CHAPTER - I
INTRODUCTION AND DESIGN OF THE STUDY

1.1 INTRODUCTION

India is predominantly an agricultural country. Nearly 40% of the country's national income is derived from agriculture and allied activities\(^1\). Despite emphasis on industrial development, agriculture continues to occupy a place of pride in our economy. Although the share of agriculture in the total national income has been gradually decreasing on account of development of the secondary and tertiary sectors, the contribution continues to be significant. Agriculture provides the principal means of livelihood for over 58.4% of India's population. It contributes approximately one-fifth of Total Gross Domestic Product and accounts for about 10% of the total export earnings and provides raw material to a large number of industries. About 43% of the country's total geographical area is used for agricultural purposes\(^2\).

The growth of agriculture and allied sectors was around 5.4% during 2011-2012, assisted by a good monsoon\(^3\). As per the Economic Survey made during 2011-2012, a second Green Revolution has become imperative with focus on growing more of nutrition rich plants like fruits, vegetables and pulses which were never considered in the initial Green Revolution. Concentration should be on rain-fed regions for increasing productivity of farms.

---

\(^1\)Sankaran, S. 2011, Indian Economy, Chennai, Margham Publications, p 17.4


Oilseed crops are important because they have been traditionally a very important source of foreign exchange earnings for the country through exports and in the recent past, a deficit in the production has been causing a major outflow in foreign exchange in the form of import of edible oils. According to the second advanced estimates of the Union Ministry of Agriculture, Production is expected to rise to 30.25 million tonnes in 2013-14 as against 24.8 million tonnes in 2012-13\(^1\).

In India, the oilseed sector has great significance. Among commercial crops, oilseeds have emerged as major alternative, suitable and safe crops. There are nine important oilseeds viz., groundnut, castor, sesame, sunflower, safflower, palm dates, niger seed, linseed and rapeseed/mustard being grown in different regions of India\(^2\). The gross cropped area under cultivation of all crops in 2012-13 was 190.8 million hectares. Out of this, 174.13 lakh hectares were under oilseeds\(^2\).

Groundnut (Arachis hypogaea) is a member of the sub-family, Papilionaceae of the family Leguminosae. Groundnut consists of two subspecies each containing botanical varieties. It has been reported that South America is the place where cultivation of groundnut originated. It spread to Brazil, Southern Bolivia and North-Western Argentina. Groundnut was introduced by the Portuguese form Brazil to West Africa and then to South-Western India in the 16\(^{th}\) century. Almost every part of groundnut is of commercial value.

Groundnut is grown on a large scale in almost all the tropical and subtropical countries of the world. The most important groundnut growing countries are India, China, Nigeria, Sudan and USA. At the world level, it is grown over an area of 26.4 million hectares with a total production of 36.1 million tonnes and an average productivity of 1.6 metric tonnes per ha. India occupies the third place in regard to acreage and production. Groundnut is the major oilseed crop in India accounting for 45% of the area under oilseeds and 55% of the oilseed production in the country. Now India along with China accounts for half of the world's groundnut production¹.

Groundnut has been recognized around the world by an assortment of colorful names. While Americans call it peanut, it is known by several other names such as African nut, Chinese nut, Manila nut, Kipper nut, Hawks nut, Jar nut, Earth chestnut, Monkey nut, Goober pea, Ground pea and Ground bean. Although peanuts have gained importance relatively recently, the origin of this crop dates back to 350BC. Groundnut has become a substitute for costly cashew nut. Now they are widely regarded as poor man's cashews. Groundnut is now cultivated throughout the world. Groundnut is the 13th most important food crop of the world. It is the world's 4th most important source of edible oil and 3rd most important source of vegetable protein.

¹ www.nabard.org/file upload/data bank/ evaluation study/ groundnut 20% study. pdf, retrieved on 22-08-2012.
Groundnut has the first place among all the oilseed crops in India and it accounts for more than 40% of the acreage and 60% production of oil seeds in the country\textsuperscript{1}. In India, the cultivation of groundnut is mostly confined to the southern states. Groundnut is essentially a tropical plant. It requires a long and warm growing season. The most favorable climatic condition for groundnut is a well distributed rainfall of at least 50 centimeters during the growing season, abundance of sunshine and relatively warm temperature. It is seen that plants grow best when the mean temperature is from 21-26.5 degree Celsius.

In India, groundnut is grown over an area of 7.5 million hectares with a total production of 9.3 million tonnes and an average productivity of 1.4 metric tonnes per ha. Its cultivation is mostly confined to the western and southern states, viz., Gujarat, Andhra Pradesh, Karnataka, Tamil Nadu and Maharashtra. 70% of the area and 75% of the production are concentrated in these five states. The other important states where it is grown are Madhya Pradesh, Rajasthan, Uttar Pradesh and Punjab. Groundnut is essentially a tropical crop. It requires a long and warm growing season\textsuperscript{2}. In Tamil Nadu, groundnut is being cultivated in Thiruvannamalai, Villupuram, Vellore, Erode, Kanchipuram, Namakkal, Pudukkottai and Salem Districts which covered 64.89% of the production of the state during 2012-2013\textsuperscript{3}.

\textsuperscript{1}www.pnbkrishi.com/groundnut.htm, retrieved on 22-08-2012.
\textsuperscript{2} www.nabard.org/file upload/databank/evaluation study/groundnut 20% study.pdf, op.cit.,
\textsuperscript{3} Season and Crop Report (2012-2013), (Fasali 1419), Government of Tamil Nadu, Directorate of Economic and Statistics, pp. 10-23.
1.2 STATEMENT OF THE PROBLEM

Marketing plays a vital role in Agricultural operations. But there are more constraints in agricultural marketing. These problems are very serious in oilseeds, particularly in groundnut. It is observed that cultivation of groundnut is suffering from various problems like decreasing soil quality, high cost of seeds, natural disasters, severity of pests and diseases, labour shortage, low production, high wage rate, lack of finance, lack of quality inputs and damage by rodents and birds. Hence, farmers are not interested in cultivating groundnut over a greater area.

The situation in the oil seeds sector in India is perplexing, with a sluggish and erratic growth in the production of oilseeds in the face of a relatively higher growth of population. This has resulted in a gap between demand and supply and necessitated a large scale import of edible oils causing depletion in foreign exchange reserves. Among several possibilities, area expansion under oilseeds has only a limited scope. Bringing larger areas under irrigation can perhaps be achieved over a long period.

Groundnut is the most popular crop among the farming community. It helps to increase the income of the growers since almost every part of groundnut has several uses. It is used in making soap, cosmetics, shaving cream, leather dressing, furniture cream and lubricants. In fact it plays a pivotal role in the oilseed economy of India.

Efficient marketing is being increasingly recognized as inevitable for improving agrarian income. Marketing of groundnut remains highly unorganized and it is marketed through various private traders and agents.
This discourages growers to extend its acreage. Apart from these, groundnut marketing poses problems like forced sales, price fluctuations, lack of transport facilities, lack of storage facilities, lack of credit facilities, malpractices in weighing, labour shortage, intervention by middlemen and lack of regulated market. On the other hand, inadequate technical know-how and Government apathetic attitude have compounded problems of cultivation and marketing of this crop. Against this background, the present study is a modest attempt to find answers to the following questions.

1. What is the progress made in area, production and yield of groundnut?

2. What are the cultivation practices followed by groundnut growers?

3. Do growers face any constraints in the cultivation and marketing of groundnut?

4. What is the comparative efficiency of the identified marketing channels?

5. What is the opinion of the intermediaries about their business?
   And are there any problems faced by intermediaries in groundnut marketing?
1.3 SCOPE OF THE STUDY

This study is confined to Pudukkottai District of Tamil Nadu. Groundnut is being grown in almost all the districts of the State. Pudukkottai District is one of the leading districts in groundnut cultivation. This study is an attempt to examine the cultivation and marketing of groundnut. The present study is based on both primary and secondary data. Required secondary data have been collected from the website of Food and Agriculture Organization, Directorate of Economics and Statistics of Government of India, Season and Crop Report of Government of Tamil Nadu and the Records of Pudukkottai District Statistical Office for the period between 2002 and 2012.

On the basis of collected secondary data, the present study analyses the trends in area, production and yield.

On the basis of the primary data collected, factors influencing groundnut cultivation, cultivation problems, problems faced by groundnut cultivation, Marketing cost, Marketing efficiency, Price-spread, opinion of the groundnut growers about the existing marketing system, problems faced by groundnut growers, intermediaries opinion about their business and problems faced by them have been examined.
1.4 OBJECTIVES OF THE STUDY

The present study is undertaken with the following objectives:

1. To examine the growth rate of area, production and yield of groundnut.

2. To study the existing groundnut cultivation practices along with factors influencing their adoption and the problems faced by the groundnut growers.

3. To measure the efficiency of various marketing channels open to groundnut growers.

4. To identify the opinion of the sample farmers about the existing marketing system and problems faced by them.

5. To analyze the opinion of the intermediaries about their business and problems faced by them.

6. To offer suggestions for improving the cultivation and marketing of groundnut.

1.5 HYPOTHESES

On the basis of the framed objectives, the researcher’s theoretical knowledge, discussions with field experts, the following null hypotheses have been framed and they are subjected to appropriate statistical tests.

H₀: There is no significant association between the age of the sample farmers and their opinion about the existing marketing system.
$H_0$: There is no significant association between the educational level of the sample farmers and their opinion about the existing marketing system.

$H_0$: There is no significant association between the size of the family of the sample farmers and their opinion about the existing marketing system.

$H_0$: There is no significant association between the nature of the family of the sample farmers and their opinion about the existing marketing system.

$H_0$: There is no significant association between the experience of the sample farmers and their opinion about the existing marketing system.

$H_0$: There is no significant association between the age of the sample intermediaries and their opinion about the business.

$H_0$: There is no significant association between the educational level of the sample intermediaries and their opinion about the business.

$H_0$: There is no significant association between the size of the family of the sample intermediaries and their opinion about the business.

$H_0$: There is no significant association between the experience of the sample intermediaries and their opinion about the business.

$H_0$: There is no significant association between the type of the business of the sample intermediaries and their opinion about the business.
There is no significant association between the nature of the business of the sample intermediaries and their opinion about the business.

1.6 PERIOD OF THE STUDY

In order to achieve the objectives of the study, both primary and secondary data have been used. Primary data have been collected from both groundnut growers and intermediaries during the period from September 2010 to August 2011. Required secondary data have been collected for the period from 2002 to 2012.

1.7 PILOT STUDY AND PRE-TESTING

A pilot study was conducted with a sample of 50 farmers and 25 intermediaries during April 2010. In the pilot study the interview schedule was pre-tested and then refined for use in the final study. On the basis of the outcome of the study, appropriate modifications were made in the final interview schedule. Further, the findings of the pilot study enabled to frame the hypotheses and to decide the design of the study.

1.8 METHODOLOGY OF THE STUDY

Scientific methods are followed in the process of the research, samples, data collection and analysis are done with the help of scientific method as applicable to social sciences.
SAMPLING DESIGN

This study is of empirical nature and based on an opinion survey. The present study is confined to Pudukkottai District of Tamil Nadu. The Pudukkottai District is one of the leading districts in groundnut cultivation. Hence, this district has been chosen for the present study. To get the required primary data, a sample of groundnut growers was identified using multi-stage sampling technique. In the first stage, Pudukkottai district has been purposively selected.

SELECTION OF THE TALUKS

In Pudukkottai district, there are 11 Taluks. Groundnut is being cultivated in the Taluks. Viz., Gandarvakottai (2,903 hectare), Karambakudi (2,532 hectare), Pudukkottai (1,437 hectare), Kulathur (1,178 hectare), Alangudi (860 hectare). This accounts for 75% of the total area of the groundnut cultivation of the District. Hence, these five taluks have been selected purposively in the second stage.

SELECTION OF THE REVENUE VILLAGES

In the third stage, a list of Revenue Villages in the selected Taluks have been identified and it is found that there are 272 villages (Gandarvakottai-37, Karambakudi-50, Pudukkottai-39, Kulathur-73 and Alangudi-73) further, with the cooperation of Divisional Statistical Officials, Block Development Officials, Village Administrative Officers and groundnut growers, a detailed list of groundnut growers along with area of groundnut cultivation was prepared and the same has been arranged in a descending order. It was decided to select the top 50% Revenue Villages and this accounted for 136 Revenue Villages.
SELECTION OF THE GROUNDNUT GROWERS

In this next stage, to select the groundnut growers, a list of groundnut growers who cultivate groundnut in at least ½ acre of land with minimum 5 years of experience during the year 2010 was prepared. As per this list, it was found that there are 1325 groundnut growers. By using simple random sampling technique 40% (530) of the groundnut growers were selected.

The data was collected by a survey method. The sample farmers were interviewed personally with the help of a pre-tested interview schedule to elicit accurate and reliable data with minimum errors.

Owing to non-response to some questions and non-cooperation for some of the sample farmer, 30 respondents have been ignored. The total effective sample is 500.

1 Taluk Statistical Hand Book, 2010-2011, Pudukkottai District.
SELECTED OF THE GROUNDNUT INTERMEDIARIES

Groundnut growers in the study area are marketing their groundnut to various intermediaries like Traders, commission agents and Oil millers. Hence, for the present study, only these three intermediaries were considered.

Village traders are located in almost all the Revenue Villages. Commission agents are located in places like Kulathur, Pudukkottai, Alangudi, Gandarvakottai and Karambakudi Taluks. Oil millers are located in Pudukkottai Revenue Division and Aranthangi Revenue Division. For eliciting the required information from the intermediaries, a separate interview schedule was used.

On the basis of the information provided by the sample farmers, Village traders, Oil millers and Oil Mill Owners’ Association, it is found that there are 326 intermediaries (village traders 152, commission agents 81 and Oil millers 93). By using random sampling technique, 70% (228) of the intermediaries have been selected.

Owing to non-response and non-cooperation from the sample intermediaries, 28 have been ignored. Thus, the effective sample of intermediaries was 200.
1.9 COLLECTION OF DATA

a. Primary data

Primary data were collected from sample growers and intermediaries. The market intermediaries include village traders, commission agents and oil millers.

b. Secondary data:

The study is based on primary data and secondary data. The secondary data were collected for the books relating to groundnut cultivation, journals, magazines, publication of National Horticulture board, Haryana and website of Food and Agriculture Organization, Directorate of Economic and Statistics, Government of India, Season and Crop Report of Government of Tamil Nadu and the records of Pudukkottai District Statistical Office for the period between 2002 and 2012.

1.10 FRAMEWORK OF ANALYSIS

In the present study, growth rate has been calculated with the help of Compound Growth Rate. Marketing efficiency and channel efficiency have been analyzed with the help of Efficiency index, Shepherd’s method and Acharya and Agarwal method.
The influence of the various personal and socio-economic variables of the sample groundnut growers on the opinion about the existing marketing system is analyzed with the help of $\chi^2$ test, ‘F’ test (ANOVA), ‘Z’ test, Contingency Coefficient and Multiple Regression Analysis. To find out the most significant factor motivating the farmers to cultivate groundnut, cultivation problems and marketing problems faced by the groundnut growers, Garrett Ranking Technique has been used.

The influence of the various personal and Socio-economic variables of the sample intermediaries on the opinion about their business is analyzed with the help of $\chi^2$ test, ‘F’ test (ANOVA), ‘Z’ test and Factor Analysis. To find out the most significant problems faced by the intermediaries, Garrett Ranking Technique has been used.

1.11 OPERATIONAL DEFINITIONS

- **Marketing margin**

  Marketing margin involves the cost of moving the product from the point of production to the point of consumption and the profits of various market functionaries.

- **Price spread**

  The price paid by the consumer and the price received by the producer.

- **Communality**

  Communality is the amount of variance, a variable shares with all the other variables being considered. This is also the proportion of variance explained by the common factors.
- **Eigen value**
  The Eigen value represents the total variance explained by each factor.

- **Factor loadings**
  The loadings are simple correlations between the variables and the factors.

- **Percentage of variance**
  This is the percentage of the total variance attributed to each factor.

- **Beta co-efficient**
  To solve the problem, the standardized regression co-efficient is to be calculated. It is called a Beta co-efficient, and it is calculated from the normal regression co-efficient. The regression co-efficient are recalculated to have a mean of zero and a standard deviation of one. Standardization removes the effects of using different scales of measurement. Beta co-efficient will range from 0.00 to 1.00. Use of the Beta co-efficient allows direct comparisons between independent variables to determine which variables have most influence on the dependent measure.
1.12 LIMITATIONS OF THE STUDY

In spite of all possible efforts to make the analysis more comprehensive and scientific, a study of the present kind is bound to have certain limitations. Some of them are:

1. The study is conducted with the groundnut growers and intermediaries residing in the Pudukkottai District of Tamil Nadu. Hence, general application of the results may be restricted only to similar socio-economic environments.

2. The secondary data was collected from many sources. The gap in one source was filled by referring other sources. Therefore, the authenticity of the data is circumscribed by the reliability of data reported by the Authorities.

3. The farmers are not in the habit of maintaining detailed accounts regarding groundnut yield, market price, income and expenses. Hence, the information from memory given by groundnut growers might be subject to recall bias.

4. The size of the sample is restricted. So, the limitations of a restricted sample size are applicable to the present study.

5. The data for the study has been collected exclusively by personal canvassing of interview schedule. The data so collected are subject to error of response in some degree or other. Such errors of response are largely due to lack of awareness, improper maintenance of accounts and fear of revealing trade information on the part of the respondents.
6. The results cannot be generalized and extended to other districts due to differences in agro-climatic conditions, soil conditions, irrigation facilities and labour availability.

7. In some case, the farmers failed to give their opinions categorically. In such situations, further questions were asked and logical conclusions were drawn based on their replies.

1.13 CHAPTER SCHEME

This study is presented in eight chapters.

Chapter I: “Introduction and Design of the Study”. This Chapter presents the introduction, the statement of the problem, scope of the study, objectives of the study, hypotheses, period of the study, pilot study and pre-testing, methodology of the study, collection of data, frame work of analysis, operational definitions, limitations of the study and chapter scheme.

Chapter II: “Profile of the Study Area and Review of Literature”. This chapter deals with the profile of the study area and the review of literature.

Chapter III: “Growth of Groundnut in Area, Production and Yield”. This chapter examines the growth in area, of production and yield of groundnut.

Chapter IV: “Groundnut Cultivation Practices and Problems”. This chapter examines the methods of groundnut cultivation practiced, factors motivating farmers to cultivate groundnut and the problems faced by them.
Chapter V: “Marketing Pattern and Efficiency of Various Channels in Groundnut Marketing”. This chapter analyses the existing marketing channels, marketing cost, marketing margin, marketing efficiency and price spread of various channels of marketing.

Chapter VI: “Marketing Problems of Groundnut Growers”. This chapter examines the opinions of a sample of famers about the existing marketing system for groundnut and analyses the marketing problems faced by them.

Chapter VII: “Intermediaries and Groundnut Marketing”. This chapter deals with the views of the intermediaries about their business and the problems faced by them in marketing of groundnut.

Chapter VIII: “A Summary of Findings, Suggestions and Conclusion”. This chapter sums up the findings emerging from the study and offers some suggestions for improving cultivation and marketing of groundnut in Pudukkottai District, Tamil Nadu.