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## Perception towards Crop Investment Levels of agrarian society in the Malabar region of Kerala

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### Abstract

Agriculture is the prime source of the economic development of the country. Agriculture and its allied sector contribute to a major share of the GDP of India. For ensuring the economic development of the nation, proper investment is needed in agriculture sector considering the elements that directly or indirectly influence. This paper is mainly trying to discuss the investment level of farmers based on the considering factors like investment size and investment decision. The objectives of the study is to analyses the effect of farm investment level on the Agriculture Growth Perception of agrarians of Malabar region of Kerala and to analyze the growth trend of different cropping systems in the State and also suggest strategies for strengthening agriculture and allied sectors in Kerala

**KEY WORDS:** *Investment, Investment Size, Investment decision and Agriculture Growth Perception*

### Introduction

Agricultural Investment is mainly involved with investing funds in agricultural and allied activities by government, public or private investors to generate incomes leading to capital formation in the sector. Agricultural investments can cause a wide variety of developmental benefits to people in both rural and urban areas guaranteeing an all-encircling growth. Many elements like availability of land, finance, quality of labor and other agro-infrastructure, the terms and conditions of the investment and the socio-economic conditions in the investment area determines the growth of this sector. Agricultural development to a great extent depends on the synchronized growth of farm-level production and productivity and the value chains linked to it. Value chains comprise of a wide array of small- and large-scale activities that involve supplying farm inputs, processing, storing, distributing, wholesaling, retailing and exporting farm products. These activities can be referred to collectively as “agro-industries”. In the dynamic globalised and liberalised socio-economic scenario, there is a need to look at both farm-level investment, as well as investment in agro-based industries

for ensuring a smooth and steady agricultural growth. The low productivity of agriculture has resulted in insufficient food production leading to persistent poverty and food insecurity in many backward and developing economies worldwide. For any investment to impact production and productivity positively, it must contribute to the capital formation at the farm level.

**Agriculture in Malabar Region** –The Malabar region is the group of districts in the Northern Kerala. It mainly consists of districts such as Kasaragod, Kannur, Kozhikode, Malappuram, Wayanad and the Northern Palakkad. As the research has a limited access to the entire region, the study has only chosen four districts viz, Kozhikode, Malappuram, Wayanad, & Northern Palakkad. In the early days, districts such as Palakkad, Malappuram, Wayanad, Kozhikode, were the part of Malabar which was a district under Madras Presidency of British India. Over the past years, there was much export of spices from Kerala, but the other plantation crops were started only after the arrival of Europeans such as coffee and tea. Pepper, cardamom, ginger, turmeric, coconut, areca nut, rice are among the major crops cultivated in this region. It was Europeans who planted Coffee and tea plants in Wayanad as well as Teak in Nilambur, for which these regions are famous for. The involvement of Europeans that Kerala got transformed from the traditional cultivation to the cash crops plantation system.

When we study Kerala agricultural history, it is of more importance to go through the geographical details of the region first. Kerala is the region covered by the Western Ghats in the east and the vast Arabian sea in the west. Even if the Western Ghats is separating Kerala from neighboring states, The Hill valleys like Wayanad, Nilambur, Parambikulam, etc. connect them with the neighboring states and developed routes to enable continuous passage of the traders. The land was resourceful of waterways and rivers originating of the Western Ghats.

### Key terms

**Investment:** The word "investment" maybe be defined in many ways by different theories and principles (Sahan & Mikhail, 2012; Syed & Miyazako, 2013a; Williams, 1938). To be more specific, investment is the application of money for making more money in the future. From an economic perspective, investment is the utilization of available resources to augment income or production output down the line (Johnson, 2006).

**Investment Size:** Size also has several implications on the performance related to transactions and investments (Thomas, 2009). The size of investment should also become an issue (eventually) for strong and growing assets which the funds are pooled in. Likewise, agriculture and its scale of investment is also a highly important factor to be considered to understand the overall changes over the years (Jagongo & Mutswenje, 2014).

**Investment Decisions:** The investment decision-making process of individuals has been explored through experiments by group of researchers over the years. The research unanimously concluded that the skewness of the return distribution significantly influences the risk perception of individuals (Weston, 1973). It implies that while taking investment decisions, investors are concerned about the possibility of maximum losses in addition to the variability of returns (Barua & Srinivasan, 1988).

**Agriculture Growth Perception:** The perception of investors or agrarians differs from different diverse factors like age, income, the experience of investing, investment objectives and individual social needs (Haritha & Uchil, 2016). The perception of individual elements concerning different macroeconomic variables seems to be disturbing the market behaviour (Dasgupta, n.d). Being one of the essential predictor variables under study, the respondents are asked to give their opinion about the investment size which constitutes the overall perception of the agricultural growth. To elaborate the study, there are many proxy measures to understand the investment such as amount invested in agrarian activities to spend on land, money needed to pay off workers, the amount invested in agricultural equipment, cost of pesticides used in farming and cost of modernisation of farms

**Review of the literature.** It goes through the relevant published and unpublished work done by the academicians, scholars and agricultural experts. This section deals with the Agriculture investment and developments in Kerala, it covers studies related to Agriculture investment and developments in Kerala and Cropping pattern and diversification.

**Tyagi (2012)** in a research article, conceptually explored an overall view of the agriculture growth history happened during the pre and post-independence time frame until 2005. The study had slightly linked agriculture growth trend up to the different macro policies which would push the growth upwards considerably. This research article focused more on the policy review dimensions. The study analysed the issues & prospects, and corresponding policy changes took place during the period under review. Also, it articulated that the agriculture is the backbone which contributes a large share in GS; it needs to be well-maintained too. Otherwise, it would cause inflations and imbalances at the macro level, the study concluded.

**Ghosh (2008)** analyzed the sustainability of Indian agriculture and the development by examining the trend in the area under High Yielding Varieties (HYV) crops and the trend of the annual compound growth rate of output and yield of produce in India. In his analysis, though the new technology-inclusive farming strategies gave a short-term income growth during the 1990s, the study had strongly warned about the infertile soil and consequent agriculture regressive growth as well. Thus, HYV had several environmental and sustainable development implications as well.

**Saran (2009)** through a book chapter, had analyzed the scenario in Indian agriculture, it highlighted the areas like foreign trade, horticulture, food processing, and sustainable agricultural practices. Theoretically put, it discussed the opportunities in Indian agriculture ahead, the author stress on the needs to be able to produce what is saleable, and the same time is open to importing what we cannot produce enough at present. The author emphasized on the importance of adhering to global agricultural practices and standards. Along with foreign markets, it also urges Indian agribusiness professionals to tap the opportunities in the domestic markets.

**Ficci-b2b.com (2009)** contributed to book chapter in the form of a report which furnished a brief overview of Indian agriculture which appeared on their business to business portal FICCI B2B. The purpose of the report was to bring out the country's agriculture prospects by highlighting India being the second largest producer of fruits and vegetables in the world, the exporter of spices and the biggest producer of milk then. The report identified variables of such climatic factors of abundant seasonal rains and around the year sunshine, which have been a favorable atmosphere for good agricultural production and the country achieved significant advances in productivity of primary food and cash crops. The report pointed that India has strong potential in horticulture and allied agribusiness sectors like dairy, livestock, and fishery. This study also briefly tracks the growth in agricultural finance, insurance and agri-produce marketing

**Sakeer (2011)** in his doctoral thesis deciphered the WTO policies and its implications for Indian agriculture. The researcher used doctrinal research method to understand the impact of WTO on agriculture. For that matter, FDI inflows, population growth, food grain productions & agricultural growths are chosen as the parameters. Simply put, it analysed the policy level changes due to WTO doctrine introduction, and its impact on the agriculture. Further, the study found that WTO had impacted the domestic productivity of agricultural produce and it had a multiplier effect on other sectors of the economy as well. The investigation suggested that the government should promote farmers to go global by exploring the R&D opportunities.

### Research Gap and Scope of the study

After going through an extensive literature review, it has been found that there is insufficient study analyzed "Crop Investment level of agrarian society" in Kerala with the special focus on Malabar. Most of the studies related to Kerala agriculture was undertaken were in the areas of the shift in cropping pattern and land utilization on agriculture. However, the majority of the literature showed that there is less number of ground level analysis by consulting the farmers itself. Farmers are the apt persons who can input the actual scenario existing in agriculture. It is also noted that there have been a few studies carried out by consulting the agrarians and their perception. Thus, the investment level in agriculture and the agricultural growth has been studied at a narrow level.

Hence, The study is taking variables like investment growth perception and level of investment and also considering factors like investment size, investment decisions that lead to the growth of agricultural investment. Therefore, the present study is an earnest attempt to analyze agricultural area, production and productivity and the growth trend of different crops in the state, also analyze various components which leads to positive changes on the increase in return on

agricultural investment. The study also tries to suggest various strategies which help to strengthen the growth and development of the agriculture sector of the Kerala State, especially in the Malabar region.

### Objectives of the Study

The broad aim of this study is to identify and understand the level of awareness about farming investment among the farmers. However, the study earnestly attempts to investigate how farmers are reacting to such challenges and opportunities around the agricultural investment. To dig in deep, the present study explores Three specific objectives. They are as follows:

- To study the effect of farm investment level on the Agriculture Growth Perception of agrarians in the Malabar region of Kerala.
- To analyze the growth trend of different cropping systems in the State.
- To suggest strategies for strengthening agriculture and allied sectors in Kerala.

### Hypothesis

H01. There is no significant difference in agriculture growth perception across various Crop Investment Levels of agrarian society in the Malabar region of Kerala

### Analysis

One-way Analysis of Variance (ANOVA) One-Way Analysis of Variance or One-Way ANOVA is a statistical method to determine if there is a difference in means between two or more independent groups, where the groups are defined by the outcomes for a single categorical variable (Murray, 2017). In this study, one-way ANOVA has been used to compare the mean value among the different investment level of the farmers. It is understood to have a significant difference among the group if the value is less than 0.05 (5% significance level). Therefore, null hypotheses are rejected, and alternative hypotheses are accepted.

This hypothesis is looking into the agriculture growth perception and its change across various crop investment made by the respondents. Usually, there should not be any change of perception according to the level of investment if the agrarians are well-informed society or educated. The sample size of 508 respondents who are household farmers in the region of the State has been observed for the data analysis for knowing the investment level of farmers.

### Investment in Farming

Household Farmers Investment in the agriculture decides the level return could be generated out of. Size of the investment helps the farmer even to include the advanced farming technology. Thus, the amount of investment made in farming and allied activities can tell if the farming activities are dependable as full-time employment.

Table No: 1 Investment in Farming by Farmers

Category	Frequency	Percent	Valid Percent	Cumulative percent
Below 100000	78	15.4	15.4	15.4
100001-200000	271	53.3	53.3	68.7
200001-300000	127	25.0	25.0	93.7
Above 300000	32	6.3	6.3	100.0
<b>Total</b>	<b>508</b>	<b>100.0</b>	<b>100.0</b>	

**Farm Investment** The above table exhibits the farming investment with a customised investment ceiling made by the researcher. It is evident that almost 78% of the total respondents invested around 100,000-300,000 in agricultural activities. However, 15% of them had invested less than 100,000 while 6.3% invested even more than 300,000 rupees in

the agriculture. This primary view helps to understand that farmers indulge in agriculture practice even to avail all the agriculture-related subsidies.

Figure No: 1

Investment in Farming by Farmers.

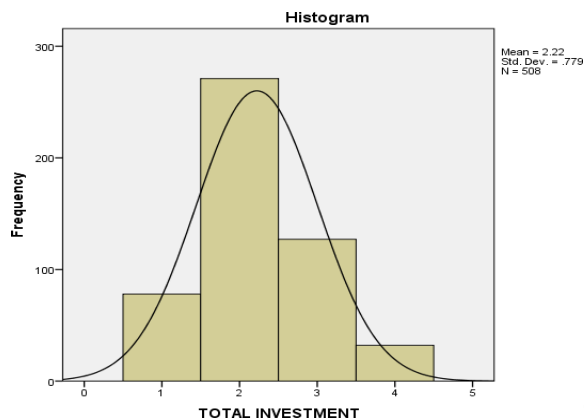


Table No: 2 Descriptive Statistics of AGP Vs Crop Investment Level

Crop Investment Group	N	Mean	Std. Deviation	Std. Error	95% Confidence	
					Lower Bound	Upper Bound
100000 and Below	78	3.6903	.49620	.05618	3.5784	3.8021
100001-200000	271	3.7013	.37335	.02268	3.6566	3.7459
200001-300000	127	3.7344	.39019	.03462	3.6659	3.8030
Above 300000	32	3.6712	.26347	.04657	3.5762	3.7662
Total	508	3.7060	.39247	.01741	3.6718	3.7402

AGP= Agricultural growth Perception

Table No: 3

Test of Homogeneity of Variances

AG\_Comb

Levene Statistic	df1	df2	Sig.
1.647	3	504	.178

The above table No 3 Levene's statistic shows that the test of homogeneity of variance is checked off. Thus, the classic ANOVA result can be used to interpret the result



Table No: 4

One Way ANOVA on AGP across various Crop Investment Level

AG\_Comb

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.167	3	.056	.360	.782
Within Groups	77.929	504	.155		
<b>Total</b>	<b>78.096</b>	<b>507</b>			

Table No: 4

Post-Hoc Tests: Multiple Comparisons

Dependent Variable: AG\_Comb Games-Howell

(I)Investment	(J) Investment	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
100000 and Below	100001-200000	-.01101	.06059	.998	-.1692	.1472
	200001-300000	-.04416	.06600	.909	-.2158	.1275
	Above 300000	.01910	.07298	.994	-.1715	.2098
100000-200000	100000 and Below	.01101	.06059	.998	-.1472	.1692
	200001-300000	-.03316	.04139	.854	-.1402	.0739
	Above 300000	.03011	.05180	.937	-.1078	.1681
200001-300000	100000 and Below	.04416	.06600	.909	-.1275	.2158
	100001-200000	.03316	.04139	.854	-.0739	.1402
	Above 300000	.06327	.05803	.697	-.0895	.2160
Above 300000	100000 and Below	-.01910	.07298	.994	-.2098	.1715
	100001-200000	-.03011	.05180	.937	-.1681	.1078
	200001-300000	-.06327	.05803	.697	-.2160	.0895

The above two tables expose the true picture of One-way ANOVA performed at 5% significant level. The p-value is reported to be 0.782 which is greater than 0.05, implies that there is no statistical difference of mean of AGP across various crop investment of household farmers,  $F(3, 504) = 0.360$ ,  $p > 0.05$ ,  $n^2 = 0.002$ . The post hoc result says that there are no significant differences in the mean across various crop investment level. It also tells that the effect size of the difference very small (0.002).

These results clearly show that there is no significant difference in the agriculture growth perception of agrarians even if they invest lower capital. Thus, it is to be concluded that perception is purely formed based on their education and level of experiences in the farming.

Thus, the null hypothesis (H01): There is no significant difference in agriculture growth perception across various Crop Investment Levels of agrarian society in the Malabar region of Kerala is **Accepted**.

## Findings

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.

## 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. The study shows that there is a negative effect of 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

## Conclusion

The study "Perception towards Crop Investment Levels of agrarian society in the Malabar region of Kerala" discussed 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 and investment decision in farming, various decisive factors affecting, suitable crop combination consciousness 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.

## Suggestions Central & State Government

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.

- Promote hi-tech agriculture.
- Promote farmers participation in agri-business ventures.
- Identification and conversion of fallow lands into cultivable lands.
- 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
- Promote awareness campaign to encourage youth population to take farming as a primary job option by providing more subsidies and financial exclusively to youth.

### 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 centers offered by the government or government tied-up institutions.
- Adapt to integrated farming, diversified farming, crop rotation, dry land 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 favorable factors to increase Return on Investment.
- Crop diversification strategy should be regarded as the best alternative.
- Farmers must consider agriculture as the full-time dedicated job rather than as a parallel income source.

### Directions for the future studies.

In this study, the researcher has analyzed only the limited variables like Investment level, Investment Size, Investment Decisions and the growth of the agricultural sector. Most importantly, the perception of the youth population quite relevant as their attitude towards agriculture will determine the future of the Agriculture 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.

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