

# LEVEL OF INVESTMENT AND FACTORS INFLUENCING THE AGRICULTURAL PRODUCTION IN MADURAI DISTRICT

<sup>1</sup>Dr.A. MARIMUTHU, <sup>2</sup>S. HEMANATH

<sup>1</sup>Assistant Professor, PG & Research Department of Economics, Government Arts College, Melur, Madurai District

<sup>2</sup>Ph.D., Research Scholar (Part-time), PG & Research Dept. of Economics, Government Arts College, Melur, Madurai District.

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**Abstract:** Agricultural credit is one of the mainly essential inputs in all agricultural improvement programmes. The establishment of agriculture finance can be not speaking into two categories such as Institutional finance and non institutional finance. The extent to which the capital investment is made by the sample farmers in agriculture and identifies the factor, which influenced the capital investment in agriculture. Both primary and secondary data have been used for the present study. Thus it could be concluded, from an analysis that, the personal factors influencing the level of capital investment in agriculture, namely, educational qualifications and the size of the family, had a role to play in establishing the level of capital investment in agriculture.

**Keywords:** Capital Investment, farming, education, family size, agriculture.

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## 1. INTRODUCTION

Co-operatives in India had merged as they felt the need to solve the problem of credit faced by the agrarian economy; where nearly 70 per cent of the population depended on agriculture for their livelihood. Agricultural credit is one of the mainly essential inputs in all agricultural improvement programmes. The establishment of agriculture finance can be not speaking into two categories such as Institutional finance and non institutional finance.

The level of capital investment in agriculture varied from farmer to farmer, farm to farm, place to place and time to time. Capital investment in agriculture was made by the farmers in various forms, such as farm lands, bunding and other land improvements including land reclamation, farm equipment, farm buildings, livestock, irrigation, poultry, storage arrangements and transport equipment. The extent to which the capital investment is made by the sample farmers in agriculture and identifies the factor, which influenced the capital investment in agriculture. In this paper an attempt has been made to analyse the relationship between the various factors and level of capital investment.

### OBJECTIVES OF THE STUDY

1. To analyse the level and extent of investment of agriculture in the study area.
2. To examine the factors which influence investments in agriculture of primary agricultural cooperative bank in Madurai district.

## 2. METHODOLOGY

Both primary and secondary data have been used for the present study. A reconnaissance survey was made of the selected respondents to get acquainted with the loan amount received, utilized, repayment and the like.

The field survey was conducted during 2019-20, for the purpose of collection of primary data.

Capital investment in agriculture made by the farmers and the level of capital investment made were measured with the help of the components by using scaling technique.

In order to examine the factors influence capital investment in agriculture the chi-square test has been used:

$$\chi^2 = \sum (O - E)^2 / E$$

where O = observed frequency

E = expected frequency

Degree of Freedom is (r-1) (c-1)

, 'r' is the number of rows, and

'c' is the number of columns in the contingency table.

### 3. RESULTS AND DISCUSSION

The extent of capital investment in agriculture was measured by the scores obtained by the 200 sample farmers. Based on the scores obtained, farmers were classified into three categories namely, farmers who had made a low level of capital investment, farmers who had made medium level of capital investment and farmers who had made a high level of capital investment. Table 3 presents the extent of capital investment made by the 200 sample farmers classified according to their level of investment. Farmers who had obtained a score of less than 36 were classified as farmers who had made a low level of investment, farmers who had obtained a score ranging from 36 to 72 were classified as farmers who had made a medium level of investment, and those farmers who had obtained a score of more than 72 and upto 100 were classified as farmers who had made high level of capital investment. The words, 'farmers' and the 'sample farms' have been used interchangeably in this section as they do not make any difference in understanding this section.

**TABLE 1: CLASSIFICATION OF FARMERS ACCORDING TO THEIR LEVELS OF CAPITAL INVESTMENT**

Sl. No.	Score of the Sample Farmers	Level of Capital Investment
1.	Below 36	Low
2.	36 – 72	Medium
3.	72 and above	High

Source: Primary Data.

**TABLE 2: CLASSIFICATION OF THE SAMPLE FARMS ACCORDING TO LEVELS OF INVESTMENT IN AGRICULTURE**

Sl. No.	Level of Investment in Agriculture	Number of Sample Farms
1.	Low Level	51 (25.5)
2.	Medium Level	102 (51.0)
3.	High Level	47 (23.5)
All Levels		200 (100)

Source: Primary Data.

Figures in brackets represent percentages to total.

Out of a total of 200 sample farms, 51 (25.5 per cent) were found to be in the category of low level of capital investment, 102 (51.0 per cent) in the medium level of investment and 47 (23.5 per cent) farms in the high level of investment in agriculture.

An attempt has been made to analyse the personal factors which have influenced the farmers to prefer capital investment. Some important personal factors were identified in the study such as educational qualifications, size of the family, experience in farming, use of communication media and participation by the farmers in training camps.

The three null hypotheses have been established to assess the influence of each one of these factors which made the farmers prefer a particular level of capital investment in agriculture. They are:

- (i) The educational qualifications of the farmers did not influence the level of capital investment
- (ii) The size of the family was independent of and did not influence the level of capital investment
- (iii) The experience in farming did not influence the level of capital investment

Education is considered to be an important factor which motivates and guides the farmers to perform their farming operations effectively and efficiently. The illiterate farmers depend upon others for such information. For this study, the educational qualifications of the heads of the sample families were grouped into two categories; those who had studied upto VII standard and those who had studied above the level of VIII standard. This classification was made, as most of the sample villages were found to have middle schools and there was much concern among the parents of the area to admit their children only in the local schools. Since educational qualifications help to motivate farmers to adopt improved farming techniques and practices, it is taken as an important factor influencing the level of capital investment in agriculture.

The classification of the heads of the sample families according to their educational qualifications and the different levels of capital investments made by them in agriculture.

**TABLE 3: CLASSIFICATION OF THE SAMPLE FARMERS ACCORDING TO THEIR EDUCATIONAL QUALIFICATIONS AND THEIR LEVELS OF CAPITAL INVESTMENT IN AGRICULTURE**

Educational Qualification	Levels of Investment			Total
	High	Medium	Low	
Up to VII standard	9 (17.64)	22 (21.57)	41 (87.23)	72 (36.00)
Above VII standard	42 (82.36)	80 (78.43)	6 (12.77)	128 (64.00)
All families	51 (100)	102 (100)	47 (100)	200 (100)

Source: Primary Data

Figures in brackets represents percentage to total.

It is clear from that out of 200 sample farmers, 36.00 per cent or 72, of them had studied up to VII standard and 64.00 per cent or 128 of them had studied beyond VIII standard. Out of 51 farmers who had made a high level of investment, 42 of them (82.36 per cent) had qualifications above VIII standard and only nine farmers (17.64 per cent) reported that they had studied upto VIII standard. Out of 102 farmers who were found to have made a medium level of investment, 80 of them (78.43 per cent) had qualification above VIII standard and only 22 farmers (21.57 per cent) had qualifications upto VIII standard. In the case of the low level of investment, out of 47 farmers, 41 of them had qualification upto VIII standard (87.23 per cent) and 6 of them (12.77 per cent) had studied beyond VIII standard.

Here, a null hypothesis has been established that the educational qualifications and the level of capital investment were two independent variables. To test the null hypothesis the chi-square test was applied and the results are provided.

#### RESULTS OF THE CHI-SQUARE TEST

Groups Compared	Calculated Value	Table Value	Degrees of Freedom	Level of Significance	Inference
Educational qualifications and the level of investment	143.4606	5.991	2	5 per cent	significant

Since the calculated chi-square value is greater than that of the table value at 5 per cent level of significance, the null hypothesis is rejected. Therefore the level of capital investment is needy upon the educational experience of the agriculture farmer. Hence, there is a close relationship between educational qualifications of the farmers and the level of capital investment.

The size of the family is an important factor which deserves special consideration in the context of capital investment. Successful farming is the result of the joint activity of the family members, irrespective of their economic or professional status. The farming operations depend to a large extent on manual labour and the members of the families of the farmers accustomed to it. In the present study, the families were classified into small families and big families. A family having more than two children, besides the farmer and his wife, or families consisting of more than four members, in general, were considered big families and families having four members or less were classified as small families.

The relationship between the size of the family and the level of capital investment.

**TABLE 4: Classification Of Sample Farmers According To Size Of The Family And Their Levels Of Capital Investment**

Size of the Family	Levels of Investment			Total
	High	Medium	Low	
Small Family	33 (64.70)	14 (13.73)	15 (31.91)	62 (31.00)
Big Family	18 (35.30)	88 (86.27)	32 (68.09)	138 (69.00)
All Families	51 (100)	102 (100)	47 (100)	200 (100)

Source: Primary Data

Figures in brackets represents percentage to total.

Out of 200 sample families of farmers, 62 (31.00 per cent) belonged to the small family group and 138 (69.00 per cent) belonged to the big family group. Out of 51 farmers who had a high level of capital investment, 33 belonged to small-sized families and 18 belonged to the big family category. Out of 102 farmers who had a medium level of investment, 138 belonged to the big family group and 18 of them belonged to the small family group. In the case of low-level investment in the farms, out of a total of 47 farmers, 32 belonged to the big family group and 15 belonged to the small family group.

A null hypothesis was formulated that the size of the family is independent of the level of capital investment. To test the null hypothesis, the chi-square test was functional and the results are obtainable.

#### RESULTS OF THE CHI-SQUARE TEST

Groups Compared	Calculated Value	Table Value	Degrees of Freedom	Level of Significance	Inference
Size of the family and the level of Capital investment	81.7539	5.991	2	5 per cent	Significant

The calculated chi-square value is greater than the table value at 5 per cent level of significance; and hence the null hypothesis is rejected. Thus, it may be concluded that the level of capital investment is dependent upon the size of the family of the farmers. Hence, there existed a close relationship between the level of capital investment of the farmers and their family size.

Surplus farm income motivates the farmer to invest more in the form of farm assets to enable him to carry on agricultural operations efficiently and successfully. A farmer with a long period of experience in farming does the agricultural operations in a better manner than another who has relatively a less number of years of farming experience. Moreover, the farmers who are engaged in agriculture as their ancestral occupation and are having more farming experience also develop the habit of making new investments in the farm assets as and when funds become available to them. For this study, the farmers were classified into two groups, namely, farmers with experience of less than 10 years of farming and farmers who had more than 10 years of experience.

The relationship between the experience in farming on the part of the farmers and the levels of capital investment.

**TABLE 5: CLASSIFICATION OF SAMPLE FARMERS ACCORDING TO THEIR EXPERIENCE IN FARMING AND THEIR LEVELS OF CAPITAL INVESTMENT**

Experience in Farming	Levels of Investment			Total
	High	Medium	Low	
Up to 10 years	18 (35.29)	49 (48.04)	22 (46.81)	189 (44.50)
Above 10 years	33 (64.71)	53 (51.96)	25 (53.19)	111 (55.50)
Total	51 (100)	102 (100)	47 (100)	200 (100)

Source: Primary Data.

Figures in brackets represents percentage to total.

It is inferred from Table 5 that out of 200 sample respondent farmers, 189 (44.50 per cent) had up to 10 years of farm experience and the remaining 111 farmers (55.50 per cent) had more than 10 years of farm experience. Out of 51 farmers who had reported a high level of investment, 33 (64.71 per cent) had more than 10 years of farm experience and 18 had farm experience upto 10 years in farming operations. In the case of farmers who had reported a medium level of investment, out of 102 farmers, 49 (48.04 per cent) had experience in agriculture for a period of upto 10 years and 53 (51.96 per cent) had more than 10 years of farm experience. Out of 47 farmers who had reported a low level of investment, 22 (46.81 per cent) had an experience of upto 10 years and the remaining 25 (53.19 percent) had an understanding of more than 10 years.

Here a null hypothesis was formulated that the experience in farming did not influence the level of capital investment and the two were independent variables. To test the null hypothesis, the chi-square test was functional and the results are obtainable.

Groups Compared	Calculated Value	Table Value	Degrees of Freedom	Level of Significance	Inference
Experience of farming and the level of investment	4.5335	5.991	2	5 per cent	Not significant

The calculated chi-square value is less than the table value at 5 per cent level of significance, and hence the hypothesis is accepted. It can be said that the level of capital investment is not dependent upon the experience of farming. Hence, it can be concluded that there is no relationship between the experience in farming and the level of capital investment.

#### 4. CONCLUSION

Thus it could be concluded, from an analysis that, the personal factors influencing the level of capital investment in agriculture, namely, educational qualifications and the size of the family, had a role to play in establish the level of capital speculation in agriculture. The other personal factors of the farmers such as their experience in farming, use of the communication media and their participation in training programmes had also a lot to do with the level of capital investment.

#### REFERENCES

- [1] Annual Report for Primary Agricultural Cooperative Bank, Madurai in various years.
- [2] Ashok Gulati and Seema bathala, "Capital Formation in Indian Agriculture", *Economic and Political Weekly*, vol.XXXVI, No.20, May 19, 2001.
- [3] Census of India, 2019, Office of the Assistant Director of Statistics, Madurai.
- [4] Dhawan, B.D., **Studies in Agricultural Investments and Rural Savings**, Common Wealth Publishers, New Delhi, 1998.
- [5] Memoria, C.P., **Agricultural Problems of India**, Kitab Mahal, Alahabad-Delhi, 1979.
- [6] *The Tamil Nadu Journal of Co-operation*, Vol.92, No.3, June 2000.
- [7] Trippathi, T.P. and Madhu Mathu, "India's Planned Development and Co-operatives", *Productivity*, Vol.XXV, No.4, 1985.