Research Note
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PRODUCTION AND MARKETING CONSTRAINTS FACED BY THE CUCUMBER FARMERS IN BISHNUPUR DISTRICT OF MANIPUR AND SEPAHIJALA DISTRICT OF TRIPURA

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Cucumber (*Cucumis sativa L.*), a member of the family Cucurbitaceae, is regarded as an essential vegetable for fresh consumption worldwide and is a rich source of vitamins, minerals, and antioxidants. Cucumber is a low-calorie food, consisting of 90 percent water, which is why it provides superior hydration (Sallam *et al.,* 2021). Cucumber is a very popular vegetable worldwide (Liu *et al.,* 2021). The total cucumber production (including gherkins) in 2022 was 94,718,397 metric tonnes from 1.984 million hectares. However, cucumbers need to be marketed quickly because they are perishable and their prices fluctuate in the market. Consumer prices are high and unstable, while farmers only receive a small share of these prices and with farmers, there is no trustworthy source of market information (Kalita, 2017).In Manipur and Tripura, suitable agro-climatic conditions, which range from temperate to tropical and sub-tropical zones provide ample opportunity for its cultivation. Despite these inherent benefits, horticulture industry has only recently begun to show signs of growth. This is because, there is a significant gap between the technologies developed and its adoption. Another key reason for lagging in horticulture development is a lack of investment. Only 16 per cent of the region is under cultivation, and the total cropped area including area under multiple cropping doesn't exceed 22 per cent by 2013 (Dikshit *et al.,* 2014).Cucumber production is aided by certain inputs or resources that increase productivity. The productivity of cucumbers is enhanced by using the resources efficiently. Resource use efficiency differs from farmer to farmer due to various reasons may be access to inputs, socio-economic condition of the farmers, non-availability of suitable high-yielding varieties of seed, low, unbalanced, and untimely use of chemical fertilizers, irrigation, plant protection measures, technical knowhow, etc. These variations, combined with an inefficient use of various resources and constraints faced by the farmers, resulted in low productivity and lower returns,hence a study has been conducted to examine the constraints in attaining higher productivity and income level of cucumber farmers of Tripura and Manipur states.

The study was conducted in Bishnupur district in Manipur and Sepahijala district in Tripura in the year 2022-23. These districts were selected purposively, as they had more prospects in cucumber cultivation with the highest area. Two blocks i.e., Charilam Block in the Sepahijala district of Tripura and Bishnupur Block in the Bishnupur district of Manipur were selected based on the concentration of cucumber farmers. A total of four villages were selected purposively from

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two blocks, of which two villages were taken from each block *i.e.* Bishnupur block-Kwasiphai village and Nachou, and the other two villages *viz,* the Chesrimai, the Uttar Charilam were taken from Charilam block based on the number of cucumber growers. From each village 20 respondents were selected randomly. A total of 80 respondents were selected using the Simple random sampling technique. The constraints in practicing cucumber cultivation were enlisted from practicing farmers and literature. Further, all of the constraints that were found were divided into two categories: Marketing and Production constraints. The respondents were asked to rate the constraints on a five-point Likert Scale from very severe, quite severe, severe, not so severe, and least severe. The collected details were analyzed using Garrett's Ranking technique. The following is Garrett's formula for translating ranks to percentages,

Percent position= $100 \times (R_{ij}-0.5)/ N_j$

Where,

R_{ij}= rank given for i^{th} factor by j^{th}individual

N_j= number of factors ranked by j^{th} individual

It is important to understand the constraints faced by the cucumber farmers in order to increase their production and productivity. Constraints can give us a way to plan our policy for the betterment of the farmers. Garrette's ranking technique was used to identify and rank the constraints. The main advantage of this method over simple frequency distribution is that the limitations are ranked in order of respondents' perceived relevance.

Table 1 reveals that about 77.5 percent of cucumber farmers in Tripura and 35 percent in Manipur belonged to the marginal farm category (less than 1 ha land holding). Whereas, remaining 32.5 percent in Tripura and 65 percent in Manipur belonged to the small farm category. The overall literacy rate of cucumber farmers in Tripura was 82.43 per cent and in Manipur 76.08 percent. A literacy rate of 77.77 percent and small farmers of 80.75 percent. Table 1 reveals that out of 40 respondents in Manipur, 9 belonged to the small farming category and 31 belonged to the marginal farming category. The overall literacy rate of cucumber farmers in Tripura was 82.43 per cent and marginal farmers have a literacy rate of 87.09 percent and small farmers 77.77 percent.

In order to improve the productivity and output of cucumber growers, it is critical to comprehend the limitations they confront. We may design our policy to benefit farmers by using constraints as a guide.

The constraints faced by the farmers are categorized into the following different components.

1. Production constraints
2. Marketing constraints

Constraints related to the Production of cucumber in the study area

Different production problems faced by sample farmers are shown Table 2 and Table 3, which affected the yield and ultimately income of the cucumber farmers. In Manipur and Tripura, a major problem faced by farmers was due to lack of institutional and infrastructural facilities (Garrett mean score 70). It was reported by the farmers that they were not getting loans from the institutional agencies and the money was borrowed by them from the money lenders to purchase inputs for cucumber cultivation.

In Manipur, as indicated by the Garrett mean score of 68, the majority of the cucumber growers were not getting skilled labour in the production of cucumber cultivation due to

Table 1. Sample size of cucumber growing farmers in Tripura and Manipur n=80

S.No.	Particular	Farm category in Tripura			Farm category in Manipur		
		Marginal	Small	Overall	Marginal	Small	Overall
1	No. of Farm	31 (77.50)	9 (32.50)	40 (100)	14 (35)	26 (65)	40 (100)
2	Total Operational holding (Ha)	11.48	18.46	29.94	10.43	42.60	53.03
3	The average size of farm (Ha)	0.37	2.05	0.75	0.75	1.65	1.33
	Literacy rate	87.09	77.77	82.43	71.41	80.75	76.08
4	Farm workers						
	Female	52 (46.43)	54 (46.55)	106 (46.49)	51 (45.13)	56 (47.46)	107 (46.72)
	Male	60 (53.57)	62 (53.45)	122 (53.51)	62 (54.87)	62 (50.54)	122 (53.28)
5	Total worker	112 (100)	116 (100)	228 (100)	113 (100)	118 (100)	229 (100)

Figures in parenthesis indicate percentages

migration of skilled rural youth to cities for better wages and no local training or skill development programs, followed by high seed cost (Garrett mean score of 57) as quality hybrid seeds are costlier but not available locally at reasonable prices, which is one of the key inputs in the production of cucumber.

In Tripura, the majority of the cucumber growers (Garrett mean score 68) had high seed costs followed by a lack of skilled labour (Garrett mean score 55). Good quality crop is possible with good quality seeds at less cost of seed. The farmers were tempted to grow any seed that was available in the market as the good quality seeds were very costly and farmers were unable to afford that cost. It was opined by the cucumber growers that the cost of seed was high due to high demand and non-availability of seed in the market at the time of showing of cucumber. In Tripura and Manipur, it is indicated by the Garrett mean score of 50 that the cucumber farmers face challenges of high insects and pest attacks in the cucumber crop. The use of resistant varieties of cucumber may help in minimizing the risks that arise due to this problem to a greater extent. Awareness and training provided by the extension agencies in educating farmers about the usage of good quality seeds might help them in tackling this problem.

In Manipur and Tripura, the Garrett mean score of 47 and 45 respectively, shows that due to the unavailability of perennial sources for irrigation water, they could not provide enough irrigation to cucumber crops for better production. Garrett mean score of 45.7 and 47.61, respectively shows that the farmers were facing problems like the non-availability of PPC and fertilizers. Cucumber farmers also faced the problem of lack of awareness and

guidance in Manipur (Garrett mean score 32.75) and in Tripura (Garrett mean score 33.27). In Manipur and Tripura, farmers faced the problem of Poor productivity as reflected by Garrett mean score of less than 30.

Marketing problems in sample farms of cucumber production

The survey was conducted for sample farmers who sold their produce to understand the problems encountered while marketing cucumber (Table 2 and Table 3).

In Manipur, the majority of sample farmers faced the problem of unavailability of market yards (Garrett mean score 68) followed by high transportation costs (Garrett mean score 60.30) incurred by intermediaries which seems to be inevitable as the produce must be brought down from the place of production to the final consumers at the market level. In Tripura, respondents expressed a high transportation cost (Garrett mean score 72.6) followed by the problem of unavailability of market yards (Garrett mean score 61.56).

In Manipur and Tripura, Garrett mean scores of 54.35 and 48.16, respectively expressed a lack of storage facilities during the marketing of cucumber. The cucumber is

Table 2. Problems faced by farmers during the production of cucumber – Manipur

n=80

S.No.	Constraints	Categories of farmers (Garrett mean score)			
		Marginal	Small	Overall	Rank
A.	**Production Constraints**				
1.	Lack of Institutional and infrastructural facilities	69.65	70	69.82	I
2.	Unavailability of skilled labour	68.38	67.71	68.04	II
3.	High seed cost	57.46	57.71	57.58	III
4.	Incidence of pest attack	50.34	49.36	49.99	IV
5.	Non-availability of perennial sources for irrigation	47.15	46.64	46.89	V
6.	Non-availability of PPC and fertilizers	45.04	46.36	45.7	VI
7.	Lack of awareness and guidance	32.73	32.78	32.75	VII
8.	Poor productivity	29.23	29.428	29.32	VIII
B.	**Marketing constraints**				
1.	Unavailability of market yard	68	68.14	68.07	I
2.	High Transportation cost	60.54	60.07	60.30	II
3.	Lack of storage facilities	54.85	53.86	54.35	III
4.	No proper weighing system at the market	52.27	52.43	52.35	IV
5.	No support price	33.77	33	33.38	V
6.	Lack of market information	29.58	31.5	30.54	VI

Table 3. Problems faced by farmers during the production of cucumber – Tripura

n=80

S.No.	Constraints	Categories of farmers (Garrett mean score)			
		Marginal	Small	Overall	Rank
A.	**Production Constraints**				
1.	Lack of Institutional and infrastructural facilities	73.33	70.61	71.97	I
2.	High seed cost	68.56	68.19	68.38	II
3.	Unavailability of skilled labour	54.33	57.65	55.99	III
4.	Incidence of pest attack	51.56	49.90	50.72	IV
5.	Non-availability of PPC and fertilizers	48.78	46.45	47.61	V
6.	Non-availability of perennial sources for irrigation	43.89	45.97	44.93	VI
7.	Lack of awareness and guidance	34.22	32.32	33.27	VII
8.	Poor productivity	25.33	28.90	27.12	VIII
B.	**Marketing constraints**				
1.	High Transportation cost	73.89	71.39	72.64	I
2.	Unavailability of market yard	61.67	61.45	61.56	II
3.	Lack of storage facilities	47.56	48.77	48.16	III
4.	No proper weighing system at the market	47.33	47.29	47.31	IV
5.	No support price	36.78	38.58	37.68	V
6.	Lack of market information	31.78	31.52	31.65	VI

bulky and perishable produce. Traditional methods were being followed by the farmers for a short period to keep cucumber fresh.

The lack of proper weighing facilities for cucumber producers in Manipur (Garrett mean score 52.35) and Tripura (Garrett mean score 47.31) was found to be a constraint as there were no electronic weighbridges or standard weighing machines at local markets, dependence on middlemen who may cheat on quantity and small farmers can't afford private scales and it finally affected the total sale value.

In Manipur and Tripura, Garrett mean scores of 37.68 and 33.38, respectively expressed that there was no minimum support price or floor price for the produce because vegetables like cucumber do not fall under MSP crops, Absence of government procurement, High price volatility in local markets and Perishability forces distress sales, this leads to uncertainty in the selling price. Due to low prices in the local market, farmers were marketing to the distant markets which finally impacted the income of the farmers.

In Manipur and Tripura, farmers mentioned that they have no proper market information (Garrett mean score 30) for the disposal of the produce and the price prevailing at the consumer level. Due to no

organized system to update farmers about market rates in different towns, Limited mobile/ internet penetration and digital literacy and Absence of cooperative marketing or contract farming arrangements.

The Garrett ranking technique has allowed the researchers to create, analyze, and draw conclusions by identifying the constraints from both the sponsors and farmers' perspectives. According to the survey, farmers' greatest challenges were their susceptibility to pests and diseases, followed by the lack of financial support and the least farmer's dependency on firms for resources. The decision-makers need to take into account the technical support on pest and disease management and make provision for financial support by providing a minimum amount for establishment cost or by maximizing the resource input by providing raw materials in the production process.

The study also observed that contract price or fixing the price of the final product is the most prominent constraint faced by the sponsors due to regular fluctuation of price in the market. The use of the Garrett ranking technique for identifying constraints of contract farming from farmers as well as sponsors' points of view has enabled the researchers to formulate the study, analyse, and conclude. It ranks the component based on the preference of the respondents. The study shows that the most prominent constraints faced by the farmers were susceptible to pests and diseases followed by the lack of financial support and the least farmer's dependency on firms for resources. The decision-makers need to take into account the technical support on pest and disease management and make provision for financial support by providing a minimum amount for establishment cost or by maximizing the resource input by providing raw materials in the production process. The study also observed that contract price or fixing price of the final product is the most prominent constraint faced by the sponsors due to regular fluctuation of price in the market

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