CHAPTER II

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MEANING OF TERMS

The present chapter consists of the theory behind the study, methodology followed, samples selected, materials used for analytical purposes and the meaning of terms used for the study.

A. THE THEORY

The theory of production is counterpart in several respects of the theory of consumer's behaviour. The economic unit in the former is the individual firm, while in the latter the individual consumer. Just as the consumer attempts to maximise
his satisfaction with limited resources, under his control, the producer tries to maximise the output through a rational allocation of limited productive forces at his disposal. The farmer tries to maximise production with the efficient use of the inputs. The farmer may make use of different cost combinations in relation to the crops he raised. There are three types of vital relationships in the production process. They are Input-Output, Input-Input and Output-Output.

As far as the present study is concerned the first type of relationship is applicable because the farmer applies credit, technology and labour at variable proportions with the fixed factor, to increase the land’s production. Thus agricultural development or the increase in production is the combined action of inputs, like land, labour, technology and credit.

Numerous research studies in agriculture revolve round production function with a single resource or treatment applied at different levels. Hence, production function of this nature is a step towards a more general analysis of functional forms. Equations with a single variable defining the input can be
used to evaluate certain properties of production function and their marginal products. These properties apply when there are "n" variables. So the relationship between the physical inputs and the physical output of a farm is generally referred to as the production function. In brief, production function is a catalogue of output possibilities. If more of some variable factors are added, say, labour and capital to a fixed factor, like land, the production increases more than proportionately. This tendency will be associated with the law of increasing returns. When, however, the resulting production increases exactly in the same proportion in which the variable factors are increased, then it is a case of constant returns. If, on the contrary, the resulting production increases less than proportionately with the addition of increased quantities of the variable factors, it is a case of diminishing returns. Thus the relationship of input and output have three stages, namely increasing rate of returns, constant rate of returns and decreasing rate of returns.
In a single variable production, if production is assumed to be positively correlated with technology and similarly technology with institutional credit, one can naturally presume that production and institutional credit are positively correlated.

The functional relationships are;

\[ P = f(x) \]
\[ X = f(y) \]
\[ Z = f(p) \]

where

\[ P \] - Production; \[ X \] - Technology;
\[ Y \] - Institutional Credit;
\[ Z \] - Revenue
Diagammatic Representation

\[ T_1 P_1 = f(X_1) \]

\[ T \ P = f(X) \]
In this diagram, x-axis represents production and y-axis institutional credit. A higher level of production function \( P_1 = f(x_1) \) was made possible by institutional credit. Thus a surplus of \( TT' \) is the contribution of institutional credit.

B. METHODOLOGY

On the basis of the five objectives already mentioned in Chapter I, the study has been divided into two parts. The first part deals with the flow of institutional credit and the changes in the supply of institutional credit in Kanyakumari district. The second part deals with the credit requirements of the farmers and examines the impact of institutional credit on agricultural development.

The present study uses both primary and secondary data. For the purpose of the first part of the study secondary method of data collection was followed and for the second part of the study primary method of data collection was adopted.

As the present study proposes to evaluate the impact of institutional credit on agricultural development in terms of
production, to determine the changes in production before and after the use of institutional credit, a sample study was undertaken on the agricultural activities of the farmers by way of personal interview with the help of a questionnaire. Kanyakumari district has been purposively selected to evaluate the impact of institutional credit on agricultural development in terms of production, because the researcher's familiarity with the district, particularly the agricultural practices and the crops cultivated.

Kanyakumari district lies at the southern most tip of peninsula India and it is one of the districts of Tamil Nadu. According to the 1991 census report the area of the district is 1493.94 square kilometers. The district has been classified into two revenue divisions, one is Padmanabhapuram revenue division which covers Vilavancode and Kalkulam taluks and the other is Nagercoil revenue division which covers Thovalai and Agasteeswaram taluks. Thus the two revenue divisions covers four taluks. The four taluks are further classified into nine Developmental Blocks namely, Agasteeswaram, Rajakkamangalam, Thovalai, Thiruvattar, Thuckalay,
Kurunthencode, Melpuram, Munchirai and Killiyoor. These nine developmental blocks cover eighty one villages. The district has four municipalities namely, Nagercoil, Padmanabhapuram, Kuzhithurai and Colachal and one township namely, Kanyakumari.

According to the 1991 Census, the total population of the district was 16,00,349 persons. Of this 8,03,839 were males and 7,96,510 were females. The density of population was 1,071 persons per square kilometer. The total workers of the district was 4,64,087 persons and of this 3,95,041 were males and 69,046 were females. The cultivators recorded in the census was 61,567 persons and of this 57,968 were males and 3,599 were females. Agricultural labourers were higher in number than that of cultivators and it was 1,77,410 person and of this 1,59,305 were males and 18,105 were females.

Kanyakumari district mainly produces Paddy, Banana, Tapioca, Coconut and Rubber. Paddy is the main food crop of this district and is raised twice a year, Banana is another important cash crop and further Tapioca, Coconut and Rubber
are cultivated in the district. Thus the district has a favourable agro-climatic condition to grow Paddy, Banana, Tapioca, Coconut and Rubber. Unlike other districts in Tamil Nadu, the district has a unique advantage of good rainfall during the South-East and North-West monsoons.

SAMPLE SELECTED

The area under Paddy, Banana, Tapioca, Coconut and Rubber differ from one taluk to another. Agasteeswaram taluk has larger area under Paddy and Coconut than the others whereas, Kalkulam under Banana and Vilavancode under Rubber and Tapioca. (See Appendix No.16). So the samples were selected from Agasteeswaram taluk, for Paddy and Coconut, for Banana from Kalkulam taluk and for Rubber and Tapioca from Vilavancode taluk.

After selecting the taluks for the various crops, the sample villages were selected from the taluks. The villages of Agasteeswaram taluk were arranged according to their area under Paddy in the ascending order and the bottom three villages were selected as samples for Paddy. The selected villages
from the Agasteeswaram taluk were Theroor, Kulasekarapuram and Vadasery. The same procedure has been followed for all the other crops. For Coconut, the villages selected in Agasteeswaram taluk were Neendakarai (B), Vempanoor and Marungoor. For Banana Kothainalloor, Mecode and Churalacode were selected from Kalkulam taluk. For Rubber Arumanai, Kaliyal and Mangode villages were selected and for Tapioca, Palukal, Edaiicode and Midalam Villages were selected from Vilavanceode taluk.

After the selection of the sample villages from the three taluks for the five crops, the sample farmers were selected. Firstly, the borrower farmers were identified with the help of the records obtained from the primary agricultural co-operative banks or societies of the respective villages. Secondly, the names of the borrowers were arranged in alphabetical order and ten sample farmers were selected by cubic random sampling method. This is the ultimate unit of the sample enumerated for the purpose of this study. Thus the a multi stage stratified random sampling is used in order to avoid bias. On the whole, to represent the real character of the district, one hundred and fifty sample farmers were selected from fifteen villages of the three taluks of Kanyakumari District.
DATA COLLECTION

The purpose of collecting the primary data is to evaluate the impact of institutional credit on agricultural production in Kanyakumari district. For that a sample survey was conducted with the help of a scheduled questionnaire specially prepared for the personal interview. The personal interview consisted of the details regarding the respondent family, land particulars, asset position of the farm and the credit utilisation pattern of the farmers. Further the production of the farm was taken into account before and after the use of institutional credit in order to gauge the difference. Lastly, the personal interview consisted of the income and expenditure pattern of the respondent cultivators. The questionnaire has sought the general information about the respondent namely, the name, village, taluk, age and the number of members in the family secondly, the details of the respondent’s family like the name of the other members in the family, their relationship with the head of the family, sex, age, marital status, education and their occupations were given preference. The third place was given to the general particulars about their landed properties. This included the size
of the farm, area leased in and area leased out. To have a background about the asset side of the farm, the fourth division in the questionnaire was, the ploughing equipments, number of bullocks and bullock carts, number of sprayers, number of tractors and other mechanised equipments. The fifth division, the credit borrowing consisted of the capital needed for the cultivation in a year, the capital that was used from his own funds, the total amount borrowed from the co-operative institutions, the year of borrowing, the rate of interest, the amount repaid and defaults if any.

The sixth division in the questionnaire was related to the cost items. The cost items included in paddy were human and bullock labour, seeds, manures, fertilizers and pesticides, ground levelling, and irrigation. In the case of Banana the human labour, off-shoots, manures; fertilizers and pesticides, and ground levelling were the major items. In Tapioca production human labour, cuttings and manures are the major cost items, in Coconut, human labour, seedlings and manures were the major items. In Rubber cultivation human labour, manures
and fertilizers were the major cost items included under this division.

The divisions seven and eight are related to the farm income before and after the use of institutional credit respectively. The values of the main product and the by products of Paddy, Banana, Tapioca, Coconut and Rubber were considered in the seventh and the eighth divisions.

The ninth and the tenth divisions represented the farmer's family income and expenditure respectively. Income consists of income from agriculture, rent, wages and salary, interests from deposits, handicrafts, animal husbandry and from other sources. Expenditure consists of expenditure on food, clothing, house rent, education, medical expenses, transport, entertainment, unexpected expenditures and on ceremonies and festivals.

The last item in the questionnaire related to the opinion of the farmers on certain issues.
PERSONAL INTERVIEW

At the time of personal interview the researcher has confirmed first whether the farmer had obtained financial assistance from the Primary Agricultural Co-operative Banks or Societies or the branches of the Kanyakumari District Central Co-operative Bank. Moreover, it was confirmed whether there has been a full utilisation of credit obtained from the co-operatives for the agricultural purposes alone or not. If the sample pertained to the first category, that is, the full utilisation of credit for agricultural purpose alone, it was selected and interviewed. Further during the time of personal interview, in the absence of the head of the family, information was gathered from the other members of the family. The opinion of the sample borrower farmer about the loan disbursement and membership with the Primary Agricultural Co-operative Banks or Societies, was asked at the time of personal interview to understand the preferences of the sample borrower farmer. Thus a sincere effort has been made at all the stages of the personal interview.
MEASUREMENT

In the present study the area was measured in the scale as acre, because the farms in Kanyakumari district are small in size. As such handling of the area of land in acres was much easier than in hectares. However the use of acre as an unit of measurement of area has not affected the inference made from the study.

In the cost items, the expenses on human labour, bullock labour, seeds, off-shoots, manures, fertilizers, pesticides and ground levelling were considered. Human labour and bullock labour were measured in terms of number of labourers utilised for cultivation. The number was converted into rupee terms for calculation purposes as per the price of labour in the market. Seeds and off-shoots were measured in terms of rupees as per the local prices available in the respected areas. The use of green manure to paddy was accounted by bundles. The price per bundle was converted into rupees and taken into consideration. The use of cow-dung was accounted per cart load or 'tempo' load including the loading and unloading charges. Small quantity of
cow-dung that is below one load, if used was measured in the scale as a bag and the price per bag has been converted into rupees. Fertilizers and pesticides were measured in Kilograms and converted into rupees as per the market price.

Paddy is a bi-annual crop, and Banana, Tapioca are annual crops. For comparison purposes the first and second crops of Paddy were taken into account. The production of Paddy was taken in Kilograms and converted it into rupees for the measurement of productivity. But in Banana, the total bunches were taken into account and converted into rupees. The roots of Tapioca were measured in kilograms and converted into rupees. In the case of Coconut plucking has been done generally once in two months. The annual tally was taken into account in numbers and converted into rupees as per the price in the market. For Rubber, the total number of tapping days were considered and the production per tapping was accounted in Kilograms. This has been converted into rupees as per the price available in the shops.
The by products of Paddy, Banana, Tapioca, Coconut and Rubber are straw, off-shoots, green manure, fuel wood, and waste rubber respectively. The values of these by products were accounted in rupees for measurement.

The district's main statistical office failed to furnish the secondary data concerning, the village-wise cultivated area of Paddy, Banana, Tapioca, Rubber and Coconut. To collect the village-wise cultivated area statistics of the crops in question the taluk branch offices in Kuzhithurai, Thuckalai, Boothapandy and Rajakamangalam were visited. Further secondary data was collected to study the performance of the financial institutions in general and the Kanyakumari District Central Co-operative Bank in particular. General performance details were obtained from the Indian Overseas Bank, Lead Bank Cell, Nagercoil. To study the performance of Kanyakumari District Central Co-operative Bank, Nagercoil, data was collected from the Annual Reports and the Final Credit Memorandum (auditors reference copy) of the Kanyakumari District Central Co-operative Bank.
ANALYSIS OF DATA

Statistical tools were used in the present study for analytical purposes; and to arrive at useful conclusions, scientific tools were used. Sufficient number of tables and diagrams were used to analyse the performance of the financial institutions, in general, and the Kanyakumari District Central Co-operative Bank, in particular. Percentage and averages were used to indicate the performance of the credit institutions and the production of the farms.

Further, to study the net income obtained by the farmers before and after the use of institutional credit, the per acre cost and revenue and the net income per rupee cost were used for the analysis.

C. MEANING OF TERMS

BENEFICIARIES: It refers to the farmers those who obtained credit form the institutional agencies in the form of cash or kind or any other support for the improvement of agriculture.

BIG FARMERS: It refers to those farmers who own land above 1 acre.
BORROWER FARMERS: It refers to those farmers who have obtained institutional credit from Primary Agricultural Co-operative Banks or Societies or the Kanyakumari District Central Co-operative Bank and have used that credit entirely for agricultural purposes.

EARNERS AND DEPENDENTS: Earners are those who earn money from agricultural as well as non-agricultural sources, and the dependents are those who depend upon such earners.

FARM INCOME: It refers to the income obtained by the farmers from agriculture.

LEVEL OF EDUCATION: It refers to the different stages of education attained by the farmers.

MEDIUM TERM LOAN: Medium term loan is the loan having the maturity period between one to three years.

SCALE OF FINANCE: It refers to the extent of assistance stipulated by the Kanyakumari District Central co-operative Bank in the form of cash or kind or both.
SHORT TERM LOAN: Short Term Loan is the loan having the maturity period of one year.

SMALL FARMERS: It refers to the farmers who own land between 0 - 1 acre.

TECHNOLOGY: It refers to the knowledge applied by farmers to improve agricultural production.

TRADITIONAL AGRICULTURE: It refers to period before the introduction of the Green Revolution.