An Analysis of Banana Cultivation in Wayanad District, Kerala

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ABSTRACT

Objective: analyse area and production, to examine the production, cost performance and socio-economic problems of banana cultivation in Wayanad district in Kerala.

Methods/statistical analysis: This study relies completely primary information obtained from the banana cultivators from the selected study area. The research design of the present study included in selection of study areas, selection of sample farmers, collection of data, analysis of data and presenting findings selection of study area purposive sampling procedure was followed for the selection of the study area. First the data of Krishi bhavan under all four blocks of Wayanad were selected, through Krishi bhavan officers, information about banana cultivators was selected. Then 100 farmers were randomly selected from among them.

Findings: From the income analysis it seen that majority of the cultivators are earn 1lakh to 3 lakhs. Nendran variety is more profitable than other varieties followed by robusta variety. Among the main problem faced by the banana cultivators most of the respondents are reported natural calamities are main reason. high cost of production is the second most problem faced by banana cultivators. Many of those who had previously taken crop insurance are not now willing to take insurance because of the amount due is not received on time. When the price of bananas falls, farmers incur higher costs to get them to VFPCK stores to get the support price given by the government.

Application/improvement: It is suggested that casuarina may be planted around the banana's place of cultivation as a windbreaker to save the banana plants from lodging due to heavy wind. The banks and co-operatives should make necessary arrangements to increase the loan amount to meet the requirement of the cultivators. set up more VFPCK stores where banana farmers can easily access them.

1.INTRODUCTION

India is a developing country. A country's development is depending on its agriculture and education. India is an agriculturist country; many people's life was to be dependent on agriculture. Banana has its origin in tropical region of southeast Asia. Banana is one of the oldest fruits known to mankind and rich Source of energy. It is highly nutritive and very delicious. It is also utilized in several forms of food, medicine, feed fuel and individual applications. Banana is reported grown in 130 countries in the world with a total production of 30.5 million metric tons and 866000 ha in 2023.

However, production as well as export and import bananas are highly concentrated in few countries India, China, phillippns, Brazil and along produced more than 60 % of total world banana production. The concentration of banana production has increased over time although showing a different regional distribution. Banana is the largest produced and maximum consumed amongst the fruits cultivated in India. India ranks first amongst the banana cultivating countries of the world with the annual production share 25%of total harvest (2022). Banana cultivation also generate income and employment more than 2 million direct and indirect job in the country

Kerala is one of the most important states in India for agriculture. Rice, coconut, pepper and banana are all produced well in Kerala. Kerala has managed to become one of the top 10 states in banana production. Kerala will produce around 878.127 tonnes in2023.Nendran is the most important commercial varieties of banana grown in Kerala, occupying about 50 percent of total area under banana. The lack of interest in agriculture among the new generation is causing the decline of the traditional banana cultivation. Wayanad, Palakkad, Malappuram are the three major banana producing districts in Kerala.

Wayanad is a district rich in agriculture pepper, banana, coffee, ginger, and turmeric. varieties of cultivation methods and seeds are used here. Wayanad is the largest banana producing district in Kerala, about 13734 hectares produced Wayanad in 2019-20. different types of varieties are producing in Wayanad. Nentran, poovan and njalipoovan is the most important among them. The largest producer of banana in Wayanad is the thavinjjal panjayath, about 600 hectares are produced in this panjayath alone. After that, padinjarathara, muttil, kottathara and vengappally.

BANANA CULTIVATION IN KERALA

Banana cultivation in Kerala India is an important agriculture activity due to the favourable climate conditions and availability of fertile land. Kerala is one of the largest bananas producing states in India and is known for its diverse varieties of bananas. Kerala cultivates several varieties of banana including nentran, poovan, palayankodon, kappavazha and robusta. each variety has different characteristics, uses, and market demand. Kerala's warms and humid tropical climate is well suited for banana cultivation. state experience a rainfall throughout the year making it a favourable for banana plants to thrive. Banana cultivation in Kerala is widespread across different geographical region including low land, Midland, and Highlands. small scale farmers and plantations cultivators of banana using traditional farming methods. Overall banana cultivation in Kerala plays a significant role in the state's agricultural sector providing livelihood to the farmers and contributing to the economy that traditional practices and diverse varieties make in the Kerala unique hub for banana production.

District	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Trivandrum	2329	2676	2776	2917	3114	3507
Kollam	2443	2884	2747	3397	3455	3465
Pathanamthitta	2182	2059	2076	2205	2215	2246
Alappuzha	450	476	519	577	318	377
Kottayam	2734	2948	2750	3073	3253	3316
Idukki	3469	34	3495	3419	3320	3391
Ernakulam	4904	4993	5158	5278	4981	5520
Thrissur	2297	2165	2213	2180	1702	2196
Palakkad	18628	15736	15199	16722	11998	12710
Malappuram	6932	7762	7120	7572	5683	5591
Kozhikode	1832	1938	1864	1673	1455	1737
Wayanad	10719	9739	8555	10003	8861	13734
Kannur	2298	2328	2022	2405	1886	2249
Kasargod	665	645	664	687	658	639
Total	61936	59835	57158	62108	52899	60678

Source: Agriculture Statistics 2005-20

District-wise banana production in Kerala 2021-2022(000 MT)

SL NO	DISTRICT	PRODUCTION
1	Trivandrum	17209
2	Kollam	19093
3	Pathanamthitta	15107
4	Alappuzha	2774
5	Kottayam	32234
6	Idukki	28609
7	Ernakulam	47596
8	Thrissur	22260
9	Palakkad	99252
10	Malappuram	41766
11	Kozhikode	18552
12	Wayanad	962109
13	Kannur	16544
14	Kasargod	5038

Source: Agriculture Statistics 2021-2022

BANANA CULTIVATION IN WAYANAD

Banana cultivation in Wayanad Kerala is quite popular due to the region's favourable climate and soil conditions. Wayanad is known for its rich biodiversity and the is one of the major bananas growing region in Kerala. Farmers in Wayanad cultivate various varieties of bananas. Including the popular nendran bananas which are widely used for making bananas chips and other traditional dishes. Wayanad's climate with its moderate temperature and high humidities suitable for a banana cultivation. the region receives abandoned the rainfall which help in maintaining moisture levels requiring for banana plants. However, farmers also need to be a cautious about extensive rainfall, as it's a cause of the waterlogging and affect the growth of the plants. pest management is an important aspects of banana cultivation in Wayanad. Farmers use various technique to control a pest and disease including the use of organic pesticide and regular monitoring the plants. they also take a preventative measure to avoid the spread of disease and maintain the overall health of the banana plants. Overall, banana cultivation in banana is a significant for agriculture activity that contributes the regions of economy and provides a livelihood opportunity for farmers. banana producer in Wayanad is not only consumed locally but are also export to the other part of the Kerala and neighbouring states.

2. STATEMENT OF THE PROBLEM

Banana is the second most important fruit crop in India next to mango ,its year round availability ,affordability, various ranges ,nutritive and medical value makes it favourite fruit among all classes of people .it has also good export potential cultivation technique of the crop is an economically viable enterprise leading to increase the productivity ,improvement in produce quality and early crop maturity with the produce commanding premium price .banana is vulnerable to weather and deceases. Banana plants blow over easily be destroyed by hurricanes and gale.

As far as banana cultivation is concerned, high cost of production, low profitability and unpredictable weather are the main problems faced by banana farmers in rural areas. Attacks by wild animals like wildebeests cause huge damage. Due to technical problems, banana farmers are unable to get insurance, and they suffer.

3.OBJECTIVE OF THE STUDY

- To estimate area and production of banana cultivation in the study area
- To examine socio economic problems of banana cultivating Farmers
- To assess the cost and profitability of banana cultivation
- Role of crop insurance schemes in banana cultivation

4.SCOPE OF THE STUDY

Agriculture is main occupation in Wayanad district, and it occupies important place in the district economy. Most of the labour force belonged to agriculture. Banana is the one of the important cash crops exporting to neighbouring districts in Kerala. The study mainly focused on the area and profitability, socio economic conditions of the banana cultivators and cost are analysed. this study also studies various crop insurance scheme provided by the government for support the banana farmers and its accessibility. This study helpful to understand the present conditions of banana cultivation in Wayanad.

5.SIGNIFICANCE OF THE STUDY

Banana cultivation plays a crucial role in the agricultural landscape of Wayanad district, Kerala. Given its economic importance as a cash crop and its contribution to the livelihood of numerous farmers, understanding the challenges and opportunities in banana farming is essential. This study is significant as it provides valuable insights into the area and production trends, socio-economic conditions of farmers, and the overall profitability of banana cultivation in the region.

The study also highlights the vulnerabilities associated with banana farming, such as high production costs, low profitability, unpredictable weather conditions, and destruction caused by wild animals. These challenges often make banana farming a risky venture, particularly in the absence of adequate crop insurance coverage. By analyzing the role of government-provided crop insurance schemes and their accessibility to farmers, this study aims to assess their effectiveness in mitigating risks and ensuring financial security for cultivators.

Furthermore, the findings of this research will help policymakers, agricultural agencies, and farmers themselves in making informed decisions to improve banana cultivation practices, enhance productivity, and implement strategies to reduce economic losses. The study will also contribute to identifying measures that can enhance the adoption of crop insurance schemes, thereby promoting sustainable and profitable banana farming in Wayanad.

6.RESEARCH METHODOLOGY

The study aims at describing the socio-economic problem of banana farmers, and analysing the cost and return of banana production, and identifying the role of the crop insurance schemes in banana cultivation. As such, the nature research design followed is descriptive and analytical in nature. This study relies completely primary information obtained from the banana cultivators from the selected study area. The research design of the present study included in selection of study areas, selection of sample farmers, collection of data, analysis of data and presenting findings selection of study area purposive sampling procedure was followed for the selection of the study area.

Study area

Wayanad district of Kerala was purposively selected for conducting the study. Wayanad contributes 8861 hectares of area and 19945 tonnes of production in the total production of banana. The study based on the data collected from the 4 different blocks in Wayanad. They are manandavady, kalpetta, sulthan bathery and panamaram. Consideration which was kept in mind for selection for the study area include (a) conveniences of research, considering of time and money factors, and (b) availability of human producers in the related area. First the data of Krishi bhavan under all four blocks of Wayanad were selected, through Krishi bhavan officers, information about banana cultivators was selected. Then 100 farmers were randomly selected from among them.

Collection of data

A comprehensive plan was used during the field survey to collect farm level Data, through questionnaire. The objectives of the study were clearly explained to the farmers personally and their co-operation was ensured Even through the respondents did not continue adequate farm record and accounts, they were able to furnish the particular in view of their long association with farming. However, to minimize recall bias cross check and recheck carried out.

Framework analysis

The sources of data are primary as well as secondary. The data collected from banana cultivation and problems of banana cultivation survey constitute primary and information gathered through book, journals, magazines, report, dairies are considered as the secondary source. Garratte ranking technique used to rank the problems faced by banana cultivators.

Analysis of data

It was analysed with a view to achieving the objectives of the study. For this study, aligned analysis was applied to applied to classify data to derive meaningful findings.

7. RESULT AND DISCUSSION

Age structure

Age is determining factor of working capacity. A family which constitutes a greater number of children and old people will suffer since their earning capacity is low. On the contrary, a family will be better off if it contains more working people. The following table depicts the different age group of the respondents.

Age (In years)	No of farmers	Percentage of farmers
30-40	3	3%
40-50	54	54%
50-60	43	43%

Source: compiled from primary data

The above table reveals that the respondents who are below 40 years are 3, in the age group 30-50 years are 54 respondents and above 50 years are 54 respondents. Majority of the respondents are in the age group between 30-40 years, which is working group.

Educational level

Education is necessity for social awareness. Education brings a better society. Lack of education prevents social enlightment. The educational status of the sample respondents is depicted in Table 4.From the table 4.2 its clear that 100% of respondents are literate out of them 37 percent of the respondents have completed the +2 level, 58 per cent of respondents have completed the primary level education and only 3 per cent of the respondents have completed degree from this educational status, the researchers have found that majority of farmers completed their primary level education only

SL No		No of respondents	Percentage
1	Primary Level	58	58%
2	Higher Secondary Level	37	37%
3	Graduate	3	3%
Total		100	100

Source: compiled primary data

Annual income

Income particulars help us to know the economic condition of the banana cultivators. The level of income is depending upon the level of the banana production. There is a positive direct relationship between the banana production and level of income. If the banana productivity increases the level of income also increases. The below table 4.3 shows distribution of sample by their annual income.

Annual income (in rupee)	**No of respondents**	**% of respondents**
Below 1,00,000	18	18%
1,00,000-3,00,000	29	29%
3,00,000-5,00,000	41	41%
Above 5,00,000	12	12%
Total	100	100%

Source: compiled from primary data

The table 4.4 shows that,18 percent of respondents are having the income group below 1,00,000.29 per cent of respondents have come under 1,00,000-3.00.000 and 41 per cent of respondents have come under the income group of 3,00,000-5,00, 000.remaining 12 per cent of respondents have come under the income group of 5,00,000 and above.

Category of farming

In India, farms are classified based on the size of holding, and the categories are marginal farm which is less than 1 hectares (2.5 acres), small farm which is 1-2 hectares (2.5-5 acres), medium farm which is 2-10 hectares (5-25acres) and large farm which is more than 10 hectares (25 acres and more). the holdings of sample respondents are presented Table 4.5.

Sl No	**Category of farming**	**No of respondents**	**% of respondents**
1	Marginal	46	46%
2	Small	41	41%
3	Medium	8	8%
4	large	3	3%

The diagram 4.4 shows that most of the sample respondents are marginal farmers.46 of respondents are marginal farmers,41 of respondents are small farmers,8 respondents are medium farmers and only 3 farmers are large farmers.

Year of experience

Experience plays vital role in banana farming, as it enables farmers to develop practical knowledge, improve crop management, enhance yield and develop problem solving skill. Experience is also essential for successful banana farming, allowing farmers to refine their skill, adapt to changing conditions, and optimize their operations for long-term success. The experience of farming in banana cultivation of sample respondents are presented table 4.5

Year	Total respondents	% of respondents
Below 10	18	18%
10-20	59	49%
Above 20	23	33%
Total	100	100%

Source: compiled from primary data

The table 4.5 indicates the experience of farmers. The18 percent of farmers have a below 10-year experience in the banana farming.59 per cent of farmers have experience between 10-20 years. Remaining 23 per cent of respondence have above 20-year experience in banana farming. Thus, the table reveals that most of the farmers in the sample area have 10-20 years' experience in banana farming.

Cropping pattern

Agriculture is the backbone of Indian economy and prosperity of agriculture can also largely be responsible for the prosperity of the entire Indian economy. Cropping pattern can be made more rational through appropriate changes in economic motives of higher production. The total production obtained by the farmers in the study area is given on the table 4.6

The table gives the details of the production pattern of banana. Production is more in nendran when compared to other varieties like robusta and poovan. most of the large cultivating respondents are cultivating more than two varieties. Majority of the respondents i.e. 46 per cent of respondents are cultivating nendran veriety.34 per cent of respondents are cultivating robusta in sample area. The poovan variety is cultivating only 20 percent of respondents. The study found that in the area the nendran is more profitable compared to other varieties followed by robusta variety.

Sl No	Cropping pattern	No of respondents	% of respondents
1	Poovan	20%	20%
2	Robusta	46%	46%
3	Nendran	34%	34%
Total		100%	100

Source: compiled from primary data

Reason for cultivating banana

Reasons	No of respondents	% of respondents
Suitability of land condition	9	9%

Less expensive	0	0%
Profitability	3	3%
Continuous demand	20	20%
Marketability	68%	68%
Total	**100%**	**100%**

Source: compiled from primary data

The table 4.7 reveals the opinion given by the reason for the cultivation of banana. Out of total,68 per cent of farmers cultivating banana due to the continuous demand. According to opinion of the 20 per cent respondents the continues demand is the reason for cultivating banana. Only 3 per cent of respondents feels profitability to be reason for cultivating banana and 9 per cent of respondents are stated suitable for land condition is the reason for cultivating banana. It is clear from the statistics that most of the farmers believes banana cultivation provides higher marketability.

Cost of banana cultivation

Sl No	Cost of banana cultivation	No of respondents	% of respondents
1	Below 2,00,00	17	17%
2	2,00,000-4,00,000	39	39%
3	4,00,000-6,00,000	33	33%
4	Above 6,00,000	11	11%
Total		100	100%

Source: compiled from primary data

The Diagram 4.8 shows that the total cost for producing banana in the sample area. Most of the respondent's state that nowadays cost of producing banana cultivation is more than they earn. There is 39 per cent of respondents are reveals their cost for total production of banana is between 2 lakhs to 4 lakhs.33 per cent of respondents are incurred cost between 4 lakh to 6 lakh.17per cent of respondents incurred cost below 2 lakh and only 11 respondents are incurred above 6 lakh.

Total profit in the banana farming

Everyone's aim is to maximise their profits. In all activities profit plays crucial role also in banana farming.as it, motivates farmers to continue producing bananas. Encourage sustainability through sustainable practise, drives innovation, support livelihood influence decision-making.by generating profit, banana farming become a viable business, encouraging farmers to produce high quality bananas, invest in their farms, and contribute to the local economy.it is said that most of the respondents in sample area are not getting expected profit. The table 4.9 shows that total number of respondent's profits.

Sl NO	**Total profit**	**No of respondents**	**% of respondents**
1	Below 1,00,000	7	7%
2	1,00,000 – 3,00,000	48	48%
3	3,00,000 – 6,00,000	19	19%
4	Above 6,00,000	26	26%
Total		100%	100%

Source: compiled from primary data

Above table reveals the profit of total respondents in the sample area.48 per cent of sample respondents get profit amount between 3 lakh to 6 lakh.26 per cent of respondents get profit amount below 1 lakh ,19 per cent of respondents get profit between 3lakh to 6lakh and remaining 7 percent of respondents get profit above 6 lakh.from the figure it is clear that majority of cultivators are get profit amount beween 3 lakh to 6 lakh.

Problem faced in banana cultivation

Banana cultivators had to face some problems at the time of banana cultivation. The problem was banana wilt, nutrients deficiency, wind/rain vicissitude, leaf spot disease and wild animal attack. The banana cultivator's households are asked to rank the five problems according to their preference. The preferences of the banana cultivators are given in the following table.

Sources	I.	II.	III	IV.	V.	Total
Severity disease	23	5	11	25	36	100
Severity of pest	12	7	23	37	21	100
high cost of production	24	35	18	21	2	100
natural calamities	32	39	19	7	3	100
wild animal attack	09	14	29	10	38	100
Total	100	100	100	100	100	100

Source: compiled from primary data

Garrett Ranking Technique

Garrett ranking technique was used to rank the problems. The ranks were assigned, and points were given in the following order.

1-Rank = 5 points
2-Rank = 4 points
3 Rank = 3 points
4 Rank = 2 points
5 Rank = 1 points

After assigning point to various ranks, the garatte mean score was calculated by using the formula.

$100 (R_{ij} – 0.5)$

Present position =Nj

Rij = rank given for the i^{th} reason by j^{th} respondents

Nj=Number of factors ranked by j^{th} respondents.

Garratte Mean score-problem faced by banana cultivation

Problem	Garratte ranking mean score	Rank
Severity disease	44.80	4th Rank
Severity of pest	44.82	3rd Rank
high cost of production	57.25	2nd Rank
natural calamities	60.84	1st Rank
wild animal attack	43.29	5th Rank

Source: compiled from primary data

From the above table 4.11, natural calamities were the main problem faced by the banana cultivators. Then high cost of production was the second most important problem. Wild animal attack was the least important problem faced by the banana cultivators.

Enough income from banana cultivation

Banana cultivation can provide a sufficient income for farmers, depending on various factors such as yield and productivity, market prices, farm size and scale, efficiency and management and production costs. Table 4.12 reveals the reply of respondents by enough income from banana cultivation.

Source:

Enough income	No of respondents	% of respondents
Yes	43	43%
No	57	57%
Total	100	100

compiled from primary data

The table highlights how many cultivators earn income from banana cultivation sufficient for their daily expenses or not sufficient for their daily expenses.it reveals that 57 percent of respondents stated they don't get enough income for their daily expenses from banana cultivation and 57 percent of respondents stated they are getting enough income for their daily expenses from banana cultivation.

Loan for banana cultivation

Loan plays a significant role in banana farming, it enables cultivators to financial initial investment, expand operation, improve productivity. Etc... The table 4.13shows weather banana cultivators taken loan for cultivating banana or not.

Accept Loan	No of respondents	% of respondents
Yes	61	61%
No	39	39%
Total	100	100%

Source: compiled from primary data

In the table 4.13 shows that total respondents those who taken loan for banana farming and those who don't take loan for banana farming.61 percent of respondents reveals they taken loan for cultivation and 39 percent of respondents reveals they are not taken any king of loan for banana farming.

Distribution of respondents by crop insurance

crop insurance is essential for banana cultivation. It provides financial protection against various risk, including natural disaster, crop failure market fluctuation and weather events. Diagram 4.14 highlights the weather crop of cultivators are insured or not.

	No of respondents	% of respondents
YES	89%	89
NO	21	21%

Source: compiled primary data

The above diagram show that 81 percent of respondents are insured their crop and 29 percent of respondents are not insured their banana in last year, because they didn't get insured amount from authorities in previous years.

Distribution of sample by reason for taking crop insurance

There is a reason for taking crop insurance in banana cultivation. The reason was, bank/financial institutions compulsion, financial security, and heard good experience from others. From this, cultivators are chosen the appropriate option for why they insured their crop.

Sl NO	Reason	No of respondents	% of respondents
1	Bank/ financial institution compulsion	1	1%
2	Financial security	87	87%
3	Heard good from others	11	11%
Total		100	100%

Source: compiled primary data

The table diagram shows that reason for taking crop insurance. Most of the respondents are taken crop insurance as financial security,87 percent of respondents were voted for the it.11 percent of respondents engaged in crop insurance because they heard good from others. But only 1 percent of respondents were taken due to bank/financial institution compulsion.

Distribution of sample by claim received

Table 4.14 shows the claim received by farmers in last three years. Some respondents are unwilling to take claim because they don't get any benefit when they need them. It shows that there are only 85 respondents.35 per cent of respondents got claim below 1,00,000 and 44 per cent of respondents got claim between 1,00,000 and 3,00, 000.Only 6 respondents got claim between 3,00,000 and 5,000,000

Claim received	No of respondents	% of respondents
Below 1,00,000	35	35%
1,00,000-3,00,000	44	44%
3,00,000-5,00,000	6	6%
Total	**85**	**85%**

Source: compiled from primary data

Experience with agriculture farming

The experience of respondents with agricultural insurance were distributed on Table **4.17**.

Experience	No of respondents	% of respondents
Stationary	76	76%
Not stationary	24	24%
Total	**100**	**100%**

Source: compiled from primary data

Table 4.17 shows the 76 percent of respondents voted for stationery and 24 percent of respondents voted for not stationary.

Distribution of sample by satisfaction in banana cultivation

Several factors contribute to satisfaction in banana farming, including good yield, profitability, market demand, sustainable practises, knowledge and skill and soil health.

Satisfaction	No of respondents	% of respondents
Yes	87	87%
No	13	13%
Total	**100**	**100%**

Source: compiled from primary data

The table 4.15 highlights that 87 per cent of cultivators are satisfied in banana cultivation and 13 per cent of respondents are not satisfied in banana cultivation. Most of the cultivators who said yes only because they are interested in the work they do and not because they are satisfied with the outcome they get from it.

FINDINGS, SUGGESTIONS AND CONCLUSION

5.1 Findings

- Majority of the banana cultivators belong in the age group of 40-50 years.
- Most of the banana cultivators are literate but only at primary level.

- Most of the banana cultivators holds small and marginal farm than medium and large farm
- From the income analysis it seen that majority of the cultivators are earn 1lakh to 3 lakhs.
- More than average of respondents has 10–20-year experience.
- Nendran variety is more profitable than other varieties followed by robusta variety.
- Most of the banana cultivators are believes cultivation provide higher marketability.
- Cost for cultivating banana is higher when compared to its profit.
- Natural calamities are the main problem faced by the banana cultivators.
- Most of the cultivators are not get enough income from cultivating banana alone.
- From the analysis most of the cultivators are cultivating banana by taking loan from various bank.
- Many of those who had previously taken crop insurance are not now willing to take insurance because of the amount due is not received on time.
- From the analysis most of the cultivators are took crop insurance believing it provide financial security.
- Majority of cultivators are satisfying banana farming even though it incurred higher cost.
- When the price of bananas falls, farmers incur higher costs to get them to vfpkc stores to get the support price given by the government

5.2 Suggestions

- Government should provide financial assistance for banana cultivators.
- It is suggested that casuarina may be planted around the banana's place of cultivation as a windbreaker to save the banana plants from lodging due to heavy wind.
- Loans given by the banks to the farmers are not adequate due to the increase in the cost of production. The banks and co-operatives should make necessary arrangements to increase the loan amount to meet the requirement of the cultivators.
- Provide subsidy for the agriculture product to encourage banana farming.
- Provide pending insurance claim amount to the farmers immediately.
- Transport in VFPCK (Vegetables and fruit promotion council Kerala) store incurs high cost. So set up more VFPCK stores where farmers can easily access them.
- Most of the farmers in the study area are not aware of the new technology useful for their farm activity. Organize a class at Krishi Bhavan office or any other place for them to learn more.
- Taking an insurance involve a lot of paperwork. It is a difficulty for less educated farmers. Make the process of insuring banana easier.
- Most of the farmers in the study area use seeds imported from other states. This incurred to higher prices and losses, if the expected profits are not met. Support farmers to make seeds more efficient and reuse self-produced seeds.
- At the time of repayment of loan by the growers, the lending financial institutions should adopt a flexible approach in deciding the date of recovery of loan dues from the growers. By considering the time of harvesting and the nature of market. The lending institutions should adopt a flexible approach in collecting dues.
- The growers should come forward to pay wages higher than industrial operators and builders to avoid labour turnover. Emoluments and fringe benefits should also be given regularly to the workers to retain them in the cultivation.
- The central and state Governments should give enough incentives to the growers in the growers in their perspective development plan this is highly necessary in view of the fact banana cultivation has to be labour intensive and the workers must continuously pay increasing wage rates to raise their stand of living.

5.3 Conclusion

Agriculture has been regarded as the backbone of India's economy. Banana is the one of the efficient crops produced in India. Through our research and analysis, we have highlighted the cost for producing banana, its profitability and crop insurance scheme. We have also explored the challenges faced by the banana cultivators, such as the severity of pesticides, natural calamities high cost of production and wild animal attack. Overall, this project underscores the importance of banana cultivation in supporting livelihood,

promoting food security, and contribute to sustainable agriculture. By adopting best practise and innovative approaches, banana farmers can enhance productivity, improve their income, and ensure a resilient and thriving banana industry for generation to come. Considering the current scenario of the agriculture industry, it must maintain its comparative attractiveness like others in India to grow and develop as a major industry. This would mean that the rewards to the growers should be commensurate with the efforts required of them. The banana growers should attempt to acquire knowledge about scientific methods of cultivation. They should Endeavour to establish better human resource management, cost average, better management of credit, ensure quality and create a linkage with reliable mark intelligence system. All these will increase the production and productivity will also increase.