CHAPTER VII
FINDINGS, CONCLUSION AND SUGGESTIONS
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7.1 Introduction

In last and final chapter, this portion is the outline which represents findings of the entire research followed by conclusion resulting from the extensive study of the literature, analysis and interpretation of facts and figures, primary survey, and the comprehensive discussion on the subject matter carried out through the research. The chapter also encompasses the suggestions based on the results of hypotheses testing and the observation made during this study. Finally, the chapter concludes laying the direction for the future research.

7.2 Findings of the Study

- Demographic Characteristics of Household farmers (Age)

After analysing the demographic characteristics of the farmers in the Malabar region of Kerala, it is discerned that a maximum number of respondents lies in the age group of 46-55 and least number of respondents lies in the 26-35 age group. In the present study of sample size 508, 70 (13.8%) farmers belonged to the age of below 35 years and the age group between 25-35. The age group of 36-45 years only cover 110 (22%) farmers. The study has revealed that majority of the respondents engaged in the agriculture sector is in the age group of 46-55 years which cover 204 (40%) farmers. This is because farming is their traditional source of income and the agricultural family background also compelled them to continue in this sector. The study reveals that 24% of the respondents included in the group above 55 years old, still engaged in this sector because of their interest in the farming and by the family condition.

The study went on to see if there are any considerable differences in the Agriculture Growth Perception across various age groups of farmers. The result put out that there is a significant difference in agriculture growth perception across multiple age categories. Thus, it was ascertained that the term agriculture growth perception is best known by the age group of 46 or more.
Moreover, the difference in the agriculture growth perception among the gender groups is not so large. This indicates that the term agriculture growth perception is understood by both male and female in the same way. But, it should be noted that there are only a few female respondents. Thus, it cannot be generalised.

**Demographic Characteristics of Household farmers (Gender Group)**

The demographic profile also depicts the gender of the respondent/farmers. It was noted that male farmer respondents were dominant in the agriculture sector, especially in the Malabar region. In a study of 508 sample size, 465 respondents are male farmers. Only a few (less than 10 percent) female farmers are engaged in this sector in the study area. The researcher found that the low share of the female farmers is mainly because of the family burden, heavy manual labour involved in cultivation, and the little interest to the farming work due to the need of heavy physical work to gain income and also because women are unable to do such a job since they concentrate on family, children’s education, etc.

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**Demographic Characteristics of Household farmers (Educational Qualification)**

Out of the sample size of 508 farmers, a small section was found to be graduated. It represents only around 1% of the total respondents. A few, i.e., 35 respondents (7%) belong to the category of the higher secondary level educated. Majority of the respondents included in the group of secondary education and below. It represents a significant portion of 469 respondents (92.3%). A majority share of them comes under the primary level education. No respondent includes in the category of illiterate. So, the researcher observes that all of the farmers in the region are literate, also saw that majority of the respondents completed their primary level of education even if the majority of the respondents fell in the 45-55 age group. However, parents then did not give due importance to their higher education either.

The same education qualification level was broken down to see if there are any changes in the agriculture growth perception; found out that there is no
significant difference across various educational qualification. Nonetheless, it is to be noted that the sample size in each group is not well balanced. Thus, it cannot be generalised either.

Demographic Characteristics of Household farmers (Locality)

Demographic variables also show the locality of the respondent. Majority of the respondent was hailing from the panchayat category that represents 343 (67.7%), and 125 (25%) farmers in the sample size included in the category of municipality. Only a small part of the farmers is under the category of the corporation area. It represents only (40), 8% of the total respondents. The researcher finds out the reason behind the significant representation that is the area of Wayanad and Malappuram are entirely under the panchayat and municipality set up. In the case of Kozhikode district, there is only one corporation, but the people living there are not much interested in engaging in agricultural activities. Majority of the respondents from Palakkad district are included in the locality category of municipality.

While testing if there is any significant difference in perceptive agriculture growth among respondents from the various group, it was found that there is a considerable difference in agriculture growth perception according to the native. This is because of the physical, economic and political factors which form the overall agriculture growth perception explored.

Demographic Characteristics of Household farmers (Farming Experience)

A major part of the respondents, (i.e., 218(43%) farmers) includes in the category of 10-15 years’ experience. Average share respondent includes in the category of 10 to 15 years’ experience it represents 134 (26%). Around 22% (113) respondents included in the category of 5-10 years' experience. Only a simple portion of farmers have the experience of fewer than five years, i.e.,43 (9%) farmers. The researcher observes: the existing farmers are mainly in the age group of 45-50, they started engaging in farming activities in their early ages as a traditional and family background business, and they are continuing in this sector. The younger generation is not ready to opt
agriculture sector for earning income because of the fluctuating trend of commodity price and the insecurity in investment. Youth neglects this sector because of the declining trend of growth in this sector.

The level of experiences is tested to see if there have been any significant differences on agriculture growth and found a substantial difference in growth perception. The critical reason for this condition is that most of the respondents are in the age group of 46 or more. Then, they were only left with farming as the major employment option. At present, the majority of the young blood turns a blind eye towards farming because of gulf migration and white-collar job availability.

**Demographic Characteristics of Household farmers (Farming Income)**

A significant part of the respondents includes in the category of 15001-30000 of income which represents 260 (51%) respondents. More than half of the respondents are included in this class of income level. 115 (23%) farmers include in the income group of 30001-45000. It represents 134 (26%). Only 6% (33) respondents come under the income category of 45000 and above. This tendency can be led to conclude that majority of the farmers are availing farming aid and assistance. However, they are not productive enough, and they treat farming activities as a parallel income source along with some other jobs.

The study went ahead to see the differences in the AGP across various farming income level and found that there is no significant difference (null hypothesis) in the perception level. This is because of the educational level of the farmers, and most of the farmers are treating farming activity as a parallel income source.

**Demographic Characteristics of Household farmers (Farming Investment)**

The study found that almost 78% of the respondents had invested around 100,000-300,000 in the farming activities. This primary view helps to understand that the farmer prefers agriculture just because to earn the
agricultural subsidies. However, it can be understood that the farming investment has not been recovered over the years.

Besides, the difference in the growth perception of the same household farmers is leading to accept the null hypothesis telling there is no difference in the AGP across various farming investment groups made by farmers. Hence, it can be concluded that the perception is formed only by experience level and thereby informed decision put forth.

- **Impact of Crop Portfolio Investment variables on Agriculture Growth Perception**

  There were only five independent variables which constitute the concept crop portfolio investment based on the CFA modelling. The important variables identified were investment size, investment decision, investment preferences, investment risks, and crop portfolio diversification. Availability of the fertile soil is a crucial factor which forms as the physical component relation perceptive agriculture growth. Availability of finance, credits, cheap labours, irrigation and transportation, market access, training programs, government loans and subsidies, public marketing and distribution system and R&D facility are also quite important elements to form a sound perception on agriculture growth.

  All these elements aim to mitigate the loss of investment in agriculture because huge risk factor is derived from price level changes, natural calamities and marketing of crops produced. Thus, the research came to a unique conclusion that all portfolio investment variables mapped have significant impacts on the formation of a sound perceived agriculture growth.

  7.2.1 **Additional Findings**

  - The learning shows a declining trend of agricultural investment in different crops due to urbanisation and industrialisation that result in the reduction of Gross Cropped Area and Cropping intensity.

  - Spatial and temporal variability in the rain, Erratic rainfall due to cyclonic North East Monsoon, Shortage of labour force, incomplete adoption of
location-specific cropping system, poor adoption of Inadequate post-harvest technologies, uncertain market prospects and deteriorating soil health are other factors.

- The study shows that there is a positive effect of the demographic variables like age, localities and farming experiences on agriculture growth perception. The negative effect was of various educational qualifications, gender, farm investment level and farm earnings on agriculture growth perception. However, this result cannot be generalized as the gender samples were mostly biased to a male group perception.

- The research also shows that there is a significant relationship with the crop portfolio factors like investment preference, investment decisions, investment risk and investment size on agriculture growth which helps to reduce investment risk and enable to counter uncertainties. Hence, crop portfolio diversification is the best option for the agriculture investments in Malabar region.

7.3 Conclusion

The study “Changing Scenario in Investing Portfolio of Agrarian Society: A Case Study of Malabar Region of Kerala” discusses the perceived agriculture growth of household farmers in the Malabar region of Kerala. The term agriculture growth is comprehensively understood by agrarians or household factor seeing the different factors causing a quick-change scenario in agricultural investment over the years. Moreover, this perceptive-cum-exploratory type of study earnestly attempted to understand the level of constructive agriculture growth perceived by the household farmers in the four districts of Malabar region. Technically, the agriculture investment is well defined by the income dependence, the risk involved in the farm investment, investment alternatives available in front, size of investment in the farming, various decisive factors affecting, crop portfolio awareness among the farmers is vital factors that establish a well-perceived or informed agriculture growth among farmers. In a nutshell, the agriculture growth, here, in this situation is the perceived and cognitive understanding about the agriculture as an income source by considering the impacting factors and demographic profile of the farmers being the limiting factors. Thus, the
study brought in the theory of perceived growth which represented the bottom line of
the agriculture sector, who is the household farmers. Therefore, primary exploration
was done by deciphering years-long production and productivity trend existing in
farming.

As an initial observation, the researcher has chosen 12 crops (both cash and food
crops) to see the overall agricultural investment practices developed in Kerala. Post
analysis of the secondary sources, the study found an overall declining trend in the
agriculture output. However, cash crops are still being cultivated by the household
farmers. Whereas, all food crops are predominantly imported from the neighbouring
states such as Andhra Pradesh and Tamil Nadu. Thus, this changing trend gave a
strong ground to seek the prevalent issues in the agricultural investment in the
Malabar region; being the area under study.

To synthesise, the problems are brought into an exploratory research design. The
study defined the concept of "agriculture growth" and looked into it on a perspective
angle. Agriculture growth is technically formed into a standpoint by considering the
physical, economic, and government factors revolving around. These factors lead to
the development of a conceptual light of agriculture growth in the view of household
farmers. The studies related to the agriculture investments in India & Kerala were
reviewed by the researcher to substantiate conceptual base put forth. They are as
follows:

- Cropping pattern and Land Utilization.
- Indian agriculture growth and developments.
- Studies related to agriculture Diversification and modernisation.
- Studies related to crop diversification.
- Agriculture trade and implication of liberalisation on agriculture investment.
- Agricultural investment and developments in Kerala.
- Agriculture and crop diversification in Kerala.

After thoroughly examining the previous studies, the study designed a comprehensive
tool containing different statements which would reflect upon the agriculture growth
perception. As the first and critical point among the determinants of physical factor
leading to the agriculture growth, almost all the respondents signified the importance
of the fertile soil. In fact, natural calamities might pose a significant threat to Kerala agriculture going forward. The recent State-wide flash flood occurred is the best example for it. Other prevalent problems such as market price fluctuations, market access, higher cost of cultivation, scarcity of labour force, irrigation & transportation, government loans and subsidies, public distribution channels, Research & Development are also highly regarded as the fundamental requirements to pave the path towards agriculture growth that all the farmers look into. Apparently, all the farmers have agreed upon such statements which seek the importance before discussed points. Thereby, the researcher formed the term "agriculture growth perception" as a dependent variable.

Generally, a dependent variable must be traversed by various independent variables which can define the problem quite well. The research explored issues and filtered out the changing scenario prevailing in agriculture. Firstly, during the exploratory stage, the study found out a number of factors which directly matter the most. Initially, agriculture investment is also considered as an investment alternative; thus, the amount spent for agriculture such as the purchase of equipment, cost of fertilisers and pesticides, modernisation cost is quite significant factors to form the investment size variable. Conversion of cultivable land into non-farming activities can lead to an increase in the cost of initial investment as well.

Secondly, the "preferences" of the same farmers looked to be highly important in comprehending the agriculture growth. Availability of investment avenues, diversified cropping preference, labour-intensive technologies in farming and risky farming would form the preferential factors which could define another set of sub-dimensions to the influencing factors.

As a third important determinant, "investment decision" on farming found to be a fundamental construct. Income generation and thereby wealth creation by farmers, availability of funds and incentives, liquidity requirements, risk factors, growth and expansion are all constituted to the concept of decisive factors of investment in agriculture.
Any monetary activity can potentially confront with inherent "risk" especially if it meant for future income generation; agriculture investment is no exception for it. The study helped to understand that there is an inadequate return on agriculture investment. Underlying risk evolving out of natural calamities, monetary liabilities, return uncertainty, commodity price changes, government policies and its changes are adding extra risk element in the agriculture. All these factors broadly made out to be "Investment Risk" in cultivation.

Finally, crop portfolio diversification has been understood as the widely accepted measure which can mitigate risks inherently existing while investing in agriculture. Therefore, the research paid close attention to the "crop diversification" practice as priority solution. In the same way, the majority of the respondents agreed upon the importance of crop portfolio investment practices.

To sum up, the overall outcome of the research, the primary solution towards the problem is proposed to be the best practice to balance the risks involved in the investment strategies in the cultivation. This can ensure adequate returns to the agriculture investment by regions. The study earnestly drilled down on to the scope of building a crop investment portfolio with a perceived understanding on the importance of investment related factors such as size, preference, decisions and the risk that are the factors which lead to the agriculture growth of the Malabar region of Kerala. Ultimately, as it brought out by the study, that the diversification strategies such as agriculture diversification, crop diversification, crop rotation, intercropping, mixed farming, integrated farming, etc. are suitable for the area more than the single cropping cultivation on a broader horizon. However, the current research was particularly focused on the crop portfolio diversification as a first go-to solution to the underlying problem in crop cultivations.

As a concluding mark, an agriculture investment portfolio is established by seriously considering questions such as what risk factors are involved, how big the investment has to be, how to be quick in farm investment decision making, what to prefer and what not to prefer. All these interrelated questions are promptly addressed by crop portfolio diversification being the best investment strategy. Therefore, the study ends up in suggesting the best combination of crops which offer a high return which
conceive less risk in general. The study also purposefully analysed the crop portfolio diversification as a solution and came up with some solution which are proposed both Centre and State Governments and the household farmers in particular. The proposed suggestions are given below

7.4 Suggestions to Government & Policy Makers

On a strategic and broad horizon, the following crucial points have to be adopted as a hands-on remedial measure at both the state and centre government policy formulation level. These measures can strengthen the agriculture at household level.

- The government must encourage the productivity of agriculture and horticulture crops that can bridge the present yield gap.
- The government may campaign to instil the need for mixed farming and other farm-based interventions.
- Promote hi-tech agriculture.
- Promote farmers participation in agri-business ventures.
- Identification and conversion of fallow lands into cultivable lands.
- The government must strictly restrict the conversion of fertile land into other non-agriculture farmers by recommending suitable and profitable cropping.
- The government may provide for assistance in farm mechanisation.
- Promote R&D to know the apt farming method to be adopted in a particular locality.
- Educational and training programs can be held to impart the awareness about the support price mechanism, public distribution channels, financial incentives, etc.
- There must be a remotely accessible help desk for a fast commencement of farming.
- Promote zonal/region-wise crop specific strategies.
- Loans and subsidies provided to the farmers must be observed.
- Research on how to improve energy efficiency in a farm operation with available agricultural infrastructure
- Strengthen government initiative like ATMA, Crop insurance schemes etc.…
- Promote awareness campaign to encourage youth population to take farming as a primary job option by providing more subsidies and financial exclusively to youth.
7.5 Suggestions to Household Farmers

- Practice the best available cropping methods by the soil quality, seasonal fluctuation and natural calamity vulnerability.
- Make use of all the financial aids, hands-on training, distribution centres offered by the government or government tied-up institutions.
- Household farmers can walk-in to the agriculture research institutes nearby to discuss the actual problem existing in their locality.
- Diversifying the cultivation through high-value horticulture and commercial crops can ensure the food and nutritional security.
- Adapt to integrated farming, diversified farming, crop rotation, dryland farming and crop diversification to reduce the risk of investment loss.
- There must be a balanced investment in crops according to the soil quality and other favourable factors to increase Return on Investment.
- Crop diversification must be regarded as the best alternative.
- Farmers must consider agriculture as the full-time dedicated job rather than as a parallel income source.

7.6 Directions for the future Research

The scope for the future research remains robust since the present research has been conducted with the specific objectives. In this study, the researcher has analysed only the limited variables like Investment Size, Investment Preference, Investment Decisions and Investment Risk refer by consideration of the growth of the agricultural sector. The study can be completed focusing on the macro level of agriculture statistics economics statistics if available. Interestingly, the same study might give an entirely different research outcome if it will be conducted once more after twenty years as the same youth population included in this dataset will be turning forty ages then. Most importantly, the perception of the youth population quite relevant as their attitude towards agriculture will determine the future of the sector in Kerala and the rest of nation.

- Applications of the study can be extended to other parts of Kerala State as well.
- Apart from agriculture growth perception as a dependent variable, economic growth can also be included.
Sample size can be enlarged in the same study to understand the depth of agriculture growth perception.

A panel Data Modelling can be developed to study the secondary data relating to the Malabar Region in particular, and it can be extended to the rest of India as well.

The same study can be carried out in a better way with multiple group perception (gender-wise) if the sample size balances between the gender groups.