Original Research Article

The Production and Marketing Constraints Faced by Ginger and Turmeric Growers in Assam's Hill and Plain Region

ABSTRACT

The present study was conducted to know the constraints perceived by Ginger and Turmeric growers in terms of production and marketing in the hill and plain district of Karbi Anglong and Jorhat of Assam during September 2021. Using Multistage Stratified Random Sampling, the constraints perceived by 252 respondents from both districts were tabulated and ranked accordingly. The major constraints that affected the production and marketing of ginger and turmeric in the hills were low adoption of better and improved production practices and technology, and the presence of middlemen/ local traders respectively whereas, for the plain region, the major constraints that affected production and marketing of ginger and turmeric were unfavorable weather conditions and poor market infrastructure respectively. As Assam is a major hub for ginger and turmeric production, policies should aim at providing better quality planting materials, provision of proper market infrastructure, creation of a "spices park" and creation of a proper export channel.

Keywords: Ginger, Turmeric, Constraints, Assam, Production, Marketing

1. INTRODUCTION

Spices are the primary flavour elements in food. The global spices market was estimated at $8.4 billion in 2018. As an outcome of the rising demand for spices as a result of growing urbanisation, the spices market is expected to increase at a compound annual growth rate of 4.80 percent between 2019 and 2025 [1]. India is referred to as "The origin and Land of Spices". No other nation in the world produces as many different types of spices as India does [2]. India is the largest exporter of spice and spice products. During the year 2020-21, the country exhibited an upward trend and exported spices worth US $4.18 which was a 34% increase from that of 2019-20 [3].

Because of its varied topography, climate, and altitudes, India's Green Belt, which includes the states of Assam, Arunachal Pradesh, Meghalaya, Manipur, Mizoram, Nagaland, Tripura, and Sikkim, has a rich flora and has great potential for the development of horticultural crops including spices [4]. Ginger and turmeric are two essential Indian spices that are frequently utilised for flavour and therapeutic purposes. Since ancient times, they have been cultivated as a major commercial spice crop in the country. Ginger is an established cash crop in Assam, Meghalaya, and Mizoram, having the greatest production in the country. Aside from improved varieties such as Nadia, China,

and Varada, the region also grows a number of native cultivars. Megha-turmeric and Lakadong are the most extensively cultivated turmeric types in the region due to their great quality and production [5] .

In spite of the fact that many quality spices exist in North East region, no major breakthrough has been noticed in boosting the production and increasing export of spices [6] . Several constraints in the production and marketing of ginger and turmeric have been outcasted in the study area of which, the area and per acre output of turmeric cannot be increased due to several physical, technological, financial and institutional constraints [7]. Middleman exploitation was one of the major problems that reduced the farmers' net income and hence, farmers' cooperative marketing systems must be developed for efficient marketing to increase the producer's share of the consumer's rupee and avoid the monopoly of traders/commission agents [8]. This study, thus, mainly aims at identifying several constraints in the production and marketing of ginger and turmeric in the hill and plain zones of Assam.

2. METHODOLOGY

The present study was carried out in the districts of Jorhat and Karbi Anglong of Assam, which were selected purposively on the basis of topographically different regions, i.e., plain and hill district. Two blocks were selected purposively from each of the districts namely Lumbajong Block and Langsomepi Block from Karbi Anglong district and Jorhat Central Block and Jorhat East Block from Jorhat district. Two villages from each of the block from a list of given villages were selected randomly with the help of Simple Random Sampling without Replacement method viz., Kania Enghi Gaon and Amlokhi Gaon from Lumbajong Block and Sarthe Engti Gaon from Langsomepi Block while Arandhara Gaon and Meleng Grant from Jorhat Cental Block and Lahing Gaon and Hatigarh Grant from Jorhat East were selected. From the selected villages, the list of farmers growing ginger and turmeric were collected from the dept. of Agriculture and dept. of Horticulture from both the districts and 15 percent of the total farmers or respondents were then selected, growing ginger and turmeric in more than 1 bigha of land, using Multistage Stratified Random Sampling, with sample being allocated proportionally, using Random number table. The constraints perceived by 252 respondents from both districts were tabulated and ranked accordingly according to the highest percentage.

3. RESULTS AND DISCUSSION

Various constraints with their ranking according to their severity perceived by ginger and turmeric growers in terms of production and marketing in both districts are presented in the given tables.

3.1 Constraints in production of Ginger and Turmeric in the Hill District

The major constraint pertaining to production of ginger and turmeric in the hill district as perceived by the growers were low adoption of better and improved production practices and technology and was reported by 89.93 percent of the growers. 84.89 percent of the growers reported the problem of low rhizome yield. This lower yield was a result of lack of use of better production technologies, lesser application of fertilizers and pesticides, and non- availability of pest and disease resistant planting materials among the growers. Hence, 82.73 percent of the growers reported non- availability of pest and disease resistant planting materials as third major constraint in the production of ginger and turmeric in the hill district. Non-availability of improved high yielding varieties of ginger was also a major constraint perceived by farmers in the low hills of Himachal Pradesh [9].

As rainfed farming system prevail in the district, the ginger growers, however, are highly dependent on rain during the growth stage of ginger, especially in the month of March-April. The rainfall was comparatively lower during the study period or for the year 2021 in the hill district as well as in the state. In case of turmeric, rain is essential during land preparation. A low spell of land during this period hampers crop growth. Considering the above points, 79.86 percent of the growers reported this as a fourth major constraint in production of ginger and turmeric.

As the crops were grown on steep slopes, the growers found it difficult to access the route through the slopes, making cultivation of these crops difficult and only primitive kinds of machine labour could be used. The use of animal labour is negligible in the slopes.76.26 percent of the growers reported as the fifth major constraint. In crop production, involvement of human labour is more in the hilly areas. As there are constraints in applying machines or animal labour due to hilly slopes only very few machineries and animal labour could be engaged in selected areas hence, there is a need to increase the number of human labours, since a greater proportion of the farming population is now engaged in tertiary jobs. As a result, the sixth major constraint in the production of these crops, as reported by 72.66 percent of growers, is a high labour requirement.

Table 1. Constraints in production of Ginger and Turmeric in the Hill District through growers' perception

S. No.	Production Constraints	Frequency	Percentage	Rank
1.	Low adoption of better and improved production practices and technology	125	89.93	I
2.	Low average yields of rhizome	118	84.89	II
3.	Non- availability of pest and disease resistant planting materials	115	82.73	III
4.	Dependence on rainfall for irrigation	111	79.86	IV
5.	Poor road access	106	76.26	V
6.	High labour requirements	101	72.66	VI
	Total	139	100.00	

3.2 Constraints in production of Ginger and Turmeric in the Plain District

The major constraint that prevailed in the plain district was an unfavorable weather condition that persisted during the study period. About 88.50 percent of the growers reported it as a major constraint that hampered production of ginger and turmeric in the district. Lack of rainfall during the period was a major issue. Another constraint mentioned by 81.42 percent of growers was non-availability of labor. Because the majority of the labors in the district were engaged in paddy cultivation, very few were seen to engage in spice cultivation as a commercial venture. Non-availability of quality planting materials was another constraint as reported by 78.76 percent of total growers. The farmers used to cultivate low quality or diseased seed rhizomes due to a lack of better-quality seed rhizome supplies in the district. Local cultivars are mostly used than the improved ones. Non- availability of credit facilities was another constraint to be reported by 70.80 percent of the growers.

Table 2. Constraints in production of Ginger and Turmeric in the Plain District through growers' perception

S. No.	Production Constraints	Frequency	Percentage	Rank
1.	Unfavourable weather conditions	100	88.50	I
2.	Non- availability of labour	92	81.42	II
3.	Non- availability of quality planting materials	89	78.76	III
4.	Non- availability of credit facilities	80	70.80	IV
	Total	113	100.00	

3.3 Constraints in marketing of Ginger and Turmeric in the Hill District

The presence of middlemen or local traders in the marketing channel was identified as the major constraint in the marketing of ginger and turmeric by 91.37 percent of growers in the hill district. The

presence of a large number of middlemen results in a lower share of producer rupee in consumer rupee. As a result, growers were unable to receive adequate remunerative prices for their produce. Poor market infrastructure was another constraint reported by 88.49 percent of the growers. Hence, infrastructural support and proper linkage among the actors are vital for advocating a sound marketing system as cited by [10]. Proper processing and storage facilities are absent in the region. Because the markets were far from the production site, the growers had to pay more for transportation to sell their produce as perceived by 84.89 percent of the growers.83.05 percent of growers reported that poor market facility and export linkage of local produce was another constraint in marketing which compel the growers to sell their produce through commission agents or middlemen immediately after harvesting. Village markets (weekly markets) and city markets are very limited in numbers. Low selling price was another constraint reported by 79.14 percent of the growers. Farmers were sometimes unable to receive the guaranteed price they deserved because there is no Minimum Support Price for spices. Lack of standardization and grading in the study area was another constraint as reported by 78.41 percent of the growers. Improper functioning of Farmer Producer Company or the Farmer Interest Group was another constraint reported by 76.26 percent of growers.

Table 3. Constraints in marketing of Ginger and Turmeric in the Hill District through growers' perception

S. No.	Marketing Constraints	Frequency	Percentage	Rank
1.	Presence of middlemen/ local traders	127	91.37	I
2.	Poor market infrastructure	123	88.49	II
3.	High transportation cost	118	84.89	III
4.	Poor market facility and export linkage of local produce	114	82.01	IV
5.	Low selling price	110	79.14	V
6.	Lack of standardization and grading	109	78.41	VI
7.	Improper functioning of FPCs and FIGs	106	76.26	VII
	Total	139	100.00	

3.4 Constraints in marketing of Ginger and Turmeric in the Plain District

The major constraint in marketing of ginger and turmeric in the plain district was the poor market infrastructure as reported by 92.04 percent of the growers. The lack of adequate processing and storage facilities impedes the smooth marketing of the produce. Lack of standardization and grading was another constraint as reported by 89.38 percent of the growers. Improper price information in the local market as a constraint was reported by 86.72 percent of the growers. Farmers were sometimes unable to receive the guaranteed price they deserved because there is no Minimum Support Price for

spices, similar in the case of hill district. A low selling price of spices prevailed in the study area. Presence of middlemen/ local traders was also another constraint as reported by 83.19 percent of growers. Their presence in the marketing channel, merely make the channel inefficient.

Table 4. Constraints in marketing of Ginger and Turmeric in the Plain District through growers' perception

S. No.	Marketing Constraints	Frequency	Percentage	Rank
1.	Poor market infrastructure	104	92.04	I
2.	Lack of standardization and grading	101	89.38	II
3.	Improper price information in the local market	98	86.72	III
4.	Presence of middlemen/ local traders	94	83.19	IV
	Total	113	100.00	

5.CONCLUSION

Assam can emerge as a potential destination of value-added spices products. There is a need to improve the infrastructure extension network, focused research to harness the region's potential for quality spice production, and spreading awareness about post-harvest handling of spices in order to harness the potentiality of the region for quality spice production. Distribution of disease- and pest-free seedlings/seed rhizome to farmers be given priority. Proper export linkage to be established at the hub of highest ginger producing district in the state, i.e., Karbi Anglong. The establishment of farmer producer companies to deal with large scale production and marketing of spice crops within and outside the state, as well as eliminating unnecessary middlemen in marketing and increasing the producers' share of consumers' rupees should be given thrust.

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