prioritizing the formulation of the problem over the search for answers requires a thorough understanding of what is known, what can be done, and what the farmers in the block really do. Although the zone is ideal for horticulture crops with a focus on the market, the sector's productivity and survival are hindered by limited access to markets, current technology, and optimized diversity (Mekonen, 2012).

Horticultural farming and commercialization are associated with several challenges. Because of this, scholars have been interested in studying horticultural farming-related topics. To assess the productivity and capacity constraints of horticulture crop production and distribution for users in the Baruipur block of South 24 Parganas, India, this study was taken into account.

Materials and Methods

Present study is carried out in Baruipur block of Baruipur sub-division. A total of 50 households were selected randomly in the study area. The study was carried out between September 2023 to January 2024. All the questions were prepared in Bengali language for better understanding of the farmer. A structured questionnaire was prepared to collect the information of socio-economic constraints from the farmers in the study area. A descriptive analysis was performed to analyze the survey data.

Results

Social constraints

More than 70% of the assets are marginal or minor holdings, which are smaller than one hectare. The limited number of properties is a result of various socio-cultural and economic factors, including inheritance legislation. The fields are also scattered and broken up. Small holding sizes and dispersed fields are incompatible with contemporary agricultural methods. The Low Social Status of Agriculture is not seen as a noble or respectable career in many regions of India. Cities and villages exchange people and goods on a regular basis. This fast urbanization has led to the emergence of slums, ghettoes, and shanty colonies. More than 90% of farmers have brought up this issue. The true problem in farming areas is that two-thirds of the population depends on agriculture for their main source of income. As a result, the agricultural sector is experiencing extreme strain due to the growing population. Among farmers, more than 28% have brought up this concern. A vast number of horticulture growers produce a variety of horticulture crops. However, they produce horticulture crops randomly since 44% of them don't know enough about horticulture cultivation planning. The entire study area experiences regular and costly flooding due to heavy rainfall. Horticulture is among the many crops that are generated as a result. More than 52% of farmers have expressed a similar predicament. Approximately 62% of farmers in the study area reported having awareness issues (Table 1). One major problem in horticulture farming is the absence of education. Conventional horticulture management tactics and processes are employed by about 42% of farmers, who are illiterate and impoverished. It was found that 38% of horticulture farmers in the research area are unable to store their crops in a distribution center. The crops are suffering greatly from the extremes of heat and cold.

Table 1: Social constraints of horticultural farming in Baruipur block

Particular	Number of cultivators	Percent to Total
Small size of holdings	38	76.00
Overcrowding	14	28.00
Lack of planning	22	44.00
Improper management	26	52.00
Knowledge and awareness	31	62.00
Takes with pesticides	19	38.00

N = 150; Data source: Field Survey

Economic constraints

An essential component of every marketing plan is transportation. A product's effectiveness is increased by transportation since it makes it possible to convey it to areas where it is required or consumed. There are several means to ship fruits and vegetables, including load, auto, tempo, bullock carts, and bus tractors. The main modes of transportation are automobile and tempo. High transportation expenses, inadequate, impassable rural approach roads, and a lack of adequate and effective transportation were mentioned by about 12% of farmers. Lack of transportation is one of the biggest problems horticultural farmers faces. The lack of sophisticated transportation equipment makes it exceedingly challenging for farmers to deliver their horticultural products to the market's storage facilities. Horticultural items take longer to reach the market as a result. Over 12% of farmers have shown concern about this issue.

The South 24 Parganas district's susceptibility to cyclones and floods limits agricultural activity. The study region's economy is suffering because of farmers not receiving significant advantages. Their investment in this venture is not substantial. More than 85 percent of farmers have brought up this issue. Agricultural activity is restricted in the South 24 Parganas district since it is susceptible to floods and cyclones. The study region's economy is suffering because of farmers not receiving significant advantages. Their investment in this venture is not substantial. More than 8 percent of farmers have brought up this issue (Table 2). Furthermore, 10.67% of respondents stated that one of the main economic obstacles in the research area is the high cost of pesticides and seeds.

Table 2: Economic constraints of horticultural farming in Baruipur block

Particular	Number of cultivators	Percent to Total
Inadequate transportation	12	8.00
Lack of capital	16	10.67
Marketing	18	12.00
Inadequate irrigational facilities	14	9.33
Labour	19	12.67
Lack of reliability	9	6.00
High prices of seeds and pesticides	20	13.33
Price volatility	15	10.00
Problem of plant or crop protection	12	8.00
Absence of agro-based industry	15	10.00

N = 150; Data source: Field Survey

Technological constraints

Approximately one-third of farmers employ traditional farming methods. There isn't any existing horticulture land in the research region. Additionally, the study area lacks adequate planning in several areas, which may encourage farming. More than 34.00 percent of farmers have expressed their understanding of the challenges facing horticultural farms. The research region's horticultural crops depend on irrigation water, which is dependent on electricity production. Thus, a lack of energy is the primary problem with growing horticultural crops. More than 16.67% of farmers have voiced their concerns regarding over dependence of traditional crops of horticultural farms (Table 3). Issues with selling, collecting, and the availability of other farm goods arise from large stocks in a few crops. In addition, farmers will abuse groundwater and irrigation resources if farm production is skewed toward horticultural crops, which will lead to a host of other problems. More than 22% of farmers have brought up the sustainability problem of the horticultural farm.

Table 3: Technological constraints of horticultural farming in Baruipur block

Particular	Number of cultivators	Percent to Total
Lack of research centre	52	34.67
Lack of power supply facility	40	26.67
Over dependence on traditional crops	25	16.67
Sustainability problems	33	22.00

N = 150; Data source: Field Survey

Market related issues and constraints

Storage systems in the horticultural marketing sector are dreadfully inadequate. Farmers are forced to sell their final goods as quickly as feasible. Because they can do so, they are able to offer enough storage space for their commodity or service. Additionally, marketing for horticulture involves more steps than marketing for other farm goods. The distribution process involves numerous middlemen in addition to the manufacturer and the consumer. 16.67% farmer reported that lack of reliable and upto date market and 18.67% inadequate storage facility is the major constraint in the study area (Table 4). 12.67% farmer reported that price fixation another constraint for horticulture production in the study area.

Table 4: Market related issues and constraints of horticultural farming in Baruipur block

Particular	Number of cultivators	Percent to Total
Lack of reliable and upto date market	25	16.67
Grading ad standardization facilities	17	11.33
Inadequate storage	28	18.67
Minimum support price	36	24.00
Many middleman	25	16.67
Price fixation	19	12.67

N = 150; Data source: Field Survey

Summary and conclusion

Several problems beset the agricultural sector in the research region. The agricultural industry in this region has many problems in addition to achieving self-sufficiency in agricultural products, given its location in a flood-prone area of West Bengal state (Kundu and Mandal, 2020; Kundu et al., 2020). Many elements influence each dilemma's intensity, such as the economic and geographic conditions of horticultural growers. Horticulture faces several challenges, such as inadequate funding, a shed, illiteracy, inadequate knowledge of horticulture keeping, and incorrect crop care. A lack of organization, a lack of precise and current market information, inadequate facilities for grading and standardization, inadequate storage, an excessive number of middlemen, unethical actions in the market, and price manipulation are some of the difficulties facing the marketing of horticulture farms. The dearth of adequate market centers is a serious problem for the horticultural industry. Horticultural landowners in the Baruipur block confront several major social challenges, some of which include inadequate transportation, insufficient funding, labor, rising prices, insufficient crop insurance schemes, lack of special pesticides, insufficient credit facilities, lack of an agro-based industry, poor management for vegetable production, inadequate water management, illiteracy, traditional approaches, and shortages of market.

The Baruipur block ought to collaborate with the foundation, which created technologies like tissue culture, which is critical to the advancement of horticulture. It is imperative that farmers receive scientific training on cultivating horticultural crops, especially the very profitable guava and mango. It is necessary to establish some model orchards based on biophysical characteristics. Farmers will gain from this by getting practical knowledge about growing mangoes, guavas, and bananas. Additionally, it has been determined that the research region's trends in crop concentration, crop combination, and crop diversification are significant. Some of the problems that have been noted in horticulture farming in the Baruipur block are lack of capital, shed, inadequate knowledge of horticulture keeping, lack of education, numerous middlemen, malpractices, price fixing, inappropriate water management, illiteracy, traditional methods, and absence of market facilities.

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