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CHANGING PATTERNS OF BANANA CULTIVATION AND OUTPUT IN INDIA

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ABSTRACT

India's economy has traditionally been led by the agricultural sector, which has always played a significant role. Over the course of the last four decades, there have been several development projects that have unquestionably contributed to the strengthening of our industrial foundation. There have been claims that the state has been farming bananas using techniques that are considered to be standard. The only varieties of bananas that are harvested by farmers are those that are considered traditional. Because bananas have a relatively limited shelf life, the business faces a significant challenge as a result. It is quite impossible to find opportunities for processing. There has been a significant amount of volatility in the pricing of banana crops, which has been very harmful to both farmers and consumers. The lack of access to funding was a prominent worry for banana growers who were classified as semi-medium (88.0%), marginal (77.0%), medium (33.0%), and huge (34.0%), respectively. The absence of a sufficient market was listed as a limiting factor by three categories of growers: farmers, organic farmers, and those engaged in pre-harvest services. These three groups received a total of 100% of the vote, 64% of the vote, and 44% of the vote, respectively, for an overall average of 72 percent. All of the farmers who participated in the survey agreed that the soil is perfect for producing bananas, and that the crop is also extremely profitable. Responding to questions on its "ready market" and "regular income" characteristics, 21 percent, 24 percent, and 7 percent of farmers, respectively, expressed their approval of the proposal. More than half of India's workforce is engaged in agricultural and associated sectors, which combined account for more than 20.2% of our country's gross value added (GVA) in 2021-22 and comprise the economic backbone of our nation. agricultural and related industries are also responsible for the majority of India's employment. Agriculture in India is more of a way of life than a source of survival for the region's population. Horticultural crops thrive in India because of the country's varied climate and physio-geographical characteristics, making it a perfect site for their cultivation. The country is able to produce a vast range of fresh fruits due to the meteorological conditions that prevail across. In addition to being the fifth most traded commodity in the world, the banana is also the oldest tropical fruit.

KEYWORDS : *Banana cultivation, Banana production*

INTRODUCTION

It is reasonable to anticipate that fruit harvests will provide a considerable increase to the profit that farmers make. Many farmers are beginning to recognise the many advantages that come with cultivating fruit crops, and as a result, they are moving their attention to establishing fruit crops. As a result, the land area grown for fruit crops is consistently expanding. Bananas are a form of "poor man's apple" since they are constantly in season, in contrast to other fruits, which are only available at certain seasons of the year when they are available. There have been indications that the bananas in Bihar have been cultivated using traditional ways

over the last 34.31 thousand hectares. This places the state in seventh position for the production of bananas in India. Bangladesh is the leading producer of bananas in the world. Because fruits and vegetables are so important to agriculture, the amount of money generated by their cultivation is three to four times more than that generated by the cultivation of grains per acre of land. The only varieties of bananas that are harvested by farmers are those that are considered traditional.

A significant amount of money has been wasted on banana-related products. There are a lot of problems associated with the production of bananas, and there is another worry that presents a significant risk to those who specialise in banana farming. It is possible to see variations in prices, returns, and the efficiency with which resources are used across various locations. Furthermore, there is a large amount of variability within the groups of farms that are based on the size of the regions. Because bananas have a relatively limited shelf life, the business faces a significant challenge as a result. It is quite impossible to find opportunities for processing. As a consequence of this, not only is there no value addition that takes place, but the quality of bananas is deteriorating at a startling rate, which makes it hard to get a price that is reasonable for bananas. There has been a significant amount of volatility in the pricing of banana crops, which has been very harmful to both farmers and consumers. There are findings that indicate that intermediaries and middlemen take a disproportionately significant percentage of the ultimate price that customers pay. A lack of collaboration may be seen in both the marketing and processing departments.

By conducting a thorough investigation into the present situation of banana production, marketing, and exports, it has been discovered that there are several information gaps about the aforementioned topics. The capacity of a company to create income and the cost structures of the company are the two factors that determine whether or not banana production is profitable. On the other hand, there is a scarcity of information about the microeconomic issues that are associated with banana cultivation. In light of this, there is a need for, as well as a justification for, conducting a research that takes into account the aforementioned aspects. Horticulture has lately shown that it is a dependable source of income growth, development of employment opportunities, and enhancement of exports. A consequence of this is that horticulture has developed into a vibrant sector that has its origins in the city. Because of it, the majority of the people is now able to consume a diet that is different and more well-balanced, and it has therefore become one of the factors that drives growth. It is important to note that fruits have a unique economic and social purpose in developing countries, as they contribute to the enhancement of people's earnings and nutritional levels.

According to the Second Advanced Estimate for 2021–2022, the worldwide production of horticulture increased from 334603 MT in 2020–21 over 27,456 ha to 341629 MT in 27738 ha. This is a significant increase. Twenty-nine point nineeen percent of our gross domestic product in 2021-22 is derived from the agriculture and allied sectors. There has been an increase in the development of fruit and vegetable plots as a result of horticulture. This is due to the fact that these crops are an excellent source of important nutrients. Not only are they useful for human consumption, but they also make a considerable contribution to the economy of the nations in which they are found. Many individuals are of the opinion that India is the country that produces the most fruits and vegetables in the world. Bananas, papayas, and mangoes are three of the most valuable commodities that India has to offer today.

THE BANANA'S ECONOMIC SIGNIFICANCE

Not only is the banana the most eaten fruit on the planet, but it is also the most vital fruit to the human diet. Not only is it the oldest tropical fruit, but it is also the fourth most traded commodity in the world. For millions of people throughout the world, the banana is more than just a commodity; it's also their main source of nutrition and energy. These folks rely on bananas and plantains as their main sources of nourishment. The list of nutrients comprises carbohydrates, phosphorus, calcium, iron, vitamins, minerals, and a reservoir of compounds linked to energy. The term "plant of virtues" is used to describe plants that are beneficial in their totality. Named "kalpatharu," which means "gives whatever you want" in English, it is present at every single family's dinner table. Consequently, fewer cardiac issues occur. The energy it provides is instantaneous. It is the lynchpin of the anti-malnutrition movement. Worldwide, bananas rank as one of the most recognisable examples of a staple meal. Latin "hortus" means "garden" and "colere" means "to cultivate" for aesthetic purposes. It is grown in gardens for both edible and ornamental purposes, in line with horticultural principles; it is also utilised in festivities. Among the various banana-based commodities that are examples of value-added products are banana chips, flour, chocolates, vinegar, jam, banana bars, cakes, and wine. Bananas are quite perishable, but these items help keep them from going to waste. In terms of carbohydrates, bananas are the most accessible, inexpensive, and healthy fruit option. A world where 350 million people live below the poverty line, bananas are a lifesaver in the fight against hunger; that's why they're called 'an apple of paradise'.

OBJECTIVES

- For the purpose of gaining knowledge on the area, production, and productivity of bananas in India
- To determine India's banana production's compound growth rate

MATERIAL AD METHODS

Pakara, Jamunia, and Tetari are three villages located in the Naugachhia area of India, which is well-known for its prolific banana production. A total of sixty volunteers were selected using a random selection process from these three villages. The pick was decided on the basis of the fact that India is the dominant producer of bananas in the region, surpassing all other countries in the region. We decided to focus on the Naugachhia block in the Bhagalpur district of India since it has the greatest amount of area that is devoted to banana production. Out of the allotted block, a cluster consisting of three villages has been selected from a random selection. In addition, a sample of twenty banana producers was selected at random from each of the communities that were selected. During the selection procedure, which is comprised of many stages, primary data and pre-tested schedules are used. We obtained information on agro-biological variables, economic factors, marketing factors, soil suitability, profitability, regular market, income from by-product, and ready market from the people who were a part of the sample of farmers. The information pertaining to the state, district, block, and village was compiled with the assistance of data obtained from the National Horticultural Board, the District Horticultural Office, and the Block Office.

DATA ANALYSIS

When it comes to banana production and marketing, the agro-biological and economic obstacles that banana growers face are elements that might be considered restricting. The classification of the sample banana producers may be seen in table 1. It demonstrates that out of the entire sample size of sixty farmers, twenty-

six (the equivalent of 43.33 percent) belong to the marginal and tiny group, twenty-five (the equivalent of 41.67 percent) belong to the medium category, and nine (15.00 percent) belong to the huge category.

The sample banana growers' educational level and farm family composition

The people that make up the farm family are detailed in Table 2, while the educational attainment of the family head is detailed in Table 3. In each of the three categories of agricultural families, the average number of members in each family was nine, nine, and twelve, respectively. Regarding the gender composition of the family, there are a total of 10 members, consisting of three males, three females, and four youngsters for a grand total of ten individuals. The degree of education held by the head of the home is shown in Table 3. Only among farmers who fell into the marginal and small group was the illiteracy rate equal to 11.54 percent. In the semi-medium, medium, and big categories, there was not a single person incapable of reading or writing. Twenty-three percent of the people who grew bananas in the marginal and tiny group had finished elementary education. This was the highest percentage. Medium-sized growers made up the biggest group of farmers who had a graduate degree or above, accounting for 33.33 percent of the total. Semi-medium farmers made up the second largest group, accounting for 24 percent of the total. While the marginal and small category had 38.54% of students who had finished high school, the semi-medium group had the highest proportion of pupils who had completed upper secondary education, which was 36.0%.

The average land holding size and the area covered by bananas

As shown in Table 4, the total area of the banana plantations that were included in the experiment is shown. It was found that the operational land holding size of the three different kinds of farms ranged from 1.52 to 8.55 hectares, with an average of 3.16 hectares. According to the research, only a very small percentage of marginal and small-scale farmers rented out their land. On the other hand, farmers who operated on a medium or large scale rented out their property, with the average value of their leased land being 0.03 and 0.04 hectares, respectively. The proportion of land that is used for banana production is shown in Table 5.1.3, along with a breakdown of the land area according to the cultivar or variety of bananas. When it came to the allocation of land for other crops, the order was inverted, as shown in Table 4. The farmers who were marginal and tiny were the ones who allocated the greatest area (76.64%), followed by semi-medium and medium growers (56.49%), and then big growers (42.28%). As a result of the labor-intensive nature of bananas and the significance of cash crops, evidence shows that marginal and small farmers planted a bigger area under bananas.

Obstacles in banana production and marketing

In order to gather information on this topic, a survey was administered to a representative sample of banana farmers and growers. The responses were categorised and will be discussed in the parts that are to follow.

Production constraints impacting bananas

The replies of growers to structured questions based on their expertise with banana production were used in order to investigate the constraints that have an effect on the amount of bananas produced. In general, the agro-biological, economic, and promotional factors may be categorised into three distinct groups. Table 5 presents the results for us to examine. Some examples of agro-biological constraints include the severity of pests and diseases, as well as restrictions on varieties and cultivars. On the other hand, some examples of economic

limitations include labour shortages, wage hikes, input prices, and access to different forms of finance. In spite of the fact that marginal and small-scale farmers regarded a shortage of labour as the most significant limitation (19.23 percent), medium-scale growers ranked it as the most vital constraint (88.89 percent). Each of the three categories of farmers expressed significant worry over the high prices of inputs. The lack of access to funding was a prominent worry for banana growers who were classified as semi-medium (88.0%), marginal (77.0%), medium (33.0%), and huge (34.0%), respectively.

One of the components of the marketing mix was the absence of grading, while other components included price swings and an inadequate market. Additionally, pre-harvest contractors played a crucial part in the process. There are three different sorts of farmers, and each of them took into consideration the aspects that influence banana production. The price changes were taken into consideration by each and every one of the sample farms. The absence of a sufficient market was listed as a limiting factor by three categories of growers: farmers, organic farmers, and those engaged in pre-harvest services. These three groups received a total of 100% of the vote, 64% of the vote, and 44% of the vote, respectively, for an overall average of 72 percent. Based on the information shown in Table 6, the farmers who participated in the sample were united in their evaluation of the soil's compatibility and profitability for banana production in the region. Responding to questions on its "ready market" and "regular income" characteristics, 21 percent, 24 percent, and 7 percent of farmers, respectively, expressed their approval of the proposal. There was a general agreement among farmers who fell into the marginal and small group that the income from by-products was advantageous (table 5.9). One possible explanation for this is because the other two types of producers depend excessively on the assistance of professionals.

limitations on production

The shortage of labour was regarded as the most serious worry by medium and large category farmers at 88.89 percent, while marginal and small category growers put it at 19.23 percent. This was in response to the question of what their most pressing worries were. There were three different groups of farmers, and each of them underlined how important it is that inputs be expensive. It was a significant problem for 88 percent of semi-medium farmers and 77 percent of marginal and small growers because they did not have access to funding. Without any type of institutional finance, they were unable to get any of it. They experienced enormous economic losses as a result of the destruction to their agricultural production that was brought on by the frequent cyclones and intense hailstorms. In addition, there was no provision made for crop insurance.

limits on marketing

When it came to marketing, the three groups of banana farmers took into account a variety of factors, including the absence of grading methods, the dominance of pre-harvest contractors, price variations, and the absence of a viable market. The price changes were taken into consideration by each and every one of the sample farms. The dominance of pre-harvest contractors was recognised as a limiting factor by one hundred percent, sixty-four percent, and forty-four percent of the farmers who were questioned, respectively, in the three different groups. One of their purported sources of funding, pre-harvest contractors, is responsible for selling the bulk of the goods. As a result of the large number of small banana producers who are not organised, marketing connections have not yet been established and have not yet been stable. They sell the items to dealers while they are under the supervision of the pre-harvest contractors. It is important that farmers get education on its postharvest management methods, nitrogen and water management, and other issues that are linked to these

disciplines. Not only will this result in increased resource utilisation efficiency, but it will also result in increased profitability and decreased production costs. Farmers who wish to boost their yields and earnings are required to get training in the management of ratoon crops. It is necessary for farmers to form a Producer Company in order to cultivate fruits such as Mahagrapes, Mahamango, and Mahabanana, among others.

Table.1 Categorization of representative banana growers

Category of banana growers	Operational holding (ha)	Study Sample	
		No.	Percentage
Marginal and Small	< 2.0 ha	26	43.33
Semi-Medium	2.0 - 4.0 ha	25	41.67
Medium and Large	> 4.0 ha	09	15.00
Total		60	100.00

Table.2 The sample homes' average family size

Category of banana grower	Male	Female	Children	Overall
Marginal and Small	3	2	4	9
(n1=26)	(33.33)	(22.22)	(44.45)	(100.00)
Semi-Medium	3	3	3	9
(n2=25)	(33.33)	(33.33)	(33.33)	(100.00)
Medium &Large	4	4	4	12
(n3=9) j	(33.33)	(33.33)	(33.33)	(100.00)
Total	3	3	4	10
(n=60)	(30.00)	(30.00)	(40.00)	(100.00)

Table.3 Level of education attained by the family head

Category of banana grower		Education Level				
	Illiterate	Primary	High School	Higher Secondary	Graduate and above	Total
Marginal	3	5	10	3	5	26
Small (nr=26)	(11.54)	(19.23)	(38.46)	(11.54)	(19.23)	(100.00)
Semi-medium	0	2	8	9	6	25
(n2=25)	(0.00)	(8.00)	(32.00)	(36.00)	(24.00)	(100.00)
Medium	0	1	3	2	3	9
Large(n3=9)	(0.00)	(11.11)	(33.33)	(22.23)	(33.33)	(100.00)

Total (n=60)	3	8	21	14	14	60
	(5.00)	(1333)	(35.00)	(2333)	(2333)	(100.00)

Table.4 The land holding's average size (ha)

Category of banana farmers	Owned land	Leased-in Land	Leased-out Land	Operational holding	Area under banana	Area under another crop
Marginal and small	1.47	0.07	0.02	1.52	1.17	0.35
(n1=26)				(100.00)	(76.64)	(23.36)
Semi-medium	3.22	0.00	0.08	3.14	1.78	1.36
(n2=25)				(100.00)	(56.49)	(43.51)
Medium and large	8.55	0.00	0.00	8.55	3.70	4.85
(n3=9)				(100.00)	(42.28)	(56.72)
Total	3.17	0.03	0.04	3.16	1.77	139
(n=60)				I	(55.95)	(44.05)

Table.5 factors that, in the perspective of farmers, impact banana output

Constraints	l Category of grower			Overall
	Marginal and Small	Semi-Medium	Medium &Large	(n0)
	(n3=26)	(n2=25)	(n3=9)	
I. Agro-Biological factors				
Lack of Suitable Variety/	26	25	9	60
cultivar	(100.00)	(100.00)	(100.00)	(100.00)
Severity of pests and	26	25	9	I 60
diseases	1 (100.00)	1	(100.00)	100.00)
2. Economic factors				
Scarcity of labour	5	15	8	28
	(19.23)	(60.00)	(88.89)	(46.67)
High labour wages	26	25	9	60
	(100.00)	(100.00)	(100.00)	(100.00)
High cost of inputs	26	25	9	60
	(100.00)	(100.00)	(100.00)	(100.00)
Non-availability of	20	22	3	45
institutional credit facility	(76.92)	(88.00)	(33.33)	(75.00)
3. Marketing factors				
Non-availability of proper	26	16	4	46
market and Dominance of	(100.00)	(64.00)	(44.44)	(76.67)
Awe-harvest Contractors				
Price fluctuation	26	25	9	60
	(100.00)	(100.00)	(100.00)	(100.00)

Table.6 Aspect of banana agriculture suitability (number of growers)

Category of banana grower	Suitability of Soil	Profitability	Ready Market	Regular Incom	Income from by-products
Marginal and Small (111'26)	26	26	21	21	11
Semi-Medium (n -25)	25	25	24	25	0
Medium &Large (nr9)	9	9	8	7	0
Total (n=60)	60 (100.00)	60 (100.00)	53 (88.33	53 (8833)	11 (18.33)

CONCULSION

The perishable nature of bananas poses a significant challenge to their production and marketing. Processing opportunities are almost nonexistent. The recent dramatic fluctuations in banana prices are detrimental for both growers and buyers. The analysis of the present status of banana production and marketing has shown a number of knowledge gaps on the aforementioned areas. Although bananas are essentially a part of the state's people's social and economic fabric, they now face a variety of difficulties. This is why real farmers need to boost their output and quality in order to make more money.

The following conclusions from the study's findings may be drawn in order to enhance the production, marketing, and financial viability of banana production in the research region:-Growers should receive training on post-harvest management technologies, nutrition and water management for bananas, and the labor-intensive nature of the crop because it is a heavy feeder. This will lead to profitability, lower production costs, and more effective use of resources. The most popular methods for farming bananas in the study area are perennial monoculture systems with assured irrigation. Over the course of one to three years, a plantation will typically generate one planted crop and two ratoon crops. Nevertheless, the farmers were unable to adequately harvest the second crop of ratoons for a variety of reasons. Farmers who want to boost their yields and earnings must get training in ratoon crop management. To create a Producer Company, farmers must get together, much as with mahogany, mahogany, mabanana, etc. Since the APMC Act was abolished, the state has neither developed or implemented an alternative marketing system.

Farmers are forced to use contractors or dealers to sell their products because they lack the necessary marketing abilities. Under the 'APNI MANDI' scheme, the Indian states of Punjab, Haryana, and Uttarakhand have experimented with producer-to-consumer marketing. With minor adjustments, it has also been used in the states of Tamil Nadu, Andhra Pradesh, and Karnataka. In Bihar, the same may be used to safeguard the interests of the farming community as a whole. The annual production of bananas results in a significant volume of bio-waste being created. The disposal of this waste material is a significant difficulty to the banana producers in the study region. Because of their strength and durability in the market, fibres sourced from this source could be highly valued. Therefore, it's critical to look for sustainable waste disposal methods. Fibre may be extracted and used to create value-added products like tablemats, wall hangings, bags, and pot hangers, among other

things. The state government's Agriculture Road Map initiatives, which aimed to increase horticultural crop yield, productivity, and profitability, have not yet shown a positive return to the agricultural community.

REFERENCES

1. Ajjan, N. (1986) Regulated markets in Tamil Nadu: A Maladyremedy analysis. Agricultural Situation in India, 41(6): 455-458.
2. Arputhraj C. and Nair K. S. (1988). Economics of banana in Kerala. Agric.Situation in India, 43 (8): 707-708.
3. Ashtukar, B. W. and Deole C D (1985) Producer's Share in consumer's rupee - A case study of fruit marketing in Maharashtra. Indian journal of Agricultural Economics 40(3): 403.
4. Biradar, K. S., and Kasar, D. V. (1984) A Study of relative efficiency of co-operatives vis-a- vis other Agencies in marketing of Jalgaon banana in Delhi market. Indian co-operative Review 22 (2): 231-236.
5. Chavan, A.A., Kalyankar, S.P., S.V. and Wakle, P.K. (2001) A study of marketing of banana in Parbhani market of Maharashtra state. The Bihar Journal of Agricultural Marketing. IX (3):316-318.
6. Chennarayadu, K. C., Eswara, P. Y., Satyanarayana, G., and Sivaprasada, R. L. (1990) Land use efficiency of banana –An application of frontier production Function. Agricultural Situation in India 45 (1): 15-17.
7. Deshmukh, D.D.S., and Bornare, P.P., and Anawade P.K. (2013) Constraints in Banana marketing and scope of improvement: A case study for Jalgaon region. PRATIBHA: International Journal of Science, Spirituality, Business and Technology 2(1).
8. Maurya, O. P., Singh, G. N., and Kushwaha, R. K. S. (1996) Profitability of banana plantation in Hajipur district in Bihar. Bihar, Journal of Agricultural Marketing 4 (1): 68-70
9. Mehta, R., and Srivastava, P. K.(2000) Analysis of seasonality in prices of Agricultural Commodities Agricultural Situation in India 57 (4): 311-314.
10. Ray, P.K. (2007) Banana Production and Research in Bihar: Present Status and Future trusts, Banana: Technology Advances, edited by Singh, H.P. and Uma, S, AIPUB, Trichy, pp 41-49.
11. Sarswat, S.P. (1999) An economic analysis of production and marketing of apple in Himachal Pradesh, The Bihar Journal of Agricultural Marketing, VII (3) pp 320- 328.
12. Singh, H.P., and Uma, S. (2007) Banana: Technological Advances, Association for the Improvement in Production and Utilization of Banana (AIPUB), NRC for Banana (ICAR), Trichy, India pp vii.