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Constraints of coffee production in Nagaland, India

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ABSTRACT

In recent years, it has been observed that coffee cultivation has gained a particularly healthy popularity among farmers of Nagaland state. Therefore, a study was conducted in Nagaland to understand the major constraints faced by coffee farmers and stakeholders in the production technology, farm management and marketing of coffee in the state. The study was conducted in 4 districts i.e., Kohima, Mokokchung, Niuland and Wokha and a total of 6 RD blocks namely Kohima, Niuland, Sanis, Wokha, Mangkolemba And Ongpangkong (South) was selected purposively from the 4 selected districts as per the availability of maximum number of farmers actively engaged in coffee cultivation. A total of 8 villages (Touphema, Nerhema, Khar, Khensa, Lakhuti, Wokha, Hovishe, Ghotovi) were selected from the selected blocks. From the 8 villages total 110 coffee farmers were purposively selected based on the availability and 10 stakeholders were identified and selected using snowball sampling method making the sample size to a total of 120 respondents. With regard to coffee production technology constraints, Majority of the coffee farmers faced constraints on post harvest management. In the farm management constraints, it was studied in terms of 'Planning': there was no proper farm planning with majority of the coffee farmers having no idea about preparation of action plan. The major constraint in 'Organizing' were inability to manage workers, high labour cost etc. 'Staffing' constraint was mainly due to unavailability of skilled and unskilled labour. Transportation and shipment hampered 'Leading' and 'Controlling'. Marketing constraints were lack of knowledge on grading technique, value addition, market intelligence and difficulty in export. The stakeholders' constraints on resources were lack of finance and skilled manpower; Technical input constraint included lack of technical expert guidance; Market constraints were mainly on the delay in delivery of consignments hampering the flavour quality.

1. Introduction

Agriculture is the mainstay of the people of Nagaland. "It is also called as agricultural economy state' and engages more than 74% of the population (2, 50,360 farming households) being directly/indirectly dependent on agriculture and allied activities" (Solo, 2022). In the year 2015-16, the Coffee Board of India, in partnership with the department of land resources, took up the initiative to revive the plantations. And in 2016, the department of land resources distributed a total of 13 lakh coffee seedlings to farmers who are willing to engage in this drive. However, with the help of a Special Area Programme, initiatives have been taken up in the recent years to help revive the plantation

and cultivation of coffee plants in Nagaland. With this help, farmers are provided with proper skill training and development, subsidies to convert their land for coffee plantation, etc.

It is evident that Nagaland is blessed with a favourable climate condition for cultivation of coffee. Nagaland at present cultivates two types of coffee i. e Coffea Arabica and Coffea Robusta. Challagalla (2021) in her study indicated that, "considerable demand for Nagaland coffee exists in India and abroad. However, there is a lack of sufficient supply of coffee beans. Locals have not yet taken fully to coffee cultivation given their previous failures in the 1970s". Many farmers and inhabitants of the hills have taken

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up coffee plantation to prevent the common and frequent disaster of soil erosion. On interaction, Zoang a local farmer in Nagaland believes that, by this initiative, they would not only benefit from the harvest of the coffee seeds or the prevention of soil and land erosion but also abstain from the hazardous practice of jhum cultivation and in the process, save forests and simultaneously provide an alternative means of livelihood to and for the farmers.

The coffee production is affected by various factors such as, inefficient farm management, lack in technical input of crop production technology, climate change etc. Akarsha *et. al.* (2009), Kumar (2011), “Coffee production in Southern India offers little scope for mechanization and is consequently dependent on labour, and as such representing the most sensitive production factor”. Thangaraja (2012), “the Chikmagalur coffee growers expressed various constraints such as lack of minimum support price (94.67%), high market price fluctuation (92.67 %) during harvesting, exploitation by local traders (90.00%)”. Sunanda *et. al.* (2014), “coffee growers in Karnataka faced many challenges and struggled to sustain in the market including operation cost”. Poovanna (2022) identified that heavy and unseasonal rains since July have led to most of the coffee dropping off the plants, which planters estimate has led to a 30-35% decline in production in the state.

In recent years, it has been observed that coffee cultivation has gained a particularly healthy popularity among farmers from different regions of the state. Therefore, a study was conducted in Nagaland to understand the major constraints faced by coffee farmers and stakeholders in the coffee cultivation and promotion, specifically on production related constraints, farm management constraints and marketing constraints.

2. Materials and Methods

This research was conducted in the state of Nagaland in the year 2022. It is located in the north-eastern

region of India with a total geographical area of 16,579 square kilometres. There are 16 districts in Nagaland out of which, 4 districts i.e., Kohima, Mokokchung, Niuland and Wokha were selected respectively. A total of 6 Rural Development blocks namely Kohima, Niuland, Sanis, Wokha, Mangkolemba And Ongpangkong(South) was selected purposively from the 4 selected districts as per the availability of maximum number of farmers actively engaged in coffee cultivation (Moa *et al.*,). A total of 8 villages (Touphema, Nerhema, Khar, Khensa, Lakhuti , Wokha, Hovishe, Ghotovi) were selected from the selected blocks. From the 8 villages total 110 coffee farmers were purposively selected based on the availability and 10 stakeholders were identified and selected using snowball sampling method making the sample size to a total of 120 respondents.

In this study, stakeholders were regarded as the individuals or group who has an interest in coffee business and can either affect or be affected by the business. Attitude was referred to the way a person perceives and evaluates something or someone. In this study, the attitude of the stakeholders and farmers were measured by devising two separate set of questions. For the farmers a total of 7 questions were set and it was categorized into two sub-groups such as attitude of farmers towards the quality of life improved through coffee cultivation and assets creation through coffee cultivation. A score of 1 was given to every answer which was agreed by the respondents, score 2 for the responses which was neutral or partially agreed and score 3 was given to the answers which were disagreed by the respondents. Mean and frequency was calculated respectively.

The appropriate statistical tools used to analyze the collected data were Frequency, Percentage, Mean, Standard Deviation and Ranking.

3. Results and Discussion

1. Constraints in coffee production faced by coffee farmers

1.1 Production related constraints faced by coffee farmers

Table 1.1. Production related constraints

N=110

Sl. no	Constraints	Frequency	Percentage
a.	Nursery management	53	48.18
b.	Intercultural operations	64	58.18
c.	Plant protection		
i.	Insect pest	77	70
ii.	Disease Management	46	41.81
d.	Harvesting	34	30.90
e.	Storage	29	26.36
f.	Post-harvest management	80	72.72

Table 1.1 specifies that majority (72.72%) of the coffee farmers faced constraints on post harvest management as they did not have the machineries to process it and also because of lack of knowledge on processing of coffee beans. It was also revealed that 70 percent faced constraints on pest infestation, 46 per cent on diseases of coffee, 58.18 per cent faced on intercultural operations, 48.18 per cent on nursery management, 30.90 per cent on harvesting and 26.36 per cent on storage constraints. This were in line with the findings of Kumar (2011) where he found major constraints on pest and disease incidence; unavailability of pulp unit and high cost of production.

1.2. Farm Management Constraints by coffee farmers

1.2.a Planning

Planning is a pre-determined course of action to accomplish the goal. It is also considered as a decision making process for future action and key management function of any development work.

Table 1.2.a. Constraints faced in planning

N=110

Sl.no	Constraints	Frequency	Percentage
i.	No proper farm planning	81	73.63
ii.	No track of record on daily activities	79	71.81
iii.	No action plan (short/long term)	89	80.90
iv.	Lack of farm office infrastructure	86	78.18

Table 1.2a indicates that majority had no idea about preparation of action plan (short/long term), 78.18 per cent faced on lack of farm office infrastructure, 73.63 per cent on lack in proper farm planning and 71.81 of the respondents had constraints on no track record on daily activities.

1.2.b Organizing

Organizing involves determining how activities and resources are to be assembled and coordinated.

Table 1.2.b. Constraints faced in organizing

N=110

Sl. no	Organizing	Frequency	Percentage
i.	No work distribution for the workers	47	42.72
ii.	Inability to manage workers	54	49.09
iii.	High labour cost	44	40
iv.	High initial investment	27	24.54
v.	Lack of Gov. subsidies and farm credits	23	20.90
vi.	Lack of funds for capacity building	51	46.36

From the table 1.2.b it is evident that constraints related to Organizing included, inability to manage workers; lack of funds for capacity building; lack in work distribution of the workers; high labour cost; high initial investment and constraints in receiving subsidy and credit from the Government.

1.2.c Staffing

The aspect of managing an organization is to find the right people for the right assignment or job. The staffing function consists of several elements; like selecting, maintaining and developing personnel in such a way that organization is able to accomplish its objectives.

Table 1.2.c. Constraint faced in staffing

N=110

Sl.no	Constraints	Frequency	Percentage
i.	Unavailability of farm supervisor	52	47.27
ii.	Unavailability of skilled labour	62	56.36
iii.	Unavailability of unskilled labour	43	39.09

iv.	Lack of technical experts in cultivation and handling farm equipments	42	38.18
v.	Lack of supporting staffs	41	37.27

Table 1.2.c shows that staffing constraint was mainly due to unavailability of skilled and unskilled labour, unavailability of farm supervisor, lack of technical experts in cultivation and handling farm equipments and also, lack of supporting staffs. The result is in line with the findings of Poudel *et. al.* (2009) regarding availability of skilled labours for coffee cultivation in Gulma district, Nepal.

1.2.d Leading and Controlling

The managerial function of leading is defined as the process of influencing people so that they will strive willingly and enthusiastically towards the achievement of organization and group goals (Koontz and Wehrich, 2009). The function of supervision is to close the gaps between desired performance and actual human performance (Appley, 1969).

Table 1.2.d. Constraints faced in leading and controlling

N=110

Sl.no	Constraints	Frequency	Percentage
ii.	Transportation/shipment due to poor road	63	57.27
iii.	Lack of co-operation from concerned departments	20	18.18
iv.	Lack of co-operation from fellow coffee farmers	25	22.72
v.	Lack of motivation from concerned departments	15	13.63

From the table 1.2.d above it specifies the constraints faced by the respondents on leading and controlling. It was found that, transportation and shipment were affected due to poor road conditions. Smooth coordination in managing the farm was hampered due to lack of co-operation from fellow coffee farmers, lack of co-operation and motivation from concerned departments.

1.3 Marketing constraints faced by coffee farmers

Table 1.3. Constraint faced on marketing by coffee farmers

N=110

Sl. no	Constraints	Frequency	Percentage
i.	Lack of market intelligence	27	24.54
ii.	Certification issues	24	21.81
iii.	Lack of knowledge on grading technique	71	64.54
iv.	Lack of Govt. support in finding market for coffee farmers	23	20.90
v.	No/less local market demand	23	20.90
vi.	No value addition knowledge	28	25.45
vii.	No direct market	18	16.36
8..	Difficulty for exporting due to poor quality	23	20.90
ix.	Difficulty for exporting due to lack of liaisons	25	22.72

From the table 1.3 shown above it is clear that majority (64.54%) of the respondents faced problem in lack of knowledge on grading technique. Some of the problems included, lack of knowledge for value addition; lack of market intelligence; difficulty for exporting due to lack of liaisons; certification issues; poor quality of the beans leading to difficulty in exporting; lack of government support in finding market for coffee farmers and no/less local market demand and no direct market to sell the coffee beans.

2. Constraints faced by the stakeholders related in coffee production and measures suggested for improvement

2.1. Resources

Table 2.1. Constraints faced on resource availability by stakeholders'*n=10*

Sl.no	Constraints	Frequency	Percentage
a.	Skilled manpower	8	80
b.	Unskilled manpower	5	50
c.	Difficulty in getting loan	8	80
d.	Lack of government subsidies/credit facilities	7	70
e.	Financial problem	7	70
f.	Lack of government support for entrepreneurs	5	50
g.	Lack of government subsidies for purchasing farm needs	9	90

From the table 2.1 it is clear that majority (80%) of the respondents faced problem in availing loans and lack of skilled manpower. 70 per cent faced financial problem and lack of government subsidies/ credit facilities as there is not much focus for coffee entrepreneurs and most of the respondents financed themselves personally or with the help of other private credit facilities.

2.2. Technical input

Table 2.2. Constraints faced in technical input by stakeholders'*n=10*

Sl.no	Constraints	Frequency	Percentage
a.	Inadequate processing facilities	2	20
b.	Lack of technical expert guidance	7	70
c.	Lack of infrastructure/repairing centers	3	30

Table 2.2 is evident that majority (90%) of the respondents faced problem due to lack of technical expert guidance; lack of infrastructure/ repairing centers in the state and inadequate processing facilities.

3. Market accessibility

Table 3. Constraint faced in market accessibility by stakeholders*n=10*

Sl.no	Constraints	Frequency	Percentage
a.	Delay in delivery of consignments hampering the flavor quality	6	60
b.	Price volatility in the international market affecting business in the state	2	20

Table 3 reveals the constraint faced by the respondents on market accessibility. The table shows that majority (60%) of the respondents faced constraint on delay in delivery of consignments hampering the flavour quality and 20 per cent of the respondents faced problem in the price volatility in the international market affecting business in the state.

4. Conclusion and Recommendation

From the present study, the constraints with regard to coffee production technology constraints were found to be highest (72.72%) on post harvest management as they did not have the machineries to process it and also because of lack of knowledge on processing of coffee beans. Majority of the coffee farmers faced constraints on post harvest management. In the farm management constraints, it was studied in terms of 'Planning' where it was found that, there was no proper farm planning with majority of the coffee farmers having no idea about preparation of action plan, lack of infrastructure. The major constraint in 'Organizing' were inability to manage workers; lack of funds for capacity building; lack in work distribution of the workers; high labour cost etc.; 'Staffing' constraint was mainly due to

unavailability of skilled and unskilled labour. Transportation and shipment were affected due to poor road conditions which hampered 'Leading' and 'Controlling'. Marketing constraints were mainly due to lack of knowledge on grading technique, value addition, market intelligence and difficulty in export due to lack of liaisons. The stakeholders constraints on resources were lack of finance and skilled manpower; Technical input constraint included lack of technical expert guidance; Market constraints constraint were mainly on the delay in delivery of consignments hampering the flavour quality.

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