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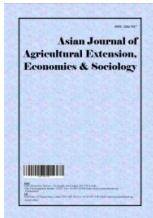
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## **A Study on Production and Marketing Constraints of French Bean (*Phaseolus vulgaris* L.) Growers in Bishnupur District of Manipur**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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### **ABSTRACT**

The study was conducted to analyze the production and marketing constraints of French beans in the Bishnupur district of Manipur. The primary data was collected through a personal interview technique from 100 respondent farmers. Garrett's ranking technique was used for the analysis. Higher cost of labor, pesticide and fertilizer, inadequate irrigation facilities, high seed cost, non-availability of labor, credit, and seed on time, and lack of technical guidance and credit facilities were the main constraint's found during the production. In case of marketing constraints, price fluctuation high perishability of the produce, high transportation cost and lack of transportation and storage facilities, presence of an exploitative middleman, bandhs and strikes, untimely payment of sale, lack of price and market information, and absence of regulated markets were the major constraints. These constraints are giving huge hindrances to the farmers during the production and marketing and hence proper remedies should be imposed so that the production and marketing of this particular crop can be improved efficiently.

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## 1. INTRODUCTION

Pulses play a very important role in the food and nutritional security of India. They are rich sources of proteins, vitamins, and minerals and are popularly known as "Poor man's meat" and "rich man's vegetable". It can be grown on a wide range of soil and climatic conditions and play an important role in crop rotation, mixed and intercropping, maintaining soil fertility through biological nitrogen fixation (30-150 kg ha<sup>-1</sup>) with the help of Rhizobium bacteria found in their root nodules, the release of soil-bound phosphorus, and thus contribute significantly to the sustainability of the farming systems as well as are a consistent source of income and employment to small and marginal farmers; and thus hold a premier position in the world agriculture. Our country produces over 200 million tons of food grains every year with an increase of four folds since independence. But, increased efforts to produce more food have increased tremendous shift in cropping systems towards cereal-cereal-based cropping systems. This has marginalized the pulses resulting in quantitative as well as qualitative degradation of productive base, land, and farm resource. The cultivation of vegetables in India is still an unorganized sector with farmers following traditional practices. Besides, the vegetable growers are not as well served by the agriculture extension system as the farmers growing food grains; and due to this productivity and production efficiency remains low [1].

French bean (*Phaseolus vulgaris* L.) belongs to the family Leguminosae is one of the most popular and widely grown vegetables in India. It is also named Common bean, Green bean, Dry bean, Kidney bean, and Navy bean. It is also an important pulse crop, with high yielding ability as compared to gram and pea. In the hilly region, it is grown during *Kharif* and in lower hills; it is sown as a spring crop. In northeast regions, it is cultivated during *rabi*. French bean being a traditional vegetable crop of the North-Eastern region, its cultivation is profitable crop farming [2]. It is mostly cultivated for vegetable purposes around the year except for the winter months (October - January). Tender pods are used as a vegetable and mature seeds are consumed as dal. But during the production and marketing of the farm produce, the growers might face many constraints. It is beneficial to understand and identify the constraint status of the growers

during the production and marketing of farm produces and help relevant stakeholders to formulate appropriate policies and programs which would lead to more production and productivity of crop farming. Therefore, the present study was conducted in the Bishnupur district of Manipur to analyze the constraints faced by the growers during the production and marketing of French.

## 2. METHODOLOGY

### 2.1 Sampling Design

The multi-stage purposive random sampling technique was used for the selection of district, block, villages, and respondent farmers.

### 2.2 Selection of District

The district Bishnupur was selected for the study as the district is the major French bean growing and producing area of the state.

### 2.3 Selection of Block

The district has three blocks viz. Bishnupur, Nambol, Moirang, and among the three blocks, Bishnupur block were selected purposively for the study.

### 2.4 Selection of Village

From the list of all the villages of Bishnupur block, four villages viz. Toubul, Kwasiphai, Khoijuman, and Ngaikhong Khullen were selected randomly by using simple random sampling.

### 2.5 Selection of Respondent Farmers

A sample size of 100 which consists of 35 farmers from Toubul, 30 farmers from Khoijuman, 18 farmers from Ngaikhong Khullen, and 17 farmers from Kwasiphai was selected for the study by adopting simple random sampling under proportional allocation.

#### 2.5.1 Data collection

To fulfill the objective of the study, primary data have been collected through a survey method using pre-tested schedules. The secondary data were collected from different reports and

publications of the state government offices, journals, books, and reliable sources.

## 2.6 Data Processing and Analysis

### 2.6.1 Analytical tools

The Garrett ranking technique was used for the analysis of data and interpretation of results.

### 2.7 Garrett Ranking

Garrett's ranking technique was used to rank the constraints faced by respondents during the production and marketing of French beans. The constraints were ranked by using Garrett's ranking technique. The position of each rank is converted into scores by referring to tables given by Garrett and Woodworth. The mean scores for all the factors were ranked by arranging in descending order.

$$\text{Per cent position} = \frac{100(R_{ij} - 0.5)}{N_{ij}}$$

Where,

- $R_{ij}$  = rank given by  $i^{\text{th}}$  item by the  $j^{\text{th}}$  individual.
- $N_{ij}$  = number of items by the  $j^{\text{th}}$  individual.

## 3. RESULTS

### 3.1 Production constraints

The study aimed to analyze the production and marketing constraints faced by the growers of Bishnupur district of Manipur. The given Table 1 shows the constraints faced by the sample farmers during the production of French beans. The high cost of labor was found to be the most severe constraint with a mean score of 81.22. Farmers of the study area reported that high

pesticide and fertilizer cost was also one of the major problems for them as only the farmers with the stable economic condition can be seen affording it and maximum respondents were given the second rank with a score of 79.03. Around an average score of 74.21 and 71.39, French bean growing farmers reported that inadequate irrigation facilities and non-availability of labor on time as major constraints and were assigned as third rank and fourth rank, respectively and the findings are supported with Kumar [3]. With a score of 68.33, high seed cost was one of the most important constraints that ranked fifth. The sixth rank was assigned to non-availability of seed on time with an average score of 64.25. This might be due to the farmers either does not know about improved seeds or being unable to reach the desirable seeds. Around 51.36 average scores of the sample, farmers claim that non-availability of fertilizer on time that ranked seventh was the common problem faced by the farmers resulting in decreased yield. The study area, with the mean score of 43.23 and 37.05, were associated with the non-availability of credit on time and lack of technical guidance and were ranked on the eighth and ninth spot. Farmers claimed that lack of credit facilities was also a problem and ranked tenth with a mean score of 31.02 and this finding was supported by Fawole [4] and Okon [5]. The facilities such as schemes and subsidies were not received properly by the French bean growers in the study area as the farmers are lack knowledge about the availability of such facilities less contact with the extension workers and related departments.

### 3.2 Marketing Constraints

The perusal of Table 2 shows the constraints faced by the sample farmers during the marketing of French beans.

**Table 1. Constraints faced by the sample farmers during the production of French bean**

Sl. No.	Problems	Mean score	Rank
1	High labor cost	81.22	I
2	High pesticide and fertilizer cost	79.03	II
3	Inadequate irrigation facilities	74.21	III
4	Non-availability of labor on time	71.39	IV
5	High seed cost	68.33	V
6	Non-availability of seed on time	64.25	VI
7	Non-availability of credit on time	51.36	VII
8	Non-availability of fertilizer on time	43.23	VIII
9	Lack of technical guidance	37.05	IX
10	Lack of credit facilities	31.02	X

**Table 2. Constraints faced by the sample farmers during the marketing of French bean**

Sl. No.	Problems	Mean score	Rank
1	Price fluctuations	76.37	I
2	Highly perishable	71.42	II
3	Lack of transport facilities	69.11	III
4	High transportation cost	63.28	IV
5	Lack of storage facilities	57.90	V
6	Presence of exploitative middleman	52.34	VI
7	Bandhs and strikes	47.46	VII
8	Untimely payment of sale	41.58	VIII
9	Lack of price and market information	35.56	IX
10	Absence of regulated markets	29.34	X

Price fluctuation was ranked as the first major constraint with a mean score of 76.37. The second major constraint was the perishability of the produce with a mean score of 71.42. French bean is highly perishable; the quality of produce deteriorates after some time of their harvest, so the farmers have to market their products as soon as possible at the prevailing market price even if the price is very low. The third rank with the mean score of 69.11 was given to lack of transportation facilities. The farmers have to bring their produce to the local as well as wholesaler market and transportation posed a major problem as the transportation charge is high. High transportation cost and lack of storage facilities were ranked fourth and fifth with mean scores of 63.28 and 57.90, respectively and these findings are in line with Bala [6]. The presence of exploitative middlemen was ranked sixth with a mean score of 52.34. In the marketplace, the farmers are exploited by the middlemen by offering low prices. The farmers are compelled to accept the price offered by the middlemen as their bargaining power is weak. The farmers cannot negotiate since they may be denied even a low price and their products could be liable to rotting since it is perishable. Moreover, farmers could not keep their products for a long time because they did not have storage facilities. Bandhs and strikes, untimely payment of sale, lack of price and market information, and absence of regulated market were allotted seventh, eighth, ninth, and tenth ranks with mean score values of 47.46, 41.58, 35.56, and 29.34, respectively. This finding was supports with the findings of Krishnada [7] as the state has lacking behind of such facilities for marketing of farm products of agricultural and allied activities.

#### 4. CONCLUSION

Efficient production and marketing of farm produce is the key to profitable and successful

crop farming. This study analyzed the production and marketing constraints of French bean (*Phaseolus vulgaris* L.) growers in the Bishnupur District of Manipur. Among the major production constraints, high labor cost was found to be first rank followed by high pesticide and fertilizer cost at the second position. Inadequate irrigation facilities at the third rank and rest of all the constraints consequently. In the case of marketing constraints, price fluctuation was found as the highest rank followed by high perishability of the produce at the second position. Lack of transport facilities, high transportation cost, and lack of storage facilities was ranked as third, fourth, and fifth, respectively. These constraints are giving huge hindrances to the farmers during the production and marketing and hence proper remedies should be imposed so that the production and marketing of this particular crop can be improved efficiently.

#### 5. POLICY IMPLICATIONS

Based on the constraints, the following policy initiatives have been suggested:

1. Improved and hybrid varieties, new production and management techniques should be introduced.
2. Since the cost of inputs like seeds and fertilizers are high, farmers should procure fertilizers through cooperatives and public agencies.
3. Training program on the recommended package of practices of French bean production should encourage to the farmers by the related departments.
4. Financial institutions especially through microfinance could provide loans to the farmers at a reasonable interest rate and also awareness about credit supply to the farmers.

5. Proper marketing policies and programs should be implemented by the government as the study area lacking such facilities.

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## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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