Present scenario of Ginger Farming in West- Garo Hills District Meghalaya: An Analysis

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Abstract

One of the key species grown in the North-East is ginger. The rural agricultural populations' livelihood comes from the cultivation of ginger, which also helps with socio-economic advancement. Farmer endeavors and the expansion of the production base are encouraged by the favourable soil and climatic characteristics of some of the chosen agro-climatic zones. However, there are some limitations on ginger production and marketing, especially from the perspective of farmers. This paper attempt to analyse the contemporary scenario of ginger farming in West-Garo Hills District of Meghalaya. The study is primarily undertaken from farmer's perspective. In the process of doing the same, constraints of the ginger growers are also taken into consideration. The study is based on both primary as well as secondary data. Ginger growers were selected based on non-probabilistic convenience sampling procedure. Desired responses were obtained with the help of structured schedule. It was observed that increasing input cost primarily affect the ginger growers. There is scope for improvement in the form of value addition at the growers' level, farmers can add significant value by processing and diversifying their raw ginger supply. The study's suggestive conclusion is that ginger-based agro-entrepreneurship should be promoted. The study suggest for the development of favourable market conditions to the growers' greater advantage. Absence of well-organized markets set up also acts as impediments in the process of production and marketing of ginger.

Keywords: Ginger, Farmers, Constraints, Value addition

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Introduction

Spices are elements that are normally used in culinary preparation for aromatic and conservation purposes. Spices can be made from a different suitable herb or herbs parts. Spices come in a variety of forms that can be used by consumers, including fresh, dried, and powdered varieties. While highlighting the significance of agriculture to the Indian economy, it can be said that farming is the foundation and core to the social and economic development of the country. In addition, agriculture offers a solution to a number of rural socioeconomic problems, such as hunger,

unemployment, and poverty. Agriculture's expansion is correlated with the country's economic growth. Since the bulk of the population relies on agriculture for a living both directly and indirectly, the economies of the North-Eastern states are predominantly agricultural in character. A variety of horticulture crops can be grown in the agro-climatic conditions. In terms of output and source of income, ginger is one of Meghalaya's major commercialised crops. Only dry ginger is regarded as a spice. Fresh or green ginger is essentially categorised as a vegetable. The cultivation of ginger is widespread throughout the world. India, China, Nigeria, Nepal, Indonesia, Thailand, and other countries are among the top producers of ginger. Indian ginger is quite important on the international market because of its qualities, which include flavour. Among the other states in India that grow ginger, Kerala is renowned for providing the highest grade ginger. A wide range of goods, including food, drinks, confections, and medicines, are made with ginger. Flakes, beer, wine, quash, candy, and oil are just a few examples of the many items derived from ginger. The North-East of India is quickly becoming the nation's organic ginger hub. On 47,641 acres of land, the North-Eastern region grows the 3 lakh tonnes of ginger that is produced there annually. In this paper, the contemporary scenario of ginger production and its marketing is analysed. Besides, constraints of farmers were also taken into consideration to have a holistic view of the situation.

Literature review

Gogoi (2021) claimed that ginger has the potential to become more commercially successful on a larger scale on both the national and international levels in the current setting due to its medicinal and aromatic characteristics. In the North Eastern region, the climate and land composition are conducive for ginger growing, and this needs to be capitalised to provide more socio-economic benefits. Mawlong (2017) reported that ginger is a traditional crop in Meghalaya's Umroi region. It is grown in the same ginger beds, blended with a few other crops. The soil, climate, and other ecological elements that are favourable for the growth and production of ginger in the study location, as well as farmers' willingness to engage in ginger cultivation, are also revealed by the study. Sharath & Dhananjaya (2015) mentioned that since ginger requires a lot of labour to grow, it might not be ideal to grow it on the same piece of land year after year. Thus, according to the experts, crop rotation benefits farmers over the long term. According to Shinde et al. (2020), growing ginger is advantageous for farmers because it generates a healthy return. With this cash crop, farmers are getting a better return in comparison. Varadhan (2015). claimed that the deregulation and WTO agreement have made ginger less competitive in global trade. Trade laws have an impact on the spice industry because spices are India's main exportable goods. The analysis also revealed that both acreage and productivity increased favourably between the pre- and post WTO eras. Prakash (2018) highlighted the value of ginger growing and said that it is a significant cash crop in the North East. The North East's rural growers can make money from their ginger business. Farmers also cultivate the native kind of ginger in addition to the adapted varieties in a profitable way. The breadth of value addition at the level of farmers was also emphasised in the study. However, ginger farming is not free from issues including conventional nature of farming, lack of crop rotation etc. Singletary (2010) emphasised the benefits of ginger's medical characteristics and how it is used in various nations around the world to cure various illnesses or ailments. Another component of the study involves capitalising on these aspects for the growers' larger economic gains. Shivakumar *et al* (2013) emphasised the therapeutic value of ginger and its medical uses.

Another significant aspect that the researchers emphasised is value addition at the level of farmers. According to the authors, there is room for increasing the cultivation of this spice crop in the research region given the rising need for ginger as a source of medicine. Bag (2018) by taking into account the rising demand for ginger as health-beneficial items worldwide, the emphasis was placed on various government programmes and the export potential of the country. Adamade *et al.,* (2017) claimed that ginger is an essential crop with medicinal, therapeutic, and herbal benefits that are beneficial in several facets of human life. By offering a number of health advantages, ginger and ginger products raise the standard of living. The study places special attention on the industry's economic value to rural agrarian communities that grow ginger. Gohain *et al.,* (2020) emphasised the economic elements of ginger production in Assam, particularly the make-up of the growers' cost structure. The study found that the farmers' class sizes were inversely correlated with the variable expenses of ginger production. Small farms have the largest variable costs, whereas large farms have the lowest. The entire costs of ginger farming followed the same pattern. The fixed costs, on the other hand, were discovered to be inversely correlated with farm sizes. Furthermore, the analysis showed that while rental value of owned land had the biggest percentage of the total fixed cost, seeds occupied a higher share of the variable costs for all farm sizes. Large-scale farms were extremely productive. Yadav et al., (2004) said that ginger farming is supporting the livelihood and raising the socio-economic standing of farmers in the North-Eastern region. The study also placed a strong emphasis on the limitations faced by ginger producers, revealing that changing cultivation, a system of land tenure, tiny land holdings, a lack of high-quality planting supplies, and a lack of resources are some of the most significant problems they frequently face. The study made recommendations for extending the use of organic farming methods for ginger, improving post-harvest procedures, and transferring money and technology among farmers for broader economic gains. Panme & Thangjom (2021) claimed that price volatility is one of the main issues affecting ginger marketing and production in the Dima Hasao district of Assam. The production and marketing of ginger are impacted by additional factors such as low farmer innovation specifically related to ginger cultivation, lack of storage facilities, and land tenure system. The researchers emphasised on the potential for ginger growing while highlighting the minimal investment and comparative greater profitability as well as favourable soil and climatic conditions of the Dima Hasao district. The study concluded that ginger has the potential to stimulate income of the poor rural farmers of the area as major crop and will provide supplementary additional income along with other crops. Hazarika and Kakoti (2013) claimed that three types of ginger are grown in the Golaghat district of Assam. Due to their increased oil content, certain varieties are more economically significant than others. Additionally, the economic worth of ginger is rising in the present day due to demand for its taste, flavour, and medical properties.

Research Gap

Ginger is an important spice crop. There are different traditional and non-traditional varieties of gingers grown in the North-Eastern region. Demand for ginger is growing for its medicinal properties across the world. Several value added products are made from ginger in the contemporary times. Several studies established the growing importance of ginger due to its medicinal value and value addition. Several studies at regional and national level established the significance of ginger farming in terms of livelihood creation and socio-economic development. As there is growing demand of ginger primarily because of its

medicinal values at national and international levels, the regional scenario requires attention which frames the background of the paper. Based on these aspects of ginger farming the following objectives are taken for the study,

Research Objective

The study is undertaken with the following objective;

- To highlight the marketing practices undertaken by ginger growers in the West Garo Hill District, Meghalaya
- To study the restrains faced by the ginger growers in the West Garo Hill District, Meghalaya

Methodology:

The study applies descriptive design of research. This design is applicable, when a researcher desires to analyse an issue rather than examining the reason and outcome of the issue. Moreover, stressing the issues tackled by the growers, instead of examining the reasons of the restraints, validates the acceptance of descriptive design of research. The study relies on primary as well as secondary data. Field survey method was used for the collection of the desired primary data. The study area comprises the village Oragitok in the West Garo Hills districts. Block officials helps the researchers in the selection of the study area. Concentration of the farmers was the foremost criteria for the selection of the area. As complete list of ginger growers were not available at the convince of the researchers so probabilistic sampling cannot be applied and researchers relies on non-probabilistic convenience sampling technique. A total of fifty five ginger growers regardless the firm sizes were considered for the interview. Schedule with open ended and close ended questions were design and administered to obtain the requisite information. Collected data is presented with the help of percentage methods. Constraints were presented with the help of mean analysis comprises a three point likert scale. Chi-square test is also applied to establish the association between marketing practices of the growers and there demographic information. While the schedule was framed in English, however, data collection was done in vernacular languages. It was the responsibility of the enumerator to convey the message and collect the requisite information in the regional language of the farmers.

Analysis and Discussion

Profile of the study area

Turmeric, ginger, chillies, black pepper, and bay leaves are among the main spices that can be grown in Meghalaya. Nadia and Rio-de-Janeiro ginger varieties are the most common ones grown in the state. Nadia has been discovered to provide the highest output of these, up to roughly 10 M.T. per hectare. Additionally, this kind contains the least fibre. East Garo Hills, Ri-Bhoi Districts, and West Garo Hills are the main areas for ginger growing. One of the main cash crops for the farmers in the province is ginger. Since the growers' livelihoods depend on ginger farming, the crop is vital for them. Another important step in promoting ginger planting in the area is the state government's Ginger Mission, which intends to increase the state's ginger production.

Demographic Profile of the respondents:

65 percent of ginger farmers are between the ages of 18 and 29, and 22 percent are between the ages of 30 and 39. Only 4% of the responders are in the 40–49 age range. These descriptive statistics clearly show the younger generation's involvement in the ginger farming. Both male and female members of the families participated in the ginger

farming when the respondents' gender was analysed. 35 percent of the participants in the ginger cultivation are female, whereas 65 percent are men. When the respondents' incomes were examined, it was found that 58 percent of them fell within the income range of up to or under Rs 20,000. This is as because ginger is growing on a tiny plot of land in their crop mix. 33 percent of respondents have formal literacy till the level of graduation. This is due to the fact that traditional farmers' children and young people with better levels of formal literacy have taken up ginger cultivation. 43% of the respondents fall into the marginal category, according to the analysis of the farmers category. One of the main obstacles to achieving production efficiency and productivity is small and fragmented land. Another demographic factor is experience of the farmers. When the respondents' experiences were analysed, it was shown that 49% of ginger growers had fewer than five years of expertise. One crucial component of the agricultural production is labour. According to observations, 51% of farmers rely on hired labour. When asked about the viability of the ginger industry, 60% of the respondents said that the money from the crop is enough to support their family, thus they plan to keep doing so.

Research Findings

Marketing practices

Distribution of agricultural products from the producers to the final consumers is the focus of agricultural marketing. The Indian agricultural marketing system is characterised by the prevalence of layers of intermediaries between producers and consumers. 60% of farmers sell their products in the primary market. However, only 7% of farmers use middlemen to market their produced ginger. The remaining farmers take different paths, such selling via other farmers, etc.

Table1.1: Marketing Practices adopted by ginger farmers

Channels used	No	Percentage
Selling in the nearest primary market	33	60
Intermediaries/agent procuring form firm/home	4	7

Source: Researcher compilation from the data collected through field investigation

Factors influencing marketing practices

The following hypotheses are explored in order to analyse the elements impacting the ginger producers' marketing strategies.

Ho: there is no association between age and marketing practices of the select ginger farmers

Table 1.2: Chi Square test of the respondents' marketing behaviours and age

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	11.861[a]	9	.278	.300	
Likelihood Ratio	13.534	9	.101	.243	
Fisher's Exact Test	9.315			.290	
Linear-by-Linear	2.013[b]	1	.155	.181	.86
N of Valid Cases	55				

Source: Field Survey

We cannot reject the null hypothesis since the p value (0.86), is higher than the level of significance. This indicates that there is no relationship between the respondents' ages and the marketing channels they used. Similar to it, the following theories are tested

Ho: there is no association between income and marketing practices of select ginger farmers

We cannot reject the null hypothesis because the p value (0.0927) is higher than the level of significance, and we thus draw the conclusion that there is no relationship between respondents' income and the marketing channel they used

Ho: there is no association between literacy level and marketing practices of select ginger farmers

As the p value (0.0431) is below the level of significance, we reject the null hypothesis and come to the conclusion that there is a relationship between the respondents' literacy level and the marketing channels they used. Literate farmers frequently analyse the price provided by the prevalent alternatives marketing channels and select the most lucrative option.

Ho: there is no association between category and marketing practices of select ginger farmers

We reject the null hypothesis since the p value (0.03219) is less than the level of significance and come to the conclusion that there is a relationship between respondents' use of marketing channels and their category i.e. land holding status. Due to their high levels of output, large and medium farmers prefer to sell their produces with the help of intermediaries. Additionally, they take into account the transportation costs involved in marketing the produce. Small and marginal farmers choose to sell their products in the primary market because they marketable volume is comparatively lesser than the other cateory.

Constraints analysis

Production related constraints

With the use of a literature review and during the work's feasibility assessment, production-related limitations faced by ginger producers were idenified. The constraints were taken on a three point likert scale for analysis and presented with the help of mean value

Table 1.3: Production related constraints of ginger growers

No	Issues related to production	Mean value
1	Issues of availability of labour	1.90
2	Issues of increase wages of labour	2.11
3	Issues of inferior quality of planning materials	1.91
4	Issues of increase input cost	2.05
5	Issues of fertility of soil	2.07
6	Issues of Flood	1.87

Source: Field Survey

The cost of labour (mean value 2.11) accounts for a sizeable share of the total cost of production. The most important element in the process of producing any crop is labour. However, in the recent times there is increase in the prevailing wage rate of the hired labour. Ginger farmers frequently experience

increased production costs as a result of rising wage rates because they have to pay hired labourers a considerable sum of money. It affects the profitability and thereby the gross return of the farmers. Growing input costs (mean value 2.05) are yet another challenge for ginger farmers in the research area. These elevated costs have an impact on the whole cost of production and, consequently, the framers' profit margin. During the rainy season, soil erosion was an issue in the hilly area as well. The fertility of the soil (mean 2.07) and consequently the yield of the ginger growers are impacted by jhum cultivation and continued farming of ginger on the same pitch of land. The quantity of market arrival is likewise impacted by this.

Marketing constraints

Market related constraints were also identified with the help of literature review and presented below,

Table 1.4: Production related constraints of ginger growers

SLNO.		Mean
1	Issues of lack of market in the nearest area	1.92
2	Issues of price fluctuation	1.94
3	Issues of dominance of middlemen	1.87
4	Issues of excessive commission charges by middlemen	1.89
5	Issues of Excessive marketing cost	1.96
7	Low price due to inferior quality	1.96
8	Low return in local market	2
9	Issues of post-harvest operation	2.03

Source: Field Survey

Post-harvest (mean 2.03) loss are one of the critical problems faced by ginger growers in Oragitok village, West Garo Hills. In a hilly terrain, connectivity problems during rainy days make it challenging to market agricultural products. Some farmers frequently experience difficulties due to a lack of resources and storage space. Ginger production and sales in the entire Garo Hills district are impacted as a major portion of the ginger output comes from the Oragitok village area. Farmers' low returns are still another issue (mean value 2). This is due to an insufficient market structure and increased input costs.

Conclusion:

The study was undertaken to understand the contemporary scenario of ginger farming and the challenges of the ginger farmers in the West Garo Hills, District Meghalaya. In the study it is found that ginger farmers often face issues of increasing wages, increasing input price, issues of soil fertility etc., in the production process. Issues of post-harvest management are another market related constraints faced by farmers in the study area. Though, the government has taken several initiatives from time to time to solve the issues of the farmers, but there are scope for further promotion and development of ginger farming in the study region. Ginger cultivation in study area has been significantly beneficial for the farmers in the process of improvement of the standard of living over the period of time. The study offered numerous solutions for the issues and difficulties

faced by farmers. The suggested advice will greatly assist the ginger growers if it is properly put into practise by the relevant authorities. Additionally, it will aid in the eradication of rural poverty, unemployment, and a number of other societal problems.

Recommendations

In the study region there are some issues faced by the ginger growers that requires attention. There is a scope for promoting awareness regarding scientific cultivation procedure. This should be promoted among the young farmers belong to the distant areas. Extension of the awareness campaign and spreading the cultivation to the other suitable areas is also suggestive. By setting up regular growers meetings, it may be possible to train the ginger growers regarding the improved crop management techniques which will increase their productivity. For the convenience of the growers, steps might be taken to create an appropriate market. The diffusion of price-related information is another recommended action for the growers' overall welfare. To draw in the next generation of farmers, ginger farming should be promoted for its economic, therapeutic, and financial benefits. Superior quality seed rhizomes suitable for agro climate situations must be made available to the growers. Study suggest for the creation of storage facilities at farmers level and in the primary markets. Farmers need to be trained regarding the value addition of ginger crop by producing different value added diversified products. Besides the study suggest for the promotion of agro-entrepreneurship in the region by considering the production base. These measures will absorb rural unemployment to a large extent and will also promote socio-economic development of the region.

Limitations of the study

As the study is based on spice crop so findings and recommendations are not equally applicable for other food or cash crops. Besides, findings are exclusively applicable for ginger crop only and not for other spice crops. Geographically the study was carried out in West-Garo hill districts so findings cannot be generalized for other ginger growing states of India.

Scope for further research

The future focus of the current work is the potential for value addition at the farmer level through the diversification of ginger products. There is also need for future research into value chain analyses and growers' return plans. Additionally, future research areas could include the promotion of agro-entrepreneurships based on ginger crop processing. Another area of application is the potential for value addition at the level of the farmer.

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