Production and Marketing of Groundnut in Palghat District

By

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THESIS

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DECLARATION

I, hereby declare that this thesis entitled "Production and Marketing of Groundnut in Palghat District" is a bonafide record of research work done by me during the course of research and that the thesis has not previously formed the basis for the award to me of any degree, diploma, associateship, fellowship or other similar title, of any other University or Society.

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INTRODUCTION

India is a major oilseeds producing country in
the world. Oilseeds are cultivated in about 16.5
million hectares, which accounts for ten per cent of
the gross cropped area, with an annual production
of 10 million tonnes. Oilseeds constitute one of the
important segments of the India agricultural economy
and it contributes six per cent to the Gross National
Product and it constitutes nine per cent of the value
of the agricultural commodities. Even from the
global point of view, India enjoys a unique position
both in respect to area and production, though in the
matter of productivity, India's performance is far
from satisfactory.

The continued stagnation in oilseeds production
on the one hand and continuously increasing demand for
edible oils on the other hand, have led to an ever
widening gap between the supply and demand. India
which was once a net exporter of oilseeds and oil
products, in recent years turned to a net importer of
edible oils to bridge the domestic supply gap. India
today is the largest importer of edible oils, and it

imports an average of one million tonnes of edible
oils worth over Rs.600 crores annually which is a huge
amount which goes out of the country as a foreign
exchange. There is urgent need for increasing the
production of oil-seeds in order to meet requirements
which have been increasing on the account of the
fast growing population and increasing incomes. There
is little scope for further increase in production
through expansion of area and hence the only way
through which production can be increased is by
increasing productivity.

Oilseeds economy in our country is in a very bad
shape. A variety of factors has contributed to this
disquieting situation. General apathy, inadequate
research efforts, the failure of farm extension agencies,
cultivation being increasingly relegated to the marginal
and submarginal lands without the benefit of improved
cultural practices and heavy toll of crop loss due to
pests and weeds are among the many woes affecting the
oilseeds production.

Groundnut (Arachis hypogaea) popularly known as
peanut, is the most important oilseed crop among oilseeds
cultivated in India. It is believed to be the native

of Brazil, since many closely related species are
found here. The crop from Brazil spread to various
parts of the world and it was introduced into India
during the first half of the sixteenth century from
one of the pacific islands of China where it was
introduced earlier from Central or South America.

The oil content of the kernel varies from 40 to
50 per cent depending on the varieties and agronomic
conditions. Groundnut oil is edible and extensively
used as a cooking medium either directly or as refined
oil and hydrogenated oil. It is also used in soap
making and in manufacturing cosmetics and lubricants,
olien, stearin and their salts. Groundnut kernels are
also eaten, either raw or after minor processing.
They are rich in proteins and vitamins. Their calorific
value is 349 per 100 grams. The residual oil cake
contains 7 to 8 per cent N, 1.5 per cent P_2O_5 and 1.2
per cent K_2O and is used as a nitrogenous manure. It
is an important protein supplement in cattle and poultry
feeds. It is also used as raw material in confectionery.
The cake also can be used for manufacturing artificial
fibre. The haulms are fed to livestock. Groundnut
shell is used as a fuel. Groundnut is also of value as
a rotation crop. Being a legume with root nodules, it

can synthesise atmospheric nitrogen and thereby
improve soil fertility.

The major groundnut producing countries of the
world are India, China, Nigeria, Senegal, Burma and
the U.S.A. These countries account for 69 per cent
of the world area under the crop and 70 per cent of
the production. Although India ranks first in the
world in groundnut area (7.1 million hectares or 40%)
and production (5.83 million tonnes or 31.7%) it ranks
only tenth in productivity (830 kg/hectare). The
countries with higher productivity than India in
descending order are the U.S.A., Brazil, Indonesia,
China, Argentina, South Africa, Nigeria, Sudan and
Senegal. During the period 1930-31 to 1978-79 the
area under groundnut in India increased by 147.9 per
cent and the production by 102.7 per cent. The
productivity during this period, however, declined
by 17.3 per cent. The present productivity is less
than the world average of 900 kg per hectare (Reddy 1982).

Groundnut plays a major role in meeting the rising
requirements of the edible oil in the country. It
claims about five per cent of the country's planted area,,
46 per cent of the total area under oilseeds, 67 per cent

of the oilseeds production and 59 per cent of the edible oil production (Srivastava 1978). Inspite of its important position, both production and productivity of groundnut were almost stagnant during the last fifteen years. (Appendix II)

The major oilseeds growing states viz., Gujarat, Andhra Pradesh, Tamil Nadu, Karnataka and Maharashtra accounted for eighty one per cent of the total area and eighty three per cent of the total production of groundnut in India during the year 1977.78. Kerala's share is only 0.37 per cent of the total area and 0.46 per cent of the total production. (Appendix III)

Kerala's share in the total groundnut area and production of India is solely contributed by Palghat District. The area under groundnut in Palghat District during the year 1980-81 constituted 2.76 per cent of the total cropped area of the district. Within the district itself, groundnut cultivation is highly localized in certain blocks bordering Tamil Nadu. Groundnut is grown extensively during the kharif season as a rainfed crop in these blocks and is therefore of considerable economic importance to these blocks.

In Kerala, groundnut has not been given adequate attention, be it in cultivation aspects, processing aspects or marketing aspects. In order to place the groundnut situation in Kerala in its proper perspective, it is desirable to discuss the trend in area, production and productivity. The area, production and productivity of groundnut showed considerable variation from year to year. The area under groundnut increased gradually from 13.74 thousand hectares in 1966-67 to 26.7 thousand hectares in 1977-78. Despite of this increase in area, production showed a decreasing trend. The production during 1966-67 was 23.60 thousand tonnes which gradually decreased, as the area increased and reached 17.5 thousand tonnes during 1976-77. There was a sudden increase in production during 1977-78 over 1976-77 by 10.5 thousand tonnes. As the area increased productivity decreased considerably. At present the area and production has come down to thirteen thousand hectares and 13.50 thousand tonnes respectively. The vagaries of monsoon, pests and diseases and inadequate marketing facilities are the responsible factors for this dismal situation. (Appendix IV)

Marketing has a pivotal role in supplementing measures that are taken for increasing the agricultural production

and boosting the rural economy by adoption of modern technology. Efforts to increase production may go waste unless the product is marketed efficiently. An efficient marketing by minimising the waste and cutting down marketing costs at various levels enables the producer to realise a fair share of the price paid by the ultimate consumer and provides him an incentive for increasing the production. Marketing should therefore, be rightly considered as much as an essential input like good seed or fertilizers in modern agriculture.

Marketing system as a whole, is divided into three broad segments viz., producer, consumer and middleman. Each of these has its own objectives which most often conflicts with other's interests. Producers after making a lot of investment and putting in hard labour would naturally look forward to get largest possible return for his produce. The consumer would like to get his required quantities of goods of proper quality at the least possible price. The middlemen aim at realising the largest possible net profit from the deal. An efficient market system therefore, should aim at balancing these conflicting interest in such way that each segment will get fair deal.

Of these three segments, the producers, who
suffer from illiteracy, indebtedness and lack of
organisation are the weakest. The middlemen like
trader and other functionaries have their own asso-
ciations to look after their interest. Because of
the weak bargaining position, the farmer has to face
many odds in disposing of his produce in the market.
Many-a-time he is left with no alternative but to
sell his produce at whatever price he can get.

Problems of marketing of agricultural commodities
viz., price fluctuations, superfluous middlemen,
multiplicity of measures and weights, absence of grading
and standardigation of agricultural produce and inadequate
infrastructural facilities are not new. Over decades
in the past, several institutional and policy measures
were taken to improve the conditions of marketing of
farm products. They include regulation of markets,
provision of co-operative marketing, standardization
and grading, development of storage and warehousing
facilities, price and subsidy support and so on. Most
of the measures have been developed almost in all the
states and for all the major crops. In kerala state,
groundnut being minor important much less attention is

given for its development. However, it is an important source of income to the farmers of Chittur and Kollengode Blocks in Palghat District hence their interest lies in better marketing facilities for the product.

Studies on economics of production and marketing of crops are essential for any sound agricultural policy formulation. The study on economics of production and marketing of groundnut in Kerala is very scanty. Hence the present study on economics of production and marketing of groundnut was taken up in Palghat District during the year 1982-83 with the following objectives.

1. To estimate cost of production and returns of groundnut.

2. To identify the marketing channels.

3. To estimate the marketing cost, margins and price spread of groundnut.

4. To identify the marketing and production problems of the groundnut cultivators and to suggest suitable solutions.

This thesis is divided into ten chapters including the present one. Chapter II deals with a brief account

of the agricultural economy of Palghat District.
A review of relevant literature is given in the
Chapter III. Chapter IV deals with materials and
methods. Terms and conceptual frame work is given
in the Chapter V. Chapter VI deals with the general
socio-economic conditions of the sample farmers.
Economics of groundnut production is dealt in the
Chapter VII. Marketing of groundnut is dealt in
the Chapter VIII. Chapter IX deals with the produc-
tion and marketing problems of farmers. The final
chapter deals with the summary of the major findings
of this study.

A Brief Account of the Agricultural Economy of Palghat District

A BRIEF ACCOUNT OF THE AGRICULTURAL ECONOMY OF PALGHAT DISTRICT

Palghat District, one of the twelve districts in Kerala covers the area of 4,396 square kilometres and which constitutes 11.3 per cent of the state geographical area. It is located in central part of Kerala bounded on the east by Coimbatore District of Tamilnadu, on the north and north west by Malappuram District and south by Trichur District. There is no coastline in this district. There are 5 taluks in this district viz., Palghat, Chittur, Alathur, Ottappalam and Mannarghat. The District consists of 12 blocks, 91 panchayats, 146 villages, 4 towns and 3 municipalities.

This district is considered as the Granary of Kerala. It has a predominantly rural population (77.3 per cent). The district economy is primarily agricultural.

Climate and rainfall

The district has tropical climate except in the Attappady hill range in Mannarghat taluk but during rainy season. The rainfall is moderately good and

is very consistent over the year as shown in the
Table 2.1. The average rainfall of the district
ranges from 175 cms to 250 cms per year. The average
rainfall of the Chittur taluk ranges from 100 cms to
150 cms. The main rainfall season is south west
monsoon.

Land and soil

Palghat, Chittur and Alathur taluks are more or
less plain except for the Nelliampathy area of Chittur
taluk whereas the terrain of Ottappalam and Mannarghat
taluks are undulating with hills and valleys. Almost
the entire district falls under midland region except
Attappadi Block in Mannarghat taluk which lies in
highland.

The district has mainly three soil types viz.,
laterite soil, virgin forest soil and black soil.
Laterite soil is found in Ottappalam, Palghat, Alathur
and Chittur taluks.

River

Nature has been bountiful in endowing the district
with Bharathapuzha and its tributaries. The important
tributaries of Bharathapuzha are viz., Malampuzha,
Walayar, Mangalam, Meenkara, Gayathri, Pothundi and

Table 2.1. Distribution of rainfall in Palghat District during the year 1982.

| Months | Total rainfall in mm | |
	Palghat District	Chittur taluk (recorded at Eruthiyampathi Farm)
January	Nil	Nil
February	Nil	Nil
March	4.0	48.0
April	36.0	62.5
May	144.5	57.5
June	385.0	227.0
July	436.0	229.0
August	380.0	113.0
September	56.0	63.0
October	160.5	99.2
November	158.2	104.5
December	Nil	1.0
Total	1760.2	1004.7

Source: 1. District Statistical Office
2. Eruthiyampathi Farm rainfall record

Kanjirapuzha some of which provide good irrigation facilities. The Attappadi hill range is gifted with two tributaries of the river Cauvery viz., Bhavani and Siruvani. In addition to the minor, medium and major irrigation projects, these rivers together offer good scope for lift irrigation. Sourcewise and cropwise irrigated area are given in Table 2.2 and 2.3 respectively.

Demographic Features

As per the 1981 census, the district has a population of 20,41,912 which was 8.04 per cent of the state population with sex ratio 1059 females for 1000 males. The percentage of literacy of the district was 55.88 against the state average 69.17 per cent. The density of the population was 465 per sq.km. and 35.20 per cent of the total population of the district constitute the workers. There were 6,64,318 workers. Of them 4,39,687 were males and 2,24,631 were females. Among the total workers 44.94 per cent were agricultural labourers, 14.53 per cent were the cultivators, 3.86 per cent were household workers and 36.67 per cent were other categories.

IRRIGATION

Table 2.2.   Source-wise irrigated area in Palghat District

Source	Net Area in hectares
Government Canal	45262
Private Canal	315
Government Tanks and Wells	104
Private Tanks and Wells	6378
Minor and lift irrigation	1667
Other sources	413
Total	54139

Table 2.3.   Crop-wise irrigated area in Palghat District

Source	Gross Area in hectares
Paddy	81262
Vegetables	484
Tubers	14
Coconut	2264
Arecanut	1805
Spices	10
Banana	432
Other crops	1433
Total	87494

Source: District Statistical Office

Land use and Cropping pattern

Total geographical area according to the 1980-81 village records was 4,38,980 hectares. Net area sown accounted for 2,13,748 hectares of which sown more than once was 1,23,209 hectares. Total cropped area was 3,35,957 hectares. The table 2.4 shows the land utilisation pattern of the district during the year 1980-81.

The cropping pattern of the district shows that major portion of the cropped area is used for raising food crops. All the food crops accounted for eighty per cent of the total cropped area. The major crops grown in this district are paddy, coconut, cashewnut, tapioca, rubber, groundnut, cotton, arecanut and sugarcane. Paddy is the most important food crop grown in this district which accounted for 54.50 per cent of the total cropped area. Palghat ranks first in productivity and second in production of paddy among districts of Kerala. It also ranks first both in respect of area and production of groundnut. The details regarding the various crops grown are given in Table 2.5.

Table 2.4. Land utilisation pattern in Palghat District
for the year 1980-81

Description	Area in hectares	Percentage to total area
Total geographical area	438980	100.00
Forest	136257	31.04
Land put to non agricultural uses	31351	7.14
Barren and uncultivable land	14101	3.21
Permanent pasture and grazing land	341	0.07
Land under miscellaneous tree crops	8247	0.02
Cultivable waste	25271	5.76
Fallow other than current fallow	3117	0.71
Current fallow	6547	1.49
Net area sown	213748	48.69
Area sown more than once	123209	28.07
Total cropped area	336957	76.76

Source: District Statistical Office

Table 2.5. Cropping pattern of Palghat District
for the year 1980-81

Name of the crops	Area in hectares	Percentage to the total cropped area
Paddy	183634	54.50
Other cereals	2807	0.83
Pulses	10730	3.18
Coconut	22954	6.81
Groundnut	9309	2.79
Sesamum	1003	0.30
Sugarcane	2324	0.69
Tapioca	12644	3.75
Cotton	6223	1.85
Tamarind	3084	0.92
Betalnut	2852	0.82
Cashew	13287	3.94
Spices and condiments	6144	1.82
Fruit crops	11181	3.32
Tea, Coffee, Cocoa	3297	0.99
Rubber	11084	3.29
Green manure and Fodder crops	11413	0.42
Other crops	32987	9.79
Total	336957	100.00

Source: District Statistical Office

Sowing, harvesting and marketing seasons of principal seasonal crops for the district is given in Table 2.6.

The area under forest comes to about 30 per cent of the total geographical area of the district having an extent of 1,36,000 hectares. Forest is the main source of raw materials for many wood based industrial units which are functioning in the district . Parambikulam Reserve Forest and the Silent Valley, the only tropical ever green forest in the world, are in Palghat District.

Industries

There are 13 large and medium scale industrial units in the district. The number of registered small scale industrial units is 715 of which food and allied products top the list with 218 units followed by the General Engineering (196), Timber and Wood Products (85) and Chemicals (46). Handloom Industry occupies a prominent place among the traditional industries in the district. Co-operative Sugars and Bhagavathy Textiles are functioning in Chittur Block. There are five Oil expellers functioning in Koshinjampara. A Bullock Cart manufacturing industry is in Kollengode Block.

Table 2.6.   Sowing, Harvesting and Marketing Seasons of Principal Seasonal Crops in
Palghat District.

Crops	Sowing season	Harvesting season	Peak marketing season
Paddy: Autumn	April - June	Aug. - Oct.	Sept. - Oct.
Winter	Aug. - Oct.	Dec. - Feb.	Jan. - March
Summer	Nov. - Dec.	Feb. - March	March - April
Sugarcane	Nov. - Feb.	Oct. - Dec.	Nov. - Dec.
	Jan. - March	Dec. - Feb.	Feb. - March
Cotton	Aug. - Sept.	Feb. - March	Feb. - March
Horsegram	Aug. - Oct.	Nov. - Jan.	Jan. - Feb.
	Feb. - March	April - May	May - June
Groundnut	May - June	Aug. - Sept.	Aug. - Sept.

Source: District Statistical Office

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Infrastructure

This district is well connected by roads and rails. The National Highway 47 passes through this district. The total length of the P.W.D. road is 1295 Km . and the length of railway is 139.21 Km . There are 1055 goods vehicles and 277 tractor trailors available in this district.

There are 188 Bank branches of Nationalised and Commercial Banks in this district.

The Palghat Co-operative Central Bank Limited has 19 branches in this district besides their headquarters at Palghat. There are also four branches of Palghat Co-operative Land Mortgage Bank and eight Urban Co-operative Banks in this district.

There are 85 Service Co-operative Banks and four other credit societies which advance short term loans to the cultivators. Five Marketing Co-operative Societies and 79 Milk Marketing Co-operatives are working here. There is dearth of Milk Co-operative Societies in Thrithala and Pattambi Blocks.

There are many Markets dealing with agricultural commodities in this district. However, there is no well developed market system available to farmers to market their produce in a better way.

A map of Palghat District indicating the study areas is shown in Fig.1.

FIG. 1. MAP OF PALGHAT DISTRICT

N
E

NILGRIS

MALAPURAM
DISTRICT

COIMBATORE

TRICHUR
DISTRICT

1

2

STUDY AREAS

1. CHITTUR BLOCK
2. KOLLENGODE BLOCK
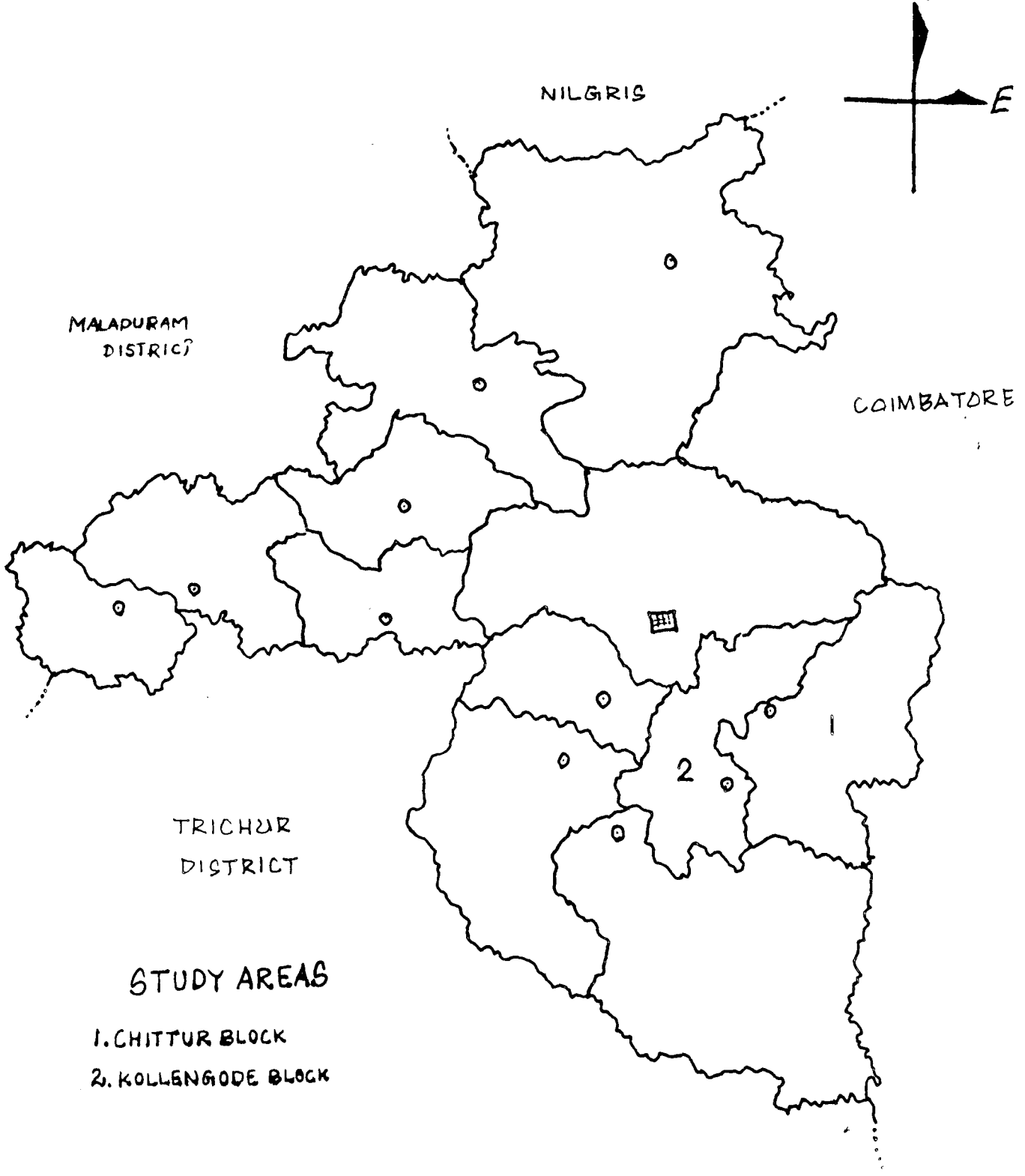
Review of Literature

REVIEW OF LITERATURE

The past studies undertaken on production and
marketing of groundnut, which are relevant to the present
study, have been reviewed in this chapter. These have
been grouped into two viz., studies on economics of
cultivation and studies on marketing.

Economics of cultivation

The earliest attempt to investigate on cost of
cultivation of groundnut was made by Subba Rao (1893).
He found that groundnut cultivation was profitable both
under irrigated as well as rainfed conditions.

Mollison (1899) has observed that the cost of
harvesting the crop was one of the important components
under the then existing conditions in Bombay.

Smith (1907) showed that the cost of cultivation
of groundnut including rent was only Rs. 28 while the
return was about Rs.100 leaving a net profit of Rs.71 per
acre.

Rego (1907) also showed that the cultivation of
groundnut was quite profitable and a sizable surplus of
about Rs.109 was left over per acre after meeting all the
expenditure incurred in cultivation of groundnut.

Considerable work has also been done by the Government of the then Bombay State as groundnut was one of the chief oil-seed crops of the state. It was estimated that a net profit of Rs.32 could be realised from an acre of groundnut crop under the prices which ruled in 1929.

The Department of Agriculture, Bombay (1931), estimated the labour unit requirements of an owner cultivator in Khandesh, Karnataka and Gujarat. It was estimated that the labour unit requirement for the crop was between 52 to 55 in Khandesh and 44 to 55 in Gujarat while it ranged very high between 102 to 150 in Karnataka.

The Department of Agriculture, Sind, (1932), worked out the cost of cultivation of groundnut, splitting it into two categories namely cash expenditure and labour expenditure and estimated the net profit at Rs.49.80 per acre.

Liaberherr (1938) estimated that the cost of culti-vation of groundnut in Madras State was Rs.34.70 and net profit was Rs.41.9 per acre.

The pilot survey sponsored by Research Programmes Committee of Planning Commission, undertaken in the year 1956-57, revealed that the average cost of cultivation of groundnut worked out to Rs.57 per acre in canal fed area and Rs.53 per acre in the non-project area. The value of net yield per acre amounted to Rs.128 in project area and Rs.86 in the nonproject area.

Seshadri (1963) reported that the cost of cultivation of rainfed groundnut ranged from Rs.90 to 135 per acre depending upon local conditions. He showed that cost of cultivation in Madras was high and within the Madras State, cost of cultivation was highest in the Pollachi area due to the thorough preparatory cultivation given to the field and the very heavy seed rate. He also reported that high charges on work bullocks and the Mazdoor's wages contributed to the high cost. He estimated the returns of Rs.75 to 100 from an acre of rainfed groundnut crop.

Kandaswamy (1964) observed that the average labour requirement for groundnut cultivation under rainfed condition was 31 mandays in the Lower Bhavani Project area.

Muniraj (1965) showed that the average cost of cultivation of groundnut was Rs.190 per acre with a range of Rs.120 to Rs.231. He estimated that the net profit per acre

varied from Rs.17.44 to Rs.34.06 in different areas of
Pollachi Taluk. He also found that cost of production
did not appear to vary significantly with the size of
the farm. He fitted the Cobb-Douglas production function
to test the resource use efficiencies. The study has
revealed that there was no significant relationship
between the productivity and size of the farm. He worked
out the average and marginal products to compare the
resource use efficiencies within the farms and between
the farms. The production function revealed that land,
seed, and fertilizers and manures had significant influence
on the production. The marginal productivity analysis
indicated that land, seed and fertilizers and manures
held out possibilities for increasing these resources from
their mean level. The use of bullock labour was at optimum
level whereas, the human labour employed was excessive.
He emphasised the reorganisation of resources for the
better economic efficiency.

Rajagopalan et al., (1978) have done a comparative
analysis of cost and returns of irrigated and rainfed
groundnut among the districts of Tamil Nadu. They computed
that the labour cost as a percentage of total cost for
irrigated groundnut ranged from 28.22 to 35.35 whereas
it ranged from 29.05 to 44.22 for rainfed crop. They
also found the share of seed cost in total operating cost
ranged from 26 per cent to 37.42 per cent for irrigated

crop while it ranged from 35.2 per cent to 46.68 per cent
for rainfed crop. They further found out that the
operating expenses for irrigated crop ranged from Rs.1339.25
to 1912.30 whereas it ranged from Rs.894.92 to Rs.1156.50
rainfed crop per hectare. The net returns ranged from
Rs.330.59 to 1368.58 for irrigated crop and Rs.147.43 to
Rs.641.62 for the rainfed crop per hectare.

Eswara Prasad et al., (1983) estimated that the total
expenditure incurred by the farmers was Rs.1861.45 per
hectare of rainfed groundnut crop in Chittur District of
Andhra Pradesh. They also estimated that the gross income
per hectare was Rs.2055.10 and net income was Rs.193.65 per
hectare. They found out that the major items of cost were
seed, which constituted 25.33 per cent, followed by value
of fertilizers and manures (16.17 per cent), cost of
traction power (13.18 per cent), and cost of human labour
(12.29 per cent). The income for farm business, farm
investment, and family labour were Rs.665.47, Rs.536.17 and
Rs.322.95 respectively. They also determined the impact
of input variables on the yield of groundnt by fitting
double logarithamic production function. They found that
land and human labours exhibited highly significant
influence on gross income with increasing return to the
factors, while manures and fertilisers had negative

influence on gross income. The marginal productivity of
land and human labour were Rs.1124.542 and Rs.10.0279
respectively. They also worked out the benefit cost ratio
as 1.10 which meant that every rupee invested in production
of groundnut resulted an increase of Rs.1.10 in the gross
income.

Marketing

Report on the marketing of groundnut in India (1953)
by Directorate of Marketing and Inspection, Ministry of
Food and Agriculture, Government of India, showed that the
producer had retained 30 per cent of the total production
for payment of wages, seeds, edible use and oil crushing.

Shatge and Rao (1957) conducted a comparative study
between pre war and post war II period for the produces
like tobacco, potatoes, groundnut and linseed. They noticed
the changes in producer's share in rupee paid by the
consumer. In case of cigarette tobacco, it increased by
13.8 per cent over the pre war II period. The percentage
increase in the case of potatoes was 15, groundnut 8.2 and
linseed 8.1.

Report on the price spread of groundnut and groundnut
oil in India (1963), the Directorate of Marketing and
Inspection, Ministry of Food and Agriculture, Government
of India showed that the marketing cost accounted for 11 to
24 per cent and 10 to 18 per cent of the price paid by the

ultimate consumer in Andhra Pradesh and Madras respectively.
It also showed that the marketing margin absorbed by the
marketing functionaries ranged from 2 to 9 per cent and
1 to 10 per cent in these two states respectively. They
further noticed that the share of the producer in the price
paid by the ultimate consumer of oil and oil cake in Andhra
Pradesh varied from 70 to 84 per cent and it ranged from
76 to 87 per cent in Madras State.

Kahlon and Singh (1968) studied marketing of groundnut
in Punjab. They examined the trends in area and production
of groundnut and some of the important aspects of marketing
namely price spread, price fluctuation, storage and grading
problems. They found that the arrivals of groundnut caused
some fluctuation in its prices in different seasons of the
year. They also found that the correlation between montly
prices and arrivals was negative in all markets. They
concluded that factors other than the arrivals contributed
to the price variation in groundnut in a significant manner.
Further they estimated that the producer's share in
consumer's rupee was only 65.41 per cent.

Karmathulla et al., (1971) studied the marketing margin
of groundnut in Dharwar Market. They limited the study to
the point of selling the produce by the farmers in the market.
Only costs incurred by the farmers were studied. They found
out that the truck was the cheapest mode of transport which

cost Rs.0.13 per quintal. They also estimated that the cost of marketing when transported through bullock cart was Rs.5.31 per quintal including transport, commission, unloading charges, municipal tax and other charges, whereas if the produce was transported through tractor, it was Rs.6.06 and for truck it was Rs.7.03.

Singh (1975) in his study on inter-relationships and production of groundnut in Punjab concluded that the lagged prices of groundnut affects its production.

Srivastava and Jain (1975) studied the correlation between arrivals and prices of cotton, wheat and groundnut in Amaravathi market and concluded that because of zonal restriction there was no significant effect of supply and demand on arrivals and prices.

Anant Ram Verma and Nigam (1979) studied the price spread in groundnut marketing in Kanpur District. They found that the arrivals were high during December to February accounting for 56.48 per cent of the total arrivals and price was low.

They also estimated the producer's share in consumer's price of roasted groundnut and oil preparation was 63.85 per cent and 73.82 per cent respectively. They also estimated the cost of storage per quintal per month at the farmers

level at Rs.1.40 as against Rs.0.70 in warehouse.

Suryaprakash et al., (1979) attempted to identify the number of market intermediaries for selected agricultural commodities including groundnut. They also estimated the margin realised by various intermediaries. They identified the following two channels in groundnut marketing.

1. Producer - Commission Agent - Processor
2. Producer -   Wholesaler   - Processor

They have treated the processor as the ultimate consumer in groundnut marketing. The result of the study showed that the majority of the producers transacted through the Commission Agents. The producer's share in the Processor's purchase prices was 94.53 per cent in Channel I and 95.01 per cent in Channel II. This difference was due to difference in the commission charged by the Commission Agents and wholesalers. Thus the price spread was 5.47 per cent when commodity was sold through Commission Agents while it was 4.99 per cent when it was sold through the wholesalers.

Arora and Jayaprakash (1979) in their study on comparative efficiency of alternative marketing agencies of groundnut in Tamil Nadu, found that 38 per cent of marginal farmers and 28 per cent of small farmers have chosen private mandies whereas only 4 per cent of large

farmers approached the private mandies. The marketing
cost incurred by the farmers in the private mandi was
77 per cent higher than that incurred in the regulated
market.

Sah and Rao (1979) studied the price spread in
groundnut marketing at macro level. The estimated the
changes in the ratio of value of output at the farm level
to the value of output in different terminal markets
over a time. The value added method was used. The value
of farm output was obtained by multiplying gross output
with farm harvest prices. The value of trade output was
worked out as the sum of total of value of seed, value of
oil produced at expellers and the value of oil and deoiled
cake produced in the solvent extraction system. The found
that there was some scope of giving higher returns to the
groundnut growers through the formation of Co-operatives.
At the macro level, they had estimated that, on an average,
the share of the farmers gross income in the total value
generated in the groundnut system was about 85 per cent.

Sundaram (1980) studied the groundnut marketing in
North Arcot District and found three marketing channels in
groundnut marketing in Vellore regulated market area namely;

    1. Farmer - Village merchant - Wholesaler-cum-
       Commission Agent - Miller

2. Farmer - Wholesaler-cum-Commission Agent to Miller

3. Farmer - Regulated Market - Miller

He estimated that about 48 per cent of the groundnut produced was marketed through channel I, whereas it was 20 per cent through channel II and 32 per cent through channel III. He also estimated that the farmer's share in the miller's price was high in channel III, where it ranged from 94.10 per cent to 94.68 per cent, whereas it ranged 75.44 per cent to 78.76 per cent in channel II and 70.79 per cent to 72.45 per cent in channel I. The marketing margin ranged from 3.61 per cent to 12.01 per cent to the village merchant and 7.70 per cent to 14.67 per cent to the Wholesaler-cum-Commission Agent. He further found that farmer did not incur any marketing cost in channel I. It ranged from Rs.24.72 to Rs.26.98 per quintal in channel II and Rs.12.10 to Rs.19.55 per quintal in channel III. The marketing cost incurred by the village merchant ranged from Rs.17.98 to 28.18 whereas it was Rs.11.6 for the Wholesaler-cum-Commission Agent.

Rao (1982) studied the marketing of groundnut in Andhra Pradesh. He observed an inverse relationship between farm size and production. As farm size increased the per cent of marketable surplus increased and per cent of

marketed surplus decreased. He also observed that the marginal and small farmers who need money to meet various repayments, sold about 75 per cent of the produce at lower price after harvest. He further found out that there was a decreasing trend in the marketing cost from marginal farmer to larger farmer. He estimated the overall marketing cost as Rs.5.02 with a range of Rs.4.49 on larger farmer to Rs.6.70 on marginal farmer. Transportation was the major cost item, which varied between Rs.3.45 and Rs.2.80 on marginal and large farms. The average transportation cost was Rs.3.06.

Materials and Methods

MATERIALS AND METHODS

Selection of the study area

This study was conducted in Palghat District of Kerala. This district with an area of thirteen thousand hectares and annual production of 13.5 thousand tonnes of groundnut, stands first in the area and production of groundnut in the state.

Period of study

This study pertains to the year 1982-83 and confied to first season (April - August). This season was selected because it is the major season for groundnut cultivation in Palghat District.

Sampling procedure and collection of data

A sample survey was conducted to collect the relevant data on groundnut cultivation and marketing from the groundnut cultivators. The design of the sample survey was multistage random sampling with panchayats as the primary units, wards as secondary units and holdings as ultimate units. Chittur and Kollengode blocks of Palghat District were selected purposively, because they account for more than ninety per cent of the area under groundnut in the district. From each Block two panchayats were selected at random and from each selected panchayat two wards were selected at random. A list of

cultivators was prepared in each selected ward and ten farmers were selected randomly. If the selected farmer is not a groundnut cultivator the nearby farmer cultivating groundnut was taken in his place. Thus, this study was confined to a sample of eighty groundnut cultivating holdings. Data collection was carried out by personal interview method during months of February to May 1983 with help of a well structured questionnaire. The information collected from the groundnut cultivating holdings included size of holdings, net area cultivated, total cropped area, area under groundnut, value of farm machinery and implements, value of farm buildings, value and quantity of various inputs used in groundnut cultivation, total production of groundnut, quantity of groundnut kept for seeds and home use, quantity marketed, price received, to whom it was sold and mode of transaction, measures used and problems in cultivation and marketing.

Data on marketing of groundnut and groundnut oil were collected from different intermediaries around the Koshinjampara market area which is the only market for groundnut in Palghat District. In addition to this, data were also collected from the shippers who are dealing with groundnut kernals in Trichur market. Data on marketing of

groundnut oil were also collected from the Palghat market.

Data were collected from thirty different middlemen selected at random and five oil millers using two different types of well structured questionnaires by personal interview method.

The various information collected from the intermediaries were commodities dealth with, fixed capital, working capital, monthwise quantity and value of purchase and sales of groundnut and groundnut oil, transportation cost, mode of transport, price received, market finance and business problems.

From oil millers data on fixed capital, working capital, monthwise quantity and value of groundnut purchased, storage cost, quantity crushed and sold in each month, wastage, value of oil and by-product, price received, market finance and business problems were collected.

Method of analysis

1. Classification of sample holdings

Selected holding were divided into two groups viz., Group I and Group II based on the area under the groundnut. Group I consists of holdings having area under groundnut of less than 1.27 hectares and Group II consists of the holdings having area under groundnut

of more than 1.27 hectares. The geometric mean of the area under groundnut in the sample holdings was 1.27 hectares.

ii. Unit cost of production

The cost of production per unit viz., one quintal of groundnut pods was worked out taking into account the value of all inputs, including depreciation, interest on fixed and working capital and gross yield of groundnut pods in the farms studied. Cost of cultivation per hectare of groundnut was worked out and the relevant data were tabulated. Cost of cultivation was divided into different components according to different cost concepts and farm operations. Percentage corresponding to different inputs and operations were worked out.

iii. Efficiency measures

In order to study the efficiency of the farm benefit cost ratios, farm business income, family labour income, net income and farm investment income were calculated.

iv. Production function

Production functions were fitted based on the absolute values of production for both size groups and also for the aggregate sample.

The production function used was Cobb-Douglas model which is logarithmically linear and could be written in the following form.

$$Y = a \; x_1^{b_1} \; x_2^{b_2} \; x_3^{b_3} \; x_4^{b_4} \; x_5^{b_5} \; x_6^{b_6} \; e^{u}$$

and its logarithmic transformation is as follows:-

$$\text{Log } y = \log a + b_1 \log x_1 + b_2 \log x_2 + b_3 \log x_3 +$$
$$b_4 \log x_4 + b_5 \log x_5 + b_6 \log x_6 + u$$

Where

Y = Values of output in rupees

x_1 = Area under groundnut in hectares

x_2 = Value of seeds in rupees

x_3 = Value of fertilisers and manures in rupees

x_4 = Value of pesticides in rupees

x_5 = Value of human labours in rupees

x_6 = Value of bullock and machinery labours in rupees

u = Is regression error term

a = A constant

b_1, b_2..................b_6 are regression coefficients (or) elasticities of production.

The elasticities of production would indicate the relative change in the output for one percent change in the input. The return to factors could be estimated on the

basis of the value of regression coefficients. If the elasticity of production for a partioular factor was less than one ($b_1 < 1$) diminishing returns to this factor exist, when other factors were held constant. If $b_1 = 1$, constant returns to factors exist, and if $b_1 > 1$ increasing returns to that factor exist.

v. Returns to scale

The sum of all elasticities of production ($\leq$ bi) ie., $b_1 + b_2 + b_3 + \ldots b_6$ would indicate the percentage change in total returns when all the inputs in the production function were increased by one per cent. If the sum of all the elasticities of production was equal to one ($\leq$ bi = 1) constant returns to the scale would prevail. This means that if all the inputs were increased by one per cent, total return will also be increased by one per cent. If bi was less than one ($\leq$ bi < 1) it would mean diminishing returns to scale. This means a proportional change in the inputs resulted in less than proportional change in returns. Likewise, if $\leq$ bi > 1, it means increasing returns to scale.

vi. Average value productivity

The average value product of each input was calculated as the mean return divided by mean input of resource. The average value products were presented in the present study for the geometric mean level of total returns and input.

The resultant average included the value of returns of all inputs and not simply the returns attributable to single input.

$$\text{AVP } x_i = \frac{\bar{Y}}{\bar{X}_i}$$

Where $\bar{Y}$ = Geometric mean of total returns y

$\bar{x}_i$ = Geometric mean of the ith input variable

vii. Marginal value productivity

The marginal value of products of all inputs were calculated with the formula

$$\text{MVPxi} = bi \frac{\bar{Y}}{\bar{xi}}$$

Where bi is the regression coefficient of ith input

$\dfrac{\bar{Y}}{\bar{xi}}$ = Average productivity of the ith input at geometric mean level of returns and input.

The marginal value productivity of a particular input say xi would indicate the rate of change in output for the unit change in x_i

The significance of bi's were tested by using the student's 't' test.

viii. Marketed surplus

Marketed surplus of groundnut was estimated from the following equations.

$$Mds = Qp - (Qs + Qh)$$

Where Mds = Marketed surplus

Qp = Quantity of groundnut produced

Qs = Quantity retained for seeds

Qh = Quantity of kept for home use

ix. Price spread

This was estimated by comparing the average prices prevailed during the early month of August at different levels of marketing. Adjustments were made for wastage and by-products. The absolute value of price spread was expressed as percentage relative to the miller's/consumer's price. Oil millers, cart vendors and sweet makers (purpy) are treated as the final consumers of groundnut kernals. For groundnut oil, separate price spread was worked out and expressed as a percentage relative of the consumer's price.

Terms and Conceptual Frame Work

TERMS AND CONCEPTUAL FRAME WORK

The terms and concepts used in this study are discussed in this capter.

Operational holding:

The area of land actually cultivated by the farmer and his family irrespective of title or location.

Cultivated area:

Net area sown plus current fallow.

Net cropped area:

It is the area used for the cultivation of crops during a year. It takes into account a particular area of land only once, irrespective of the number of crops raised on it during the year.

Double cropped area:

It is that area on which more than one crop is raised during a year.

Total cropped area:

Net sown area plus area sown more than once.

Cropping intensity:

Ratio of total cropped area to cultivated area. Intensity of cropping is measured by dividing the total cropped area by cultivated area, and then multiplying the product by 100.

Cropping pattern:

The term cropping pattern denotes the distribution of crops in total cropped area.

Working capital:

It comprises of value of human labour, bullock labour, seeds, manures and fertilizers, pesticides and machinery charges.

Cost Concepts

A number of cost concepts such as Cost A, Cost B, Cost C have been followed in this analysis. The input costs included in each category item are indicated below:-

a. Cost A : This cost covers the expenses on items such as

        i) Value of hired human labour
       ii) Value of hired bullock labour
      iii) Value of owned bullock labour
       iv) Hired machinery charges
        v) Value of owned machine labour
       vi) Value of seeds (both farm produced and purchased)
      vii) Value of manures and fertilizers
     viii) Value of plant protection chemicals
       ix) Depreciation on implements and farm buildings
        x) Land Revenue, Cesses and other taxes
       xi) Interest on working capital
      xii) Miscellaneous expenses

b.   Cost B : This cost includes

        Cost A + Imputed rental value of owned land
        (less revenue paid thereon) + Imputed
        interest on fixed capital (excluding land).

c.   Cost C : This cost includes

        Cost B + Imputed value of family labour.

Concepts of Income

a.   Gross income:

It includes the value of main and by-products. This
was evaluated based on the harvest prices prevailed in the
villages.

b.   Net income:

This is the difference between gross income and total
cost ie., gross income minus Cost C.

c.   Family labour income:

It includes the net income plus imputed wages for the
family labour. Thus gross income minus Cost B.

d.   Farm investment income:

It is the total of net income and imputed rental value
of owned land plus interest on owned fixed capital.

e.   Farm business income:

This is the measure of earnings of the farmer and his family for management, risk, their labour and capital investment. It is obtained by adding up the family labour income, the unpaid interest on owned capital and unpaid rent on owned land. Thus it is gross income minus Cost A.

Method of Imputation of Value of Owned
Inputs

Some of the inputs used in the production process come from farm family resources. In computing the cost of cultivation, it is necessary to impute values of these inputs. The procedure used for the imputation of value of such inputs is indicated below:-

a. Family labour:

Value of the family labour is imputed at the prevailing wage rate in the localities.

b. Owned bullock labour:

Since adequate and correct data on maintenance and use of bullocks was very difficult to get, the value of the owned bullock labour is imputed at the rate of hiring charges prevailing in the localities.

c. Owned machinery charges:

Owned machine labour is valued on the basis of the local hiring charges.

d. Farm buildings:

Depreciation at the rate of five per cent is worked out on katcha building and two per cent on pucca buildings.

e. Implements:

Depreciation and charges on account of minor repairs are taken into account. Depreciation has been worked out at the rate of 20 per cent on the dead stock.

f. Owned seeds and manures:

Farm produced seeds and manures have been evaluated at the village prices prevalent at the time of sowing.

g. Rent on owned land:

Rent on the owned land is imputed on the basis of prevalent rent in the villages. One fourth of the value of the main product produced is taken as the imputed rental value of the owned land.

h. Interest on owned fixed capital:

Interest on the present value of fixed assets (excluding land) such as farm buildings, implements and machinery, has been charged at the rate of 10 per cent per annum.

i. Interest on working capital:

Interest has been charged at the rate of 12 per cent per annum for the period of four months on the working capital ie., cash and kind expenses (excluding the payment

made after harvest ie., rent, land revenue) incurred
during the period of cultivation.

j. Land revenue:

It has been worked out at the rates at which it
is actually charged by the government.

Value of Hired inputs

The actual hiring charges paid to the hired human
labour, bullock labour and machineries are taken into
account. The wage rate per day for human labour was
five rupees for female adult worker and ten rupees for
male adult worker. The hiring charges of bullock
labour was twenty rupees per pair of bullocks per day
of eight hours. The hiring charges of tractor was
eighty rupees per hour.

Value of purchased inputs

The value of the purchased inputs such as seeds,
fertilisers and plant protection chemicals are taken
into account based on the actual price paid.

Value of Main and By-products

The value of main and by-products are imputed at
the post harvest prices which prevailed in the villages.

Apportioning of Joint Cost

Depreciation on farm buildings and implements, land revenue, cesses and taxes, interest on owned fixed capital have been allocated in proportion to the area under groundnut.

Allocation of cost Between Main and By-products

The value of by-product has been deducted from the gross cost of cultivation to get cost of production of main product.

General Socio-Economic Conditions of Sample Farmers

GENERAL SOCIO-ECONOMIC CONDITIONS OF SAMPLE FARMERS

An understanding of the general socio-economic conditions of the sample farmers may help to provide the necessary background for a proper understanding of the farm economy and economics of groundnut cultivation. In this chapter an attempt has been made to provide this information.

Family Size

Table 6.1 shows the distribution of sample families according to the size of the family. The table shows that 63.75 per cent of the total families came under the size group of four to six members, 25 per cent came under the size group of seven to nine members, 7.50 per cent came under the size of group of one to three members and 3.75 per cent came under the size of group of above nine members. The average family size was 5.71. It was 5.95 in Chittur Block, 5.38 in Kollengode Block, 6.05 in Group I and 5.38 in Group II. It was also found that the family size decreased with an increase in the size of holdings.

Literacy

Table 6.2 shows the distribution of respondents according to the level of literacy. Among the respondents 26.25 per cent had only primary education, 17.50 per cent

Table 6.1. Distribution of sample families according to size

Name of the Block		Frequency distribution of sample families according to size					Average size of the family
		1-3	4-6	7-9	above 9	Total	
Chittur Block	Group I	0 (0)	13 (62)	7 (33)	1 (5)	21 (100)	6.29
	Group II	0 (0)	14 (74)	4 (21)	1 (5)	19 (100)	6.05
	Total	0 (0)	27 (67.5)	11 (27.5)	2 (5)	40 (100)	5.95
Kollengode Block	Group I	3 (16)	10 (52)	5 (26)	1 (5)	19 (100)	5.79
	Group II	3 (14)	14 (67)	4 (19)	0 (00)	21 (100)	4.86
	Total	6 (15)	24 (60)	9 (22.5)	1 (2.5)	40 (100)	5.38
District		6 (7.5)	51 (63.75)	20 (25)	3 (3.75)	80 (100)	5.71

Figures in parenthesis indicate the percentage

Table 6.2.   Distribution of respondents according to level of literacy

Particulars		Primary School	Middle School	High School	College	Illiterate	Total
Chittur Block	Group I	5 (23.81)	5 (23.81)	4 (19.05)	2 (9.52)	5 (23.81)	21 (100)
	Group II	5 (26.32)	3 (15.78)	5 (26.32)	1 (5.26)	5 (26.32)	19 (100)
	Total	10 (25)	8 (20)	9 (22.50)	3 (7.50)	10 (25)	40 (100)
Kollengode Block	Group I	5 (26.32)	1 (5.26)	6 (31.58)	2 (10.52)	5 (26.32)	19 (100)
	Group II	6 (28.57)	5 (23.81)	4 (19.05)	2 (9.52)	4 (19.05)	21 (100)
	Total	11 (27.50)	6 (15)	10 (25)	4 (10)	9 (22.50)	40 (100)
District		21 (26.25)	14 (17.50)	19 (23.75)	7 (8.75)	19 (23.75)	80 (100)

Figures in parenthesis indicate percentage

middle school, 23.75 per cent attended high school
and 8.75 per cent attended college. As much as 23.75
per cent was illiterate. The higher level of illiteracy
was observed in Chittur Block and Group I.

Land Holdings

Table 6.3 indicates the average sizes of the land
holdings according to the different types of land. The
average size of the ownership holdings including the
waste lands was 3.40 hectares. The average size of the
farm in Group I was 2.63 hectares, whereas it was 4.2
hectares in Group II. Waste land constituted a higher
proportion of the land holdings of the smaller sized
holdings.

The average size of net cultivable area of the
total respondents was 3.25 hectares. It was only 2.44
hectares in the Group I whereas it was 4.06 hectares in
Group II. The average size of net cultivable area in
Chittur Block was 3.05 hectares while it was 3.45 hectares
in Kollengode Block. Average size of the net cultivable
area could be seen from Table 6.4.

The average size of the farm family per hectare of
cultivable land was 1.76. The average size of the family

Table 6.3. Average size of the sample holdings
(hectares)

Particulars	No.of holdings	Wet land	Garden land	Dry land	Waste land	Total
Group I	40	0.96	0.48	1.01	0.19	2.63
Group II	40	0.68	0.71	2.68	0.14	4.20
District	80	0.82	0.59	1.84	0.15	3.40

Table 6.4. Average size of the net cultivable land
(hectares)

Particulars	Group I	Group II	Average
Chittur Block	2.47	3.68	3.05
Kollengode Block	2.40	4.40	3.45
District	2.44	4.06	3.25

per hectare was large in Chittur Block and also in
Group I. Table 6.5 indicates the average size of the
farm family per hectare of cultivable land.

An average of 0.57 hectare of land was available
for cultivation for each member of the farm family of
the respondents. It was as high as 0.64 hectare in
Kollengode Block. The average size of cultivable land
per member was also high in Group II. Table 6.6 shows
the cultivable land in hectares per farm family member.

General Cropping Pattern

Farm economy has close bearing with the types of
crop enterprises. The better the combination of crops
the higher will be the farm income. Selection and
combination of crops are affected by living needs of
farm family also. The net cropped area of the respondents
was 259.99 hectares. The gross cropped area was 465.13
hectares as shown in Table 6.9. Groundnut had occupied
36.26 per cent of the total cropped area and paddy
occupied 26.24 per cent of the total cropped area. The
other important crops are cotton, sugarcane, pulses,
fodder/perennials etc. They altogether occupied 37.5
per cent of the gross cropped area. Among these crops

Table 6.5. Family size per hectare of cultivable land

Particulars	Group I	Group II	Average
Chittur Block	2.54	1.62	2.01
Kollengode Block	2.41	1.10	1.53
District	2.48	1.30	1.76

Table 6.6. Cultivable land per family member (in hectares)

Particulars	Group I	Group II	Average
Chittur Block	0.39	0.62	0.50
Kollengode Block	0.42	0.91	0.64
District	0.40	0.65	0.57

Table 6.7. Cropping pattern of the sample holdings

| Crops | Chittur Block area in hectares | | Kollengode Block area in hectares | | District | |
	Group I	Group II	Group I	Group II	Area in hectares	Percentage to the total cropped area
Paddy	23.40	17.60	50.17	30.35	121.52	26.13
Groundnut	27.92	48.97	15.66	76.08	168.63	36.25
Cotton	10.72	27.32	6.07	8.50	52.61	11.31
Sugarcane	6.88	3.24	-	2.63	12.75	2.74
Pulses	2.89	10.12	11.74	16.39	41.14	8.85
Fodder	5.98	3.84	-	1.82	11.64	2.50
Perenniels	3.94	2.43	1.21	12.95	20.53	4.41
Others	7.99	10.52	3.23	14.57	36.39	7.81
Total	89.72	124.04	88.08	163.29	465.13	100.00

mainly paddy and sugarcane are grown as irrigated crops.
The cropping pattern of the sample farms is given in
Table 6.7.

Cropping intensity

The net cultivated area cannot be considered as the
true index of farm activities as the double cropped area
is completely left out of consideration. Therefore, the
cropping intensity which is measured by the percentage
of gross cropped area to net cultivated area constitutes
a better standard. The cropping intensity of the sample
farms is given in Table 6.8. The average cropping
intensity was 178.90 per cent. The cropping intensity
was 182.08 in Group I, 176.99 in Group II, 175.4 in
Chittur Block and 178.90 in Kollengode Block. It was
observed that the cropping intensity decreases with an
increase in the size of holdings. This was because of
the small farms were put to rather intensive cultivation
than large farms.

Capital investment

The capital investment of sample farms takes into
account the value of the real estates held by them which
includes value of the land, farm buildings, irrigation
structures, farm machinery and implements and draught

Table 6.8. Cropping intensity of the sample holdings

Particulars	Group I	Group II	Average
Chittur Block	172.57	178.5	175.4
Kollengode Block	192.90	176.5	181.98
District	182.08	176.99	178.90

Table 6.9. Net cropped area, double cropped area and total cropped area in hectares

Particulars		Net cropped area	Double cropped area	Total cropped area
Chittur Block	Group I	51.99	37.73	89.72
	Group II	69.87	54.17	124.04
Kollengode Block	Group I	45.66	42.42	88.08
	Group II	92.47	70.81	163.29

animals. The average oapital investment including value
of the land per holding was 55.74 thousand rupees and per
hectare was 17.16 thousand rupees. The Table 6.10 reveals
that the average oapital investment per holding was higher
in the larger sized holdings. It was 39.74 thousand rupees
in Group I, 71.74 thousand rupees in Group II, 58.45 thousand
rupees in Chittur Block and 52.97 thousand rupees in
Kollengode Block.

Table 6.11 also reveals that the average oapital
investment including the value of the land per hectare was
higher in the larger sized holdings. It was 16.28 thousand
rupees in Group I, 17.68 thousand rupees in Group II, 19.20
thousand rupees in Chittur Block and 15.34 thousand in
Kollengode Block.

The average oapital investment excluding value of the
land was 8.79 thousand rupees per holding and 2.70 thousand
rupees per hectare. Capital investment excluding the value
of the land per holding was 6.88 thousand rupees in Group I,
10.69 thousand rupees in Group II, 9.55 thousand rupees in
Chittur Block and 8.02 thousand rupees in Kollengode Block.
Capital investment excluding the value of the land per
hectare was 2.82 thousand rupees in Group I, 2.63 thousand
rupees in Group II, 3.14 thousand rupees in Chittur Block
and 2.32 thousand rupees in Kollengode Block.

Table 6.10. Average   capital investment (including
            value of the land) per holding (000 Rs.)

Particulars	Group I	Group II	Average
Chittur Block	43.57	75.02	58.45
Kollengode Block	35.50	68.77	52.97
District	39.74	71.74	55.74

Table 6.11. Average   capital investment (including
            value of the land) per hectare (000 Rs.)

Particulars	Group I	Group II	Average
Chittur Block	17.59	20.39	19.20
Kollengode Block	14.78	15.62	15.34
District	16.28	17.68	17.16

Table 6.12. Average capital investment (excluding
value of the land) per holding (in 000 Rs)

Particulars	Group I	Group II	Average
Chittur Block	7.87	11.42	9.55
Kollengode Block	5.79	10.04	8.02
District	6.88	10.69	8.79

Table 6.13 Average capital investment (excluding
value of the land) per hectare (in 000 Rs)

Particulars	Group I	Group II	Average
Chittur Block	3.19	3.10	3.14
Kollengode Block	2.40	2.27	2.32
District	2.82	2.63	2.70

The average capital investment excluding the value of
the land increased per holding and decreased per hectare
as the size of holding increased. Table 6.12 and 6.13
shows the average investment per holding and per hectare
respectively.

Economics of Groundnut Production

ECONOMICS OF GROUNDNUT PRODUCTION

In this chapter an attempt has been made to analyse the costs and returns of groundnut cultivation in Palghat District on the basis of statistical data from the sample holdings. Cost of cultivation per hectare is studied, inputwise as well as operationwise. Cost of production per unit of output is also studied. After analysing the returns and the benefit cost ratio, an attempt has been made to study the resource use efficiency in groundnut cultivation.

Cost of Cultivation per Hectare

The costs of cultivation per hectare of groundnut based on the different cost concepts are shown in Table 7.1. The average costs of cultivation per hectare of groundnut on the basis of cost A, cost B and cost C were Rs.2340.93, Rs.3203.13 and Rs.3240 respectively. They were Rs.2227.44, Rs.3077.33 and Rs.3133.15 in Group I; Rs.2376.03, Rs.3242.04 and Rs.3273.08 in Group II; Rs.2337.15, Rs.3197.90 and Rs.3230.64 in Chittur Block and Rs.2343.99, Rs.3196.55 and Rs.3236.70 in Kollengode Block in the same orders. While analysing the figures size-groupwise, it could be seen that the costs of cultivation per hectare of groundnut based on cost A, cost B and cost C vary significantly on these two size groups.

The cost A, cost B and cost C increased with the increase in the size of holdings. The cost A was higher in Group II by 6.67 per cent (Rs.148.59) over Group I while cost B in Group II was higher by 5.35 per cent (Rs.164.71). Cost C was higher in Group II by 4.47 per cent (Rs.139.93) over that of Group I. The difference in cost A between the groups was mainly because of the higher cost of hired human labour (Rs.108.37) and value of seeds (Rs.90.39) in Group II. The difference in cost B is also due to the higher amount of imputed rental value of the owned land (Rs.17.33) in Group II. The difference in Cost C between these two groups was slightly reduced because of the higher cost of family labour (Rs.24.78) in Group I. While analysing the data Blockwise, it was observed that the cost A, cost B and cost C in Group I were higher in the Chittur Block than Kollengode Block, whereas in Group II they were higher in the Kollengode Block than Chittur Block. On an average, the total cost of cultivation per hectare was not varying between the Blocks.

Inputwise Cost of Cultivation per Hectare

It could be seen from Table 7.2 that about 31.02 per cent (Rs.1004.88) of the total cost of raising the groundnut was covered by the cost of human labour. Of the human labour cost, only 3.67 per cent (Rs.36.81) constituted family labour

and the balance 96.37 per cent (Rs.968.01) constituted
hired human labour. The imputed rent value of land claimed
about 25.85 per cent (Rs.837.47) of the total cost followed
by cost of seeds accounting for 22.49 per cent (Rs.728.80)
of the total cost. The bullock labour and machine accounted
for 7.69 per cent (Rs.249.13) of the total cost. The cost
of fertilizers and manures contributed 7.12 per cent
(Rs.230.82). The remaining 5.83 per cent (Rs.188.90) was
contributed by interest on working capital, plant protection,
depreciation of farm implements and buildings, interest on
owned fixed capital and miscellaneous cost. While observing
these data size-groupwise, it was found that there was a
significant variation in family and hired human labour cost
on these two size groups. The family labour cost per hectare
was lower by 44.39 per cent (Rs.24.78) in the larger sized
holding while hired labour cost was higher by 12.24 per cent
(Rs.108.37). The costs of bullock labour and machine per
hectare were lower by 6.79 per cent (Rs.17.83) in the larger
sized holdings. The cost of seeds was higher by 13.70
per cent (Rs.90.39) in the larger sized holding. The cost of
fertilizers and manures was lower by 4.29 per cent (Rs.10.23)
in larger sized holdings. The average quantity of fertilizers
used per hectare of groundnut was 6.45 kg of nitrogen,
7.89 kg of phosphorous, 12.35 kg of potash and 17.14 kg of
gypsum. This was very low when compared with the recommended

dosage of 10-20 kg of nitrogen, 20-40 kg of phosphorous and 20-40 kg potash. The average quantity of fertilizers used was 4.52 kg of N, 7.32 kg of P_2O_5 and 17.91 kg of K_2O in Group I; 7.04 kg of N, 3.07 kg of P_2O_5 and 14.75 kg of K_2O in Chittur Block and 5.57 kg of N, 7.75 kg of P_2O_5 and 10.43 kg of K_2O in Kollengode Block. Plant protection chemicals cost was lower by 34.56 per cent (Rs.13.91) in the larger sized holdings. Interest on working capital was higher by.7.34 per cent (Rs.6.16) in the larger sized holdings because of the higher amount of working capital which was mainly contributed by higher hired human labour and seed rate (135.08 kg per hectare) in that group. The average seed rate was 124.92 kg per hectare in Group I. The district average seed rate per hectare was 133.10 kg. The seed rate per hectare was high in both groups when compared with the recommended rate which is 120 kg per hectare.

The imputed rental value of the owned land was higher by 2.10 per cent (Rs.17.33) in the larger sized holdings because of higher value of the main product per hectare realised by that group. Land revenue and taxes were lower by 25.77 per cent (Rs.1.93) in the larger sized holdings, inspite of the higher cropping intensity in the smaller group. This was because of the higher professional tax

distributed over the smaller area of cultivated land in the Group I. Depreciation of implements and farm buildings, interest on owned fixed capital and miscellaneous cost per hectare were lower by 18.18 per cent (Rs.13.64) in the larger sized holdings. Blockwise data also show a significant variation in the cost of various inputs. The costs of family labour, machine, seeds and plant protection were higher in the Kollengode Block, while cost of hired human labour, bullock labour, fertilisers and manures and imputed rental value of owned land were higher in the Chittur Block.

There was not much variation in the land revenue and taxes, depreciation, interest on working and owned fixed capital and miscellaneous cost between these blocks. The seed rate used was 134.32 kg per hectare in Kollengode Block while it was 131.56 kg in Chittur Block.

Operationwise Cost of Cultivation per Hectare

The distribution of the total cost of cultivation of groundnut per hectare according to the various operations involved in its cultivation was computed and are presented in Table 7.3. Total operating cost was Rs.2331.92 per hectare which accounted for 71.97 per cent of the total cost of cultivation. The seeds and sowing constituted the

highest cost per hectare which accounted for 25.68 per cent (Rs.831.83) of the total cost followed by harvesting 15.78 per cent (Rs.511.32), fertilizers, manures and manuring for 9.89 per cent (Rs.320.51), after-cultivation 9.70 per cent (Rs.314.39), preparatory cultivation 7.08 per cent (Rs.229.48) and plant protection 1.10 per cent (Rs.35.73). Interest on working capital accounted for 2.74 per cent (Rs.88.66) of the total cost of cultivation. The remaining 28.03 per cent (Rs.908.08) was contributed by imputed rental value of the owned land, depreciation, interest on owned fixed capital, miscellaneous cost and land revenue and taxes. While examining these data size-groupwise, it was revealed that cost of preparatory cultivation per hectare was lower by 13.09 per cent (Rs.33.38) in the larger sized holdings. This was because of land preparation had been given better attention in small holdings than the larger one. Seeds and sowing cost per hectare was higher by 11.08 per cent (Rs.84.98) in the larger sized holdings because of the higher seed rate used in the larger sized holdings. The expenditure on after cultivation per hectare was lower by 26.04 per cent (Rs.68.28) in the smaller sized holdings. The cost of fertilizers, manures and manuring per hectare was also lower by 3.07 per cent (Rs.10.06) in the larger sized holdings. This was because of higher cost of fertilizers and manures in the smaller sized holdings. The cost of plant protection was lower by 42.92 per cent (Rs.22.81) in the larger sized holdings.

The expenses on harvesting operations was higher by 9.44 per cent (Rs.45.02) in the larger sized holdings. This was because of the lower yield per hectare in the larger group. Harvesting was done on contract basis. When the yield per hectare was less, more wages per unit of measure was demanded. Imputed rental value of the owned land and interest on working capital were higher by 2.59 per cent (Rs.323.48) in the larger sized holdings. The fixed cost such as depreciation, land revenue and taxes, interest on owned fixed capital per hectare were lower by 17.32 per cent (Rs.12.04) in the larger sized holdings. The Blockwise analysis of data revealed that the cost of preparatory cultivation, seeds and sowing, plant protection and harvesting were higher in Kollengode Block. The expenses on after-cultivation, fertilisers, manures and manuring were higher in Chittur Block.

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Utilisation of Human labour
per Hectare

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The utilisation of human labour per hectare of groundnut has been worked out and the same is presented in Table 7.4. It could be seen that about 96.33 per cent (96.80 mandays) of the labour requirement was constituted by hired (casual) labourers and 3.67 per cent (3.69 mandays) was by family labourers. The involvement of family labourers was very

Table 7.4 Utilisation of human labour per hectare
on Groundnut cultivation

(One manday = 8 hrs.)

| Group/Block | Human labour in mandays | | |
	Family labour	Hired labour	Total
Group I	5.95	89.11	95.06
Chittur Block			
Group II	2.17	101.97	104.14
Average	3.27	98.23	101.50
Group I	5.15	87.82	92.97
Kollengode Block			
Group II	3.75	97.56	101.31
Average	4.02	95.55	99.57
Group I	5.58	88.52	94.10
District			
Group II	3.10	99.36	102.46
Average	3.69	96.80	100.49

Note: Two women labourers are equal to one
male labourer.

low partly because most of the operations need to be done within a very short time. Farmers have to depend to a great extent on casual hired labour because of their inability to cope with the heavy rush of work. The average human labour used per hectare of groundnut was 100.49 mandays. It was 94.10 mandays in Group I, 102.46 mandays in Group II, 101.5 mandays in Chittur Block and 99.57 mandays in Kollengode Block. One manday is equivalent to 8 hours of work done by an adult male worker. The mandays are arrived at by equating two adult women labourers to one adult male labourer on the basis of wage rate. The group-wise data reveals that family human labour utilisation was higher on the smaller sized holdings. While hired human labour was extensively used in the holdings of large size groups. The total labour use per hectare was higher in the larger sized holdings. Between the two Blocks, total human labour days per hectare was higher in Chittur Block and family labour contribution was higher in Kollengode Block.

Operationwise Utilisation of Human labour per Hectare

The operationwise utilisation of human labour per hectare of groundnut is shown in Table 7.5. The table reveals that the utilisation of human labour for raising the groundnut

Table 7.5. Operationwise utilisation of human labour
per hectare of groundnut

(One manday = 8 hrs.)

Name of the operations	Human labour in mandays			
	Group I	Group II	Average	Percentage
Preparatory cultivation	9.04	7.67	7.99	7.95
Seed sowing	4.60	4.62	4.58	4.56
After-cultivation	26.36	33.05	31.41	31.26
Manuring	5.33	4.67	4.82	4.79
Plant protection	1.16	0.40	0.57	0.57
Harvesting*	47.61	52.05	51.12	50.87
Total	94.10	102.46	100.49	100.00

*Harvesting was done on contract basis in the study
area. So to get the mandays equivalent, total amount
of wage paid for harvesting was divided by the wage
rate.

crop widely varied on different operations. The
largest percentage (50.87) of the total human labour
was employed for harvesting the crop followed by
after-cultivation which accounted for 31.26 per cent
of the total human labour input. Preparatory culti-
vation claimed 7.95 per cent while manuring 4.79
per cent, sowing 4.56 per cent and plant protection
0.57 per cent of the total human labour inputs. It
could be seen from the table that for almost all the
operations except after cultivation and harvesting
human labour input use per hectare was lower in the
larger sized holdings. Labour use for harvesting and
after cultivation was higher in the larger sized
holdings.

Utilisation of Bullock labour
per Hectare

Utilisation of bullock labour per hectare of
groundnut is given in Table 7.6.

On an average, bullock labour has been employed to
the extent of 10.50 bullock pair days per hectare of
groundnut. It was 10.74 bullock pair days in Group I
and 10.43 bullock pair days in Group II. There was not
much variation in utilisation of bullock labour between

Table 7.6. Utilisation of Bullock labour per hectare
on Groundnut

Particulars		Bullock pair days
Chittur Block	Group I	12.75
	Group II	10.79
	Average	11.77
Kollengode Block	Group I	8.35
	Group II	10.13
	Average	9.27
District	Group I	10.74
	Group II	10.43
	Average	10.50

Note: Bullock pair day is equivalent to 8 hours of
work done by a pair of bullocks.

the groups. The blockwise data reveals that bullock labour employment was higher in Chittur Block which was. 11.77 bullock pair days whereas in Kollengode Block it was 9.27 bullock pair days. Bullock labour use per hectare was lower in Kollengode Block due to increased use of machinery.

Operationwise Utilisation of Bullock labour per Hectare

The operationwise utilisation of bullock labour per hectare of groundnut is shown in Table 7.7.

It could be seen that preparatory cultivation appeared to be the most important operation which claimed 52.76 per cent of the total bullock labour used in groundnut cultivation. Sowing came next, covering about 27.52 per cent of the total bullock labour utilised, followed by transportation of manures which covered the remaining 19.72 per cent. The bullock labour input per hectare remained almost same in both the size groups. Preparatory cultivation and seed sowing employed more bullock labour in the Group I, while transportation of manures employed more bullock labour in the Group II.

Table 7.7. Operation-wise utilisation of Bullock
labour per hectare on Groundnut

Name of the Operations	Bullock pair days			
	Group I	Group II	Average	Percentage
Preparatory cultivation	5.89	5.43	5.54	52.76
Seed sowing	3.03	2.85	2.89	27.52
Transportation of manures	1.82	2.15	2.07	19.72
Total	10.74	10.43	10.50	100.00

Cost of Production per Quintal of
groundnut pods

Cost of production per quintal of groundnut pods was derived by dividing cost of cultivation less value of by-product by yield in quintals per hectare.

Estimates of cost of production of groundnut according to different cost concepts are presented in Table 7.8. The average costs of production per quintal of groundnut pods on the basis of cost A, cost B and cost C were Rs.181.73, Rs.261.05 and Rs.264.40 respectively. They were Rs.161.28, Rs.236.56 and Rs.241.50 in Group I; Rs.188.73, Rs.269.52 and Rs.272.40 in Group II; Rs.174.60, Rs.251.18 and Rs.254.09 in Chittur Block and Rs.188.20, Rs.269.01 and Rs.272.82 in Kollengode Block. The costs of production per quintal of groundnut pods based cost A, cost B and cost C were higher in the larger sized holdings. This was because of lower productivity and higher cost of cultivation per hectare in the larger group. Blockwise analysis of data reveals that cost of production per quintal of groundnut pods based on cost A, cost B and cost C were higher in Kollengode Block.

The costs of production on the basis of cost A, cost B and Cost C were higher in Group II by 17.02 per cent (Rs.27.45), 13.93 per cent (Rs.32.96) and

12.80 per cent (Rs.30.91) respectively over the cost
of production of Group I.

Returns per Hectare of Groundnut

Table 7.8 reveals that the average yield per
hectare of groundnut was 10.87 quintals. It was seen
that the yield was higher in the smaller sized holdings.
The yield per hectare was 11.29 quintals in Group I
whereas it was 10.72 quintals in Group II. The yield
per hectare was 11.24 quintals of groundnut pods in
Chittur Block and 10.55 quintals in Kollengode Block.
The average value of the groundnut pods per hectare
was Rs.3373.89 which accounted 90.22 per cent of the
gross return. Value of groundnut pods was Rs.3388.38
per hectare in Group II while it was Rs.3326.90 per
hectare in Group I. Inspite of the higher yield in
the Group I, the average value realised per hectare
was less by Rs.61.46 because of the lower price realised
per quintal of pods in Group I than the Group II. The
average value of the haulms (by-product) was Rs.365.54
which constituted 9.78 per cent of the total returns.
It was Rs.406.60 in the Group I which was Rs.53.79
higher over the Group II. The average gross returns
per hectare of groundnut worked out to Rs.3739.43.

The gross returns were Rs.3733.50 in Group I, Rs.3741.21 in Group II, Rs.3761.01 in Chittur Block and Rs.3722.41 in Kollengode Block.

Income from per Hectare of Groundnut

There are different measures of income applied to assess net returns, such as

1. Farm business income
2. Family labour income
3. Net income
4. Farm investment income

These measures are worked out for the two size groups and blocks.

The profitability of the crop could be judged better from net income. The net income was obtained by substracting the total expenses of production from the gross income. The farm business income was obtained from the gross income by deducting cost A. The family labour income was calculated as gross income minus cost B. The farm investment income was obtained by adding the imputed rental value of the owned land and interest on owned fixed capital to the net income.

The various income measures are shown in Table 7.9. The average farm business income, family labour income, net income, farm investment income per hectare worked

out to Rs.1398.50, Rs.536.30, Rs.499.43 and Rs.1361.63
respectively. They were Rs.1506.07, Rs.656.17, Rs.600.35
and Rs.1450.24 in Group I; Rs.1365.17, Rs.499.16, Rs.468.13
and Rs.1334.14 in Group II; Rs.1423.86, Rs.563.11, Rs.530.37
and Rs.1391.12 in Chittur Block and Rs.1378.42, Rs.525.86,
Rs.485.71 and Rs.1338.22 in Kollengode Block in the same
orders. Farm business income family labour income, net
income and farm investment income were higher in Group I
by 10.32 per cent (Rs.140.90), 31.45 per cent (Rs.157.01),
28.24 per cent (Rs.132.22) and 8.70 per cent (Rs.116.10)
respectively over those of Group II. Blockwise analysis
shows that all the income measures were a little higher
in Chittur Block than in Kollengode Block.

Benefit cost ratio

Benefit cost ratio is a measure of efficiency of
farm business. This gives an idea of the returns per
rupee invested. Benefit cost ratios per hectare on
groundnut with reference to various cost concept have
been worked out and are presented in Table 7.10. The
average benefit cost ratios based on the cost A,
cost B and cost C were 1.60, 1.17 and 1.15 respectively.

The average benefit cost ratio based on cost C mean that a rupee invested will give a return of Rs.1.15. The benefit cost ratios for the Group I based on the cost A, cost B and cost C were 1.68, 1.21 and 1.19 respectively. They were 1.57, 1.15 and 1.14 in the same order for the Group II. Blockwise ratios did not show any considerable variation. Benefit cost ratios based on cost A, cost B and cost C were 1.61, 1.18 and 1.16 respectively in Chittur Block. They were 1.59, 1.16 and 1.15 in Kollengode Block in the same order.

Efficiency of Resource use in Groundnut Cultivation

Resource use efficiency in groundnut cultivation was assessed by fitting a production function. Among the various production functions used in agriculture Cobb-Douglas production function is most frequently used. Although this function indicates constant elasticity, it is possible to study returns to scale. The function fitted was of the logarithamic linear form and can be fitted by the method of least squares.

The specification of the original function is given below:-

$$Y = a \; x_1^{b_1} \; x_2^{b_2} \; x_3^{b_3} \; x_4^{b_4} \; x_5^{b_5} \; x_6^{b_6} \; e^{u}$$

and its logarithmic transformation is as follows:-

$$\text{Log } Y = \log a + b_1 \log x_1 + b_2 \log x_2 + b_3 \log x_3 + b_4 \log x_4 + b_5 \log x_5 + b_6 \log x_6 + u$$

Where Y = Value of output or gross income in rupees

x_1 = Land in hectares

x_2 = Cost of seeds in rupees

x_3 = Cost of fertilisers and manures in rupees

x_4 = Cost of pesticides in rupees

x_5 = Cost of human labours in rupees

x_6 = Cost of bullock and machine labours in rupees

u = Regression error term

The estimated production functions based on absolute values, coefficients of multiple determination and 'F' ratios are given in Table 7.11. Elasticities of production and their standard errors and 't' values for the functions fitted for the two groups and aggregate sample are presented in Table 7.12.

Group I

The coefficient of multiple determination was
0.799 implying that about 80 per cent of variation in
gross income could be explained in terms of the varia-
tion in the independent variables.

The elasticities of production function indicated
the expected change in the gross income for one per cent
change in an input keeping other inputs constant at
their mean levels.

The results of the study showed that land and
human labour alone had positive and significant influence
on gross income. The other factors did not appear to be
important in explaining the variation in gross income
under the existing conditions of the farm holdings
studied. Elasticities of land, human labour, seed and
fertilisers and manures individually indicated dimini-
shing returns to the factors while plant protection
chemicals and bullock and machine labour indicated
negative returns. The sum of elasticities was 0.9726
which does not differ significantly from unity,
indicated constant returns to the scale.

Group II

The coefficient of multiple determination was 0.885
implying that about 89 per cent of the variation in the

gross income could be explained in terms of variation
in the independent variables.

The elasticities of production indicated that
land and human labour had positive and significant
influence on gross income while pesticides had negative
and nonsignificant influence. The other factors did
not appear to be important in explaining the variation
in the gross income. Here also all the inputs except
pesticides showed diminishing returns to the factor,
while pesticides showed negative returns. The sum of
elasticities was 1.0187, which does not differ signi-
ficantlyfrom unity, indicated constant returns to the
scale.

Aggregate sample

When both groups were pooled, the results indicated
that land, fertilisers and manures and human labour had
significant and positive influence on gross income. The
other factors did not appear to be important in explain-
ing the variation in the gross income. The sum of the
elasticities was 0.9167 which does not differ significantly
from unity, indicated constant returns to the scale. All
the inputs of production except pesticides had indicated

diminishing returns to the factor while pesticide
showed negative returns. The coefficient of multiple
determination was 0.938 implying that 94 per cent of
the variation in the gross income could be explained
in terms of variation in the independent variables.

Average value productivity

The average value products of inputs worked out
at their geometric mean levels are presented in the
Table 7.14. The average value products in respect of
land, seed, fertilizers and manures, pesticides,
human labour and bullock and machine labour were
Rs.3887.02, Rs.6.33, Rs.21.42, Rs.379.74, Rs.4.16 and
Rs.15.11 respectively in Group I. They were Rs.3614.00,
Rs.4.96, Rs.24.77, Rs.1633.73, Rs.3.49 and Rs.15.42 in
Group II and Rs.3805.91, Rs.5.44, Rs.23.04, Rs.787.12,
Rs.3.87 and Rs.15.20 for aggregate sample in the same
orders. In both groups and aggregate sample land
showed highest and human labour showed lowest average
value products.

Marginal value productivity

Marginal value product of each input indicates the
return in money terms anticipated by the addition of one

Table 7.13. Geometric means of value of output and various inputs

Group	Geometric means						
	$\bar{Y}$	$\bar{X}_1$	$\bar{X}_2$	$\bar{X}_3$	$\bar{X}_4$	$\bar{X}_5$	$\bar{X}_6$
Absolute values							
I	2798.66	0.72	442.18	130.65	7.37	673.44	185.18
II	8348.34	2.31	1683.84	337.05	5.11	2393.87	547.46
Total Sample	4833.51	1.27	888.76	209.83	6.14	1249.47	318.03

Table 7.14. Average value productivity of various inputs

Group	Average value products (Rs)					
	X_1	X_2	X_3	X_4	X_5	X_6
I	3887.02	6.33	21.42	379.74	4.16	15.11
II	3614.00	4.96	24.77	1633.73	3.49	15.42
Aggregate Sample	3805.91	5.44	23.04	787.12	3.87	15.20

unit or a rupee worth of the particular input while keeping the levels of other inputs unchanged. The marginal value products of the factors of production studied were calculated at the geometric mean level and are presented in the Table 7.15.

The marginal value product of land, costs of seeds, fertilizers and manures, pesticides, human labour and bullock and machine labour were Rs.1193.59, Rs.0.03, Rs.0.03, Rs.-4.02, Rs.2.75 and Rs.-0.04 respectively for the Group I. The land had the highest marginal value product of Rs.1193.59. It means that an increase in the area under groundnut by one hectare above its geometric mean level gives an additional income of Rs.1193.59 when other inputs are held constant at their geometric mean levels. Similarly an additional rupee spent on human labour above its mean level would add Rs.2.75 to the gross income. The marginal value products of cost of seeds and fertilizers and manures were very low which explain that they have already reached a point at which the additional rupee spent on these inputs will contribute very little to the gross income. Costs of pesticides and bullock and machine labour had negative values for marginal value products and perhaps

Table 7.15.   Marginal value productivity of various inputs

Group	Marginal value product (Rs)					
	X_1	X_2	X_3	X_4	X_5	X_6
Absolute values						
I	1193.59	0.03	0.03	-4.02	2.75	-0.04
II	1732.91	0.08	0.57	-2.68	1.06	0.96
Total Sample	1166.50	0.12	0.76	-2.56	1.88	1.10

their use can be reduced to make groundnut cultivation more profitable.

The marginal value products of land, costs of seeds, fertilizers and manures, pesticides, human labour and bullock and machine labour were Rs.1732.91, Rs.0.08, Rs.0.53, Rs.-2.68, Rs.1.06 and Rs.0.96 respectively in Group II. The low marginal value products of costs of seeds, fertilizers and manures, and bullock and machine labour indicate that the levels of these inputs had already reached a point with no scope for further addition to income by incurring additional expenditures on these inputs. The marginal value product of pesticides showed negative returns. However, marginal value products of land and human labour suggested that there was a scope to increase their levels of use to enhance the total income.

The marginal value products of land, costs of seeds, fertilizers and manures, pesticides, human labour and bullock and machine labour were Rs.1166.5, Rs.0.12, Rs.0.76, Rs.-2.56, Rs.1.88 and Rs.1.10. Here land and human labour indicated that there was a scope to increase their use above their geometric mean levels to enhance the income.

However, land and human labour were the inputs which had significant influence on the gross income and marginal value products of these two inputs indicated that there was a scope to increase their use above their geometric mean level to enhance the income from groundnut cultivation.

Marketing of Groundnut

MARKETING OF GROUNDNUT

In this chapter an attempt has been made to identify the marketing channels and to estimate the marketing cost and price spread in respect of marketing through for different marketing channels identified in groundnut marketing in Palghat District. An attempt is also made to estimate the marketed surplus of the sample holdings.

Marketed surplus

Marketed surplus is the quantity of groundnut actually marketed by the cultivators after retaining some quantity for seeds and home consumption. Estimated marketed surplus of groundnut in the sample holdings is presented in Table 8.1.

The table reveals that the average marketed surplus of groundnut per sample holding was 80.65 per cent of the total production. The quantity retained for seeds was 18.21 per cent of the total production while the quantity retained for home consumption was 1.14 per cent. It could be seen that the percentage of marketed surplus to the total production was not

Table 8.1. Marketed surplus of groundnut per holding of the sample farmers

Particulars	Group I		Group II		District	
	Groundnut in quintals	Per-centage	Groundnut in quintals	Per-centage	Groundnut in quintals	Per-centage
Total productions	8.62	100.00	26.52	100.00	17.57	100.00
Quality retained for						
a. Seeds	1.49	17.28	4.92	18.55	3.20	18.21
b. Home consumption	0.19	2.20	0.21	0.79	0.20	1.14
c. Total	1.68	19.48	5.13	19.74	3.40	19.35
Marketed surplus	6.94	80.52	21.39	80.66	14.17	80.65

varying between these two groups. It was 80.66
per cent in Group II and 80.52 per cent in Group I.
But the absolute quantity of groundnut marketed was
higher in Group II. The percentage of quantity kept
for seed purpose was little higher in Group II. The
percentage of quantity retained for seeds was 17.28
in Group I while it was 18.55 in Group II. The
percentage of the quantity kept for home consumption
showed a considerable variation between these two size
groups. It was 2.20 per cent in Group I while it was
0.79 per cent in Group II. But the absolute quantity
retained for home consumption was almost same in both
groups.

Marketing channels for Groundnut

There are three major marketing channels found in
groundnut marketing and they are represented diagrama-
tically in the Fig.2.

In channel I, farmers themselves get the pods
decorticated after drying for few days and sell directly
to the oil millers in Kozhinjampara.

In channel II, produce move from farmers to oil
millers through village merchants who decorticate the

Fig.2.

DIAGRAMATIC REPRESENTATION OF DIFFERENT
CHANNELS IN GROUNDNUT MARKETING
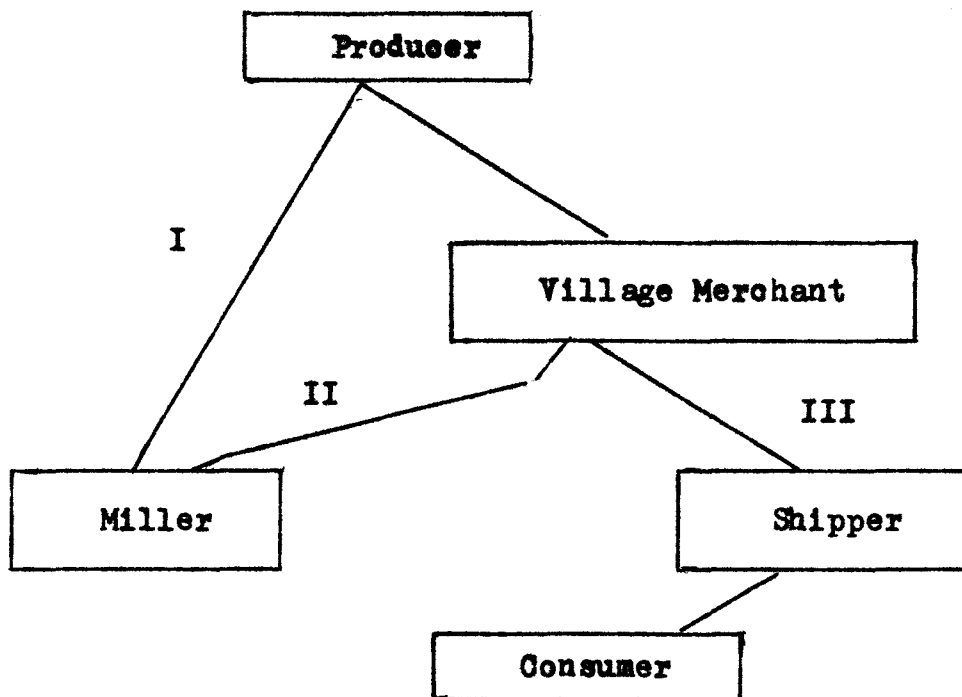
Marketing channels

I Producer — Miller

II Producer—— Village merchant —— Miller

III Producer —— Village merchant —— Shipper —— Consumer

pods after drying. In this channel transaction between the farmer and village merchant was facilitated by the broker who normally gets rupee one per bag of wet pods of 42 kg from the village merchant as brokerage. Since farmers dispose of their produce at the farm gate itself, they normally do not incur any marketing cost in this channel.

In channel III, produce move from farmers to shippers through village merchants and then to consumers. In this channel village merchants have the same mode of business as in Channel II. Here the kernel is cleaned by the village merchant just before it is being sold to the shippers. In this channel produce move from Koshinjampara to Trichur market.

Among the 80 selected sample farmers 76 farmers disposed of their produce after retaining some quantity for seed and home consumption at the farm gate to the village merchants, and in terms of quantity, it accounted for 93.43 per cent of the total groundnut marketed by the sample farmers. The remaining four farmers after decortication directly sold to oil millers. Almost all the farmers disposed of the produce within few days after the harvest. The main reason for this is occurrence of

heavy rain during the harvesting period. About
95 per cent of the sample farmers disposed of their
produce to the village merchants at the farm gate
because of the problems in transportation and drying
of the produce. Oil millers were said to be reluctant
to buy the wet pods from the farmers. Farmers also do
not have adequate facilities to dry the pods.

Groundnut kernels are imported from neighbouring
states when oil miller's demand for groundnut kernels
had not been met by the local supply. Hence farmers
are naturally forced to depend on the village merchants
to a great extent and most often left with no alterna-
tives to market their produce. Quantity of groundnut
sold by the sample farmers based on the place of disposal
is given in the Table 8.2.

Characteristics of Functionaries in
the Marketing channel

Village merchants

It was observed that village merchants were not only
dealing with groundnut but also paddy and jaggery. The
business turnover per month per village merchant was
around Rs.5000 during the peak season and Rs.2500 during

Table 8.2. Quantity of groundnut sold by the
sample farmers based on the place
of disposals

Particulars	Quantity of groundnut sold in quintals	Percentage to the total
At the farm gate	1061.47	93.43
At the mills	74.47	6.57
Total	1133.44	100.00

the slack season. They visit farms situated within
the radius of 15 km and purchase the wet groundnuts
from the farmers at the farm gate. They take the
produce to the oil mills and convert them into kernels
after drying the produce for few days. They normally
sell the kernels to the oil millers and shippers.

Shippers

They are the retailers dealing in many products
in the Trichur market. They visit the Koshinjampara
market and purchase the hand picked kernels from the
village merchants by paying an attractive price. They
transport the produce to the Trichur market by lorry
and sell it at very high price to consumers , cart
vendors and confectioners.

Brokers

They are the agents who facilitate the transactions
between the village merchants and farmers. They get one
rupee as a brokerage from the village merchant per bag
of groundnut pods.

Marketing Efficiency of Different Marketing channels

Marketing efficiency would help to know the relative efficiency of different marketing channels and functionaries operating in groundnut marketing. The percentage share of the producer in the consumer's price or the marketing margin was used to measure the efficiency of the marketing channel. From the investigation it was found out the outturn of dry kernel was 50 per cent of the wet pods.

The price spread for the three commonly used marketing channels in Chittur Block is shown in Table 8.3.

In channel I farmers directly sold the produce to oil millers after decortication. The marketing cost incurred by the farmer towards transportation, drying, decortication etc. was Rs.30.21 per quintal of kernel which was 6.04 per cent to the miller's price. The share of the producer in the miller's price was 93.96 per cent. It was higher in the channel I when compared to the other channels.

In channel II the produce moved from producer through village merchants to oil millers. It could be

seen from Table 8.3 the gross margin of the village
merchant was Rs.26.14 per quintal which was of 5.23
per cent to the miller's price. Farmer did not incur
any marketing cost in this channel. The village
merchant incurred a cost of Rs.34.70 per quintal of
kernel which was 6.94 per cent of the miller's price.
The major items of cost were transporting, loading
and unloading, brokerage, drying and decortication
which accounted 98.70 per cent of the total cost
incurred by the village merchant. The farmer's share
to the miller's rupee was 87.83 per cent in this
channel.

In channel III the produce moved through village
merchants to shippers and then to consumers. In this
channel produce was decorticated by the village
merchant. After decortication the kernel was cleaned
and assorted. A quintal of processed kernel assorted
gives an average of 98 kg of good matured kernel and
two kilograms of immatured shrivelled kernels. The
shrivelled kernel was sold to the oil millers for
Rs.4.50 per kg.

From the Table 8.3 it could be seen that the gross
margin realised by the village merchant in channel III

was Rs.53.49 which was 8.28 per cent to the consumer's price. The marketing margin to the shipper was Rs.94.94 which was 14.70 per cent to the consumer's price. The marketing cost incurred by the village merchant was Rs.41.35 which was 6.40 per cent to the consumer's price. The cost incurred by the village merchant in this channel was Rs.6.65 (1.92 per cent) higher than that of the cost incurred in channel II. The higher cost was due to Rs.6.50 paid as the wage to the labour engaged in cleaning the kernels and also the additional Rs.0.15 paid for weighing. The marketing cost incurred by the shipper towards transportation, loading and unloading and packing materials etc. was Rs.17.06 which accounted for 2.64 per cent of the consumer's price. The producer's share accounted for 67.98 per cent of the consumer's price.

The price spread for groundnut for the three marketing channels in Kollengode Block was worked out and the same is presented in the Table 8.4.

From the table it could be found that the marketing cost incurred in channel I by the farmer was Rs.30.59 per quintal which accounted for 6.12 per cent to miller's price. The producer's share in the miller's rupee was

93.88 per cent.

In channel II the gross margin realised by the village merchant was Rs.17.24 per quintal of kernel which accounted for 3.45 per cent of the miller's price. The cost incurred in channel II by village merchant was Rs.34.97 per quintal which was 7 per cent of the miller's price. The farmer's share to the miller's rupee in this channel was 89.55 per cent which was 1.94 per cent (Rs.8.54) higher when compared with the channel II of Chittur Block.

In channel III farmer's ahre in the consumer's price was 69.31 per cent. Marketing margin to the village merchant was 6.91 per cent (Rs.44.61) of the consumer's price. Village merchant incurred Rs.41.62 (6.44 per cent) as marketing cost. Shipper's margin and marketing cost were same as that of in channel III of Chittur Block.

In both the blocks channel I was the best one for the farmers to market their produce because farmers received higher price in this channel than that of the other two channels. Both in channel II and III village merchant's market margin was less in Kollengode Block than that of in Chittur Block. Higher price was

realised by the producers in Kollengode Block in all
the channels than that of the price realised by the
producers in Chittur Block. Village merchants margin
was very high in all the marketing channels in both
blocks.

The marketing study on groundnut would be
incomplete without the details on the marketing of
groundnut oil which is the ultimate product that goes
to the consumer. The local marketing channels were
identified and the price spread was worked out. The
identified marketing channels for groundnut oil are
represented digramatically in the Fig.3.

In the channel I oil from oil millers passed
through wholesaler to retailer and finally to consumer.
Groundnut oil moves from Koshinjampara to Palghat
market through this channel. Wholesalers who are
doing their business in Palghat market, buy groundnut
oil from the oil millers and transport it by tanker or
lorry to Palghat market. From Palghat it is distributed
to various places through retailers. In this channel
retailers who are doing their business in Palghat
market alone were studied. Margin to the wholesaler
was Rs.0.22 per kg of oil which accounted for 1.55 per
cent of the consumer's price. The marketing cost

Fig.3.

DIAGRAMATIC REPRESENTATION OF MARKETING

CHANNELS FOR GROUNDNUT OIL
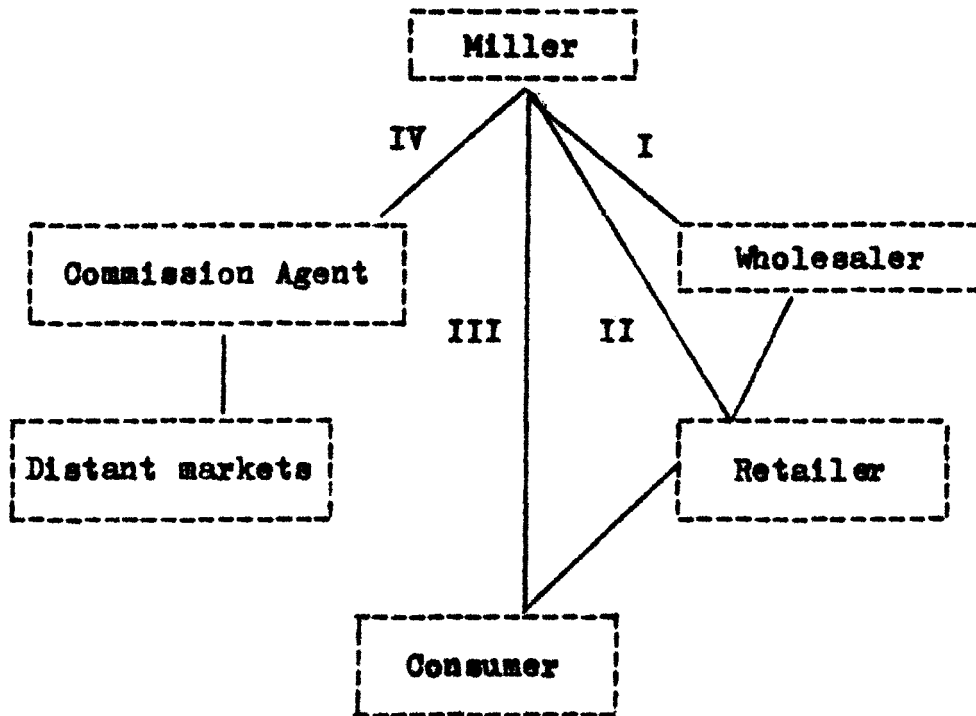
Marketing channels

I Miller — Wholesaler — Retailer — Consumer

II Miller — Retailer — Consumer

III Miller — Consumer

IV Miller — Commission Agent — Distant markets

incurred by the wholesaler was 0.49 per cent (Rs.0.07 per kg of oil) of the consumer's price. The market margin to the retailer was 0.85 per cent (Rs.0.12 per kg) of the consumer's price. The marketing cost incurred by the retailer was 0.21 per cent (Rs.0.03 per kg) of the consumer's price. The millers margin was 4.59 per cent (Rs.0.66 per kg) of the consumer's price.

In channel II oil passed from oil millers to consumers through retailers in Koshinjampara market itself. The market margin realised by the retailer was Rs.0.24 per kg of oil which is 50 per cent higher than that of the channel I. The margin to the miller was same as that of the channel I. In this channel consumer's price was less than that of channel I.

In channel III, oil millers directly sold the oil to the consumers. In this channel, margin to the oil miller was higher than that of the other two channels. Margin realised by the miller was 12 per cent (Rs.1.68 per kg) of the consumer's price. In this channel consumer's price was same as that of the channel II.

In Channel IV oil moved from oil millers to
distant markets like Bombay and Nasik etc., through
commission agents. Price spread for this channel
was not worked out due to lack of data. Oil millers
have given 0.75 per cent of the sales value of the
oil as commission to the commission agents.

Production and Marketing Problems
of Farmers

PRODUCTION AND MARKETING
PROBLEMS OF FARMERS

An attempt is also made to identify the problems faced by farmers in production and marketing of groundnut and to suggest suitable solutions. Farmers in the study area have encountered many intricate physical, technical, economic and institutional problems both in cultivation as well as in marketing of groundnut. They are discussed below.

Production Problems

1. Risk of crop failure due to vagaries of monsoon.

As indicated earlier groundnut is sown during April to May before the onset of southwest monsoon. Farmers expressed that scandy rainfall at the time of sowing results in poor germination or late sowing. The vegetative growth phase of the crop coincides with the period of heavy rainfall which favour the outbreak of pests and diseases and the rain very often stand as a hindrance in taking up plant protection measures. Harvesting period also coincides with the period of heavy rainfall and this is an impediment for the farmer in drying and storing the produce to get better price or market finance from the

banks, which force the farmers to sell the produce soon after the harvest to the village merchants at low prices.

2. Farmers are lacking scientific knowledge regarding the new technology of cultivation.

From the investigation it was learned that none of the sample farmers had taken up seed treatment with fungicides or bacterial culture which could reduce the expenditure on plant protection or fertilizers.

Farmers also used heavy seed rate of 133.10 kg per hectare which is higher than the recommended rate of 120 kg per hectare. This was one of the reasons for high cost of cultivation.

Farmers reported that tikka leaf spot and collar rot are the major diseases which cause heavy toll of crop loss. Leaf folder and white grub are the important pests which cause extensive damage to the crop. Farmers are also not aware of the proper control measures to control these pests and diseases.

3. Farmers are using the farm produced groundnuts as seeds which is often infected with seedborne diseases and which increased the plant protection cost.

4. Seed is not supplied in time with required quality which very often resulted in late sowing or poor germination or made the farmers to buy the seeds from the merchants at exhorbitant prices. It was learned from the sample farmers that the seeds supplied by the co-operative service society was not of good quality.

5. It was reported that the need for cash to pay off the wages to raise the crop in the subsequent season made the farmers to dispose of the produce at the earliest possible at lower price.

Marketing Problems

1. Farmers are not able to utilise the available warehousing facilities to get market finance or better price because of two reasons. Firstly, heavy rainfall during the harvesting period stand as an impediment in drying and storing the produce. Secondly, long distance between the warehouse and farmstead which results in high cost of transportation.

2. All the farmers reported that the price obtained was not remunerative. Since farmers are not able to dry the produce after harvest they sold it at the earliest

possible to prevent the loss due to germination. Village merchants knowing the predicament of the farmers offered very low price.

3. Due to the backwardness of the study area, there was a lack of market information regarding the price movements. Farmers mostly obtain market information from village merchants and brokers.

4. Farmers who have sold the produce directly to the oil millers reported that transportation and decortication costs were very high.

5. There is no proper marketing facilities or system available to the farmers to market their produce. This is another reason which forced the farmers to depend on village merchants.

Suggestions to solve the Problems

1. The government should come forward to establish groundnut driers after studying the feasibility and capacity requirements. So that the farmers could dry the pods and store it in the warehouse to get market finance or better price.

2. The agricultural department should take more efforts to help them in adopting the new technology and integrated pests and diseases control. By this way not only the productivity could be increased to a great extent but also the cost of cultivation could be reduced considerably. They should also provide good quality seeds in time. They can take up seed production in the farmers field and distribute to the farmers.

3. If seed is used according to the recommended rate the cost could be reduced to certain extent.

4. It would be helpful to the farmers, if the plant breeders introduce seed dormancy. If introduced in the cultivated varieties of groundnut the germination loss could be avoided at the time of harvest. Farmers can also withhold the produce till they get better price.

5. Plant protection department could also help the farmers to a great extent by conducting a survey and screening the disease resistant varieties.

6. Market information may be improved by publishing the wholesale prices of groundnut in Pollachi market in all the local news papers every day.

7. The government should also organise better markets to help the farmers in getting reasonable prices to their produce.

8. Lastly, farmers themselves could organise to have an institutional mechanism for integrating the production, processing and marketing.

Summary

SUMMARY

The present study on production and marketing of groundnut was undertaken in Palghat District with reference to the first season (April to August) of the year 1982-83. Data for the study were collected from a sample of cultivators, traders and oil millers during the months of February to May of 1983. Attempts were made to estimate the costs and returns, cost of production per unit output, human and bullock labour utilisation, benefit cost ratio and resource use efficiencies in groundnut cultivation. Attempts were also made to identify the different marketing channels in groundnut marketing and to work out the marketing margin, marketing cost and price spread for different marketing channels. Further attempts were also made to work out the marketed surplus of the sample holdings and to identify the production and marketing problems of groundnut cultivators.

Forty holdings were selected from each of the two blocks namely Chittur and Kollengode by multistage random sampling method. Data were collected by

personal interview method. The eighty respondents
were classified into two groups, namely Group I
and II. Group I consists of holdings which were
below the geometric mean (1.27 hectares) of the
area under groundnut in the sample holdings and
Group II above the geometric mean of the area under
groundnut. For the marketing study 30 different
intermediaries were contacted. In addition to this
five shippers who are dealing with various commodi-
ties including groundnut in Trichur market, were
also contacted. Data were also collected from five
oil millers from the Kozhinjampara market. The
results are summarised below.

The average family size was 5.71 and 63.75 per
cent of the total families came under the size group
of four to six members. Only 76.25 per cent of the
respondents were literate. The average size of the
land holding was 3.40 hectares, of this 0.15 hectare
was uncultivable waste land. The cropping intensity
of the sample farms was 178.90 per cent. The average
capital investment including value of the land was
Rs.55740 per holding and Rs.17160 per hectare. The
capital investment excluding value of the land was

Rs.8790 per holding and Rs.2700 per hectare.

The average costs of cultivation per hectare of groundnut based on the cost A, cost B and cost C were Rs.2340.93, Rs.3203.13 and Rs.3240.00 respectively. They were Rs.2227.44, Rs.3077.33 and Rs.3133.15 in the Group I; Rs.2376.03, Rs.3242.04 and Rs.3273.08 in the Group II; Rs.2337.15, Rs.3197.90 and Rs.3230.64 in Chittur Block and Rs.2343.99, Rs.3196.55 and Rs.3236.70 in Kollengode Block in the same orders.

The average production per hectare was 10.87 quintals of pods. It was 11.29 quintals in Group I, 10.72 quintals in Group II, 11.24 quintals in Chittur Block and 10.55 quintals in Kollengode Block.

The average costs of production per quintal of groundnut pods based on the cost A, cost B and cost C were Rs.191.73, Rs.261.05 and Rs.264.40 respectively. They were Rs.161.28, Rs.236.56 and Rs.241.50 in the Group I; Rs.188.73, Rs.269.52 and Rs.272.41 in the Group II; Rs.174.60, Rs.251.13 and Rs.254.09 in Chittur Block and Rs.188.20, Rs.269.01 and Rs.272.62 in Kollengode Block in the same orders.

The inputwise cost of cultivation per hectare showed that human labour assumed a greater importance and accounted for 31.02 per cent (Rs.1004.88) (roughly one third of the total cost). Of the human labour cost family labour accounted only for 3.67 per cent (Rs.36.87) and remaining 96.33 per cent (Rs.968.01) was accounted for hired labour. Imputed rental value of owned land was the next important item which accounted for 25.85 per cent (Rs.837.47) of the total cost followed by seeds which constituted 22.49 per cent (Rs.728.80). Bullock labour and use of machinery which constituted 7.69 per cent (Rs.249.13) of the total cost. Fertilisers and manures together accounted for 7.12 per cent (Rs.230.82) of the total cost. Interest on working capital claimed 2.74 per cent (Rs.88.66) of the total cost. Plant protection accounted only for 0.91 per cent (Rs.29.63). The rest of the items such as depreciation, interest on owned fixed capital, land revenue and taxes and miscellaneous items together constituted 2.18 per cent (Rs.70.61) of the total cost.

Operationwise break up of cost of cultivation per hectare revealed that seed sowing assumed a greater importance and accounted for 25.68 per cent (Rs.831.83) (roughly one fourth of the total cost). Harvesting, the next important operation claimed 15.78 per cent (Rs.511.32). Manuring was also important operation which accounted for 9.89 per cent (Rs.320.51) while aftercultivation accounted for 9.70 per cent (Rs.314.39). Preparatory cultivation claimed 7.08 per cent (Rs.229.48). Interest on working capital accounted for 2.74 per cent (Rs.88.66). Plant protections claimed only, 1.10 per cent (Rs.35.73) of the total cost. The total operating cost per hectare was Rs.2331.92 which accounted for 71.97 per cent of the total cost of cultivation. The remaining 28.03 per cent (Rs.908.08) of the total cost accounted for imputed rental value, depreciation, land revenue and taxes, interest on owned fixed capital and miscellaneous cost.

The average seed rate used was 133.10 kg per hectare. The seed rate used by the Group I farmers was 124.92 kg per hectare and 135.08 kg by the Group II farmers. The seed rate used in Chittur Block was

131.56 kg while it was 134.32 kg in Kollengode Block.

The average human labour utilised per hectare of groundnut was 100.49 mandays. It was 94.10 mandays in Group I, 102.46 mandays in Group II, 101.50 mandays in Chittur Block and 99.57 mandays in Kollengode Block. Harvesting was an important operation employing largest percentage of total human labour (50.87 per cent), followed by after-cultivation (31.26 per cent), preparatory cultivation (7.95 per cent), manuring (4.79 per cent), seed sowing (4.56 per cent) and plant protection (0.57 per cent).

The average bullock labour utilised per hectare was 10.5 bullock pair days. It was 10.74 bullock pair days in Group I, 10.43 bullock pair days in Group II, 11.77 bullock pair days in Chittur Block and 9.27 bullock pair days in Kollengode Block. The maximum bullock pair days (5.54 days) was used for preparatory cultivation followed by seed sowing (2.89 days) and transportation of manures (2.07 days).

Gross income per hectare of groundnut was Rs.3739.43. By-product accounted for 9 per cent (Rs.365.54)

of the gross income. The farm business income,
family labour income, net income and farm investment
income per hectare of groundnut were Rs.1398.50,
Rs.536.30, Rs.499.43 and Rs.1361.63 respectively.

The benefit cost ratios based on cost A and
cost B were 1.60 and 1.17. Benefit cost ratio on
the basis of cost C including imputed rental value
of the owned land was 1.15.

Cobb-Douglas model production functions were
fitted to measure the resource use efficiency in
Group I, Group II and aggregate sample. The inputs
included in the analysis were land in hectares, cost
of seeds, cost of fertilizers and manures, cost of
pesticides, cost of human labour and cost of bullock
and machine labour. Land and human labour had positive
and significant influence on gross income in Group I
and II. In the aggregate sample land, human labour
and fertilizers and manures had positive and significant
influence on gross income. The sum of elasticities
showed constant returns to the scale in all the three
cases. Marginal productivity analysis revealed that
land and human labour could alone be increased above
their geometric mean levels to increase the income from

from groundnut cultivation.

The average marketed surplus was 80.65 per cent of the total production. It was 80.66 per cent and 80.52 per cent in the Group I and Group II respectively. The average quantity retained in the farm accounted 19.35 per cent of the output. The quantity retained for seed accounted 18.21 per cent while quantity retained for consumption accounted 1.14 per cent of the total production. The quantity retained by the Group I respondents for consumption and seed purposes accounted for 19.48 per cent of the total production, while it was 19.34 per cent in the Group II.

Three marketing channels were identified in the groundnut marketing in Palghat District. They are as follows:-

Channel   I   producer —— oil miller

Channel   II   producer —— village merchant —— oil miller

Channel III   producer —— village merchant —— shipper —— consumer

The most commonly used channel was the second one. About 95 per cent of the farmers sold their produce to the village merchants while the remaining 5 per cent directly sold to the oil millers.

The marketing efficiency was assessed on the basis of price spread which comprises marketing cost and margin.

Channel I

The share of the producer in the miller's price was 93.96 per cent in Chittur Block and 93.88 per cent in Kollengode Block. Marketing cost accounted for 6.04 per cent in Chittur Block and 6.12 per cent in Kollengode Block.

Channel II

Producer's share in the miller's price was 87.83 per cent in Chittur Block and 89.55 per cent in Kollengode Block. The marketing cost incurred by the village merchant accounted for 6.94 per cent in Chittur Block and 7.00 per cent in Kollengode Block. The marketing margin realised by the village merchant was 5.23 per cent in Chittur Block and 3.45 per cent in Kollengode Block.

Channel III

The share of the producer in the consumer's price was 67.98 per cent in Chittur Block and 69.31 per cent in Kollengode Block. The marketing cost incurred by the village merchant was 6.40 per cent in Chittur Block and 6.45 per cent in Kollengode Block. The marketing margin realised by the village merchant was 8.28 per cent in Chittur Block and 6.90 per cent in Kollengode Block. The marketing cost and margin for the shipper were 2.64 per cent and 14.70 per cent respectively in both blocks.

It is evident that middlemen absorbed a substantial amount as marketing margin from the price paid by the miller and consumer. The best channel for the producer to market their produce could be the first one. But producers were not able to market their produce through that channel mainly because of inadequate drying facilities to dry the produce. It could be helpful to the farmers if the government come forward to establish pod drier.

The marketing study on groundnut would be incomplete without the details regarding the marketing of groundnut oil.

Four channels were identified in groundnut oil marketing. They are as follows:-

Channel   I   oil miller —— wholesaler —— retailer ——consumer

Channel   II   oil miller —— retailer —— consumer

Channel III   oil miller —— consumer

Channel   IV   oil miller —— commission agent —— distant market

Price spread for the last channel was not worked out due to nonavailability of data. Miller's margin was high in channel III and it was Rs.1.68 per kg of oil which accounted 12 per cent of the consumer's price. The marketing cost and marketing margin for the wholesaler in Channel I were 0.49 per cent (Rs.0.07) and 1.55 per cent (Rs.0.22) of the consumer's price respectively. The marketing cost incurred by the retailer was Rs.0.03 per kg of oil in both channel I and channel II. The margin realised by the retailer in channel II was Rs.0.24 per kg of oil which was 50 per cent higher than that of in channel I. Consumer's price was low both in channel II and III.

Groundnut cultivators had faced several problems in production and marketing such as heavy loss due to

pests and diseases, low prices, nonavailability of quality seeds and absence of drying and proper marketing facilities.

To improve the groundnut cultivation drying and marketing facilities should be improved. Government should establish artificial drier after studying feasibility and capacity requirements. Good quality seeds should also be supplied to the farmers in time. Groundnut cultivators could organise themselves to have an institutional mechanism for integrating the production, processing and marketing.

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Appendices

APPENDIX I

All India area, production and productivity of five major oil-seeds

Year	Area M.hectares	Production M. tonnes	Productivity Kg/hect.
1966-67	15.00	6.43	429
1967-68	15.67	8.40	530
1968-69	14.47	6.85	473
1969-70	14.81	7.73	522
1970-71	15.42	9.26	601
1971-72	16.03	8.75	546
1972-73	14.75	6.86	465
1973-74	15.45	8.85	573
1974-75	15.64	8.53	545
1975-76	15.23	9.91	651
1976-77	14.83	7.91	528
1977-78	15.39	7.82	585
1978-79	15.90	9.00	588
1979-80	15.07	9.35	534
1980-81	15.62		534

Source: The Economic Times, December 8, 1982.

APPENDIX II

All India Estimate of Area, Production and Yield of Groundnut

Year	Area (000 ha.)	Production (000 tonnes)	Yield in Kg/ha.
1949-50	3979	3433	863
1950-51	4494	3481	775
1954-55	5541	4245	766
1960-61	6463	4812	725
1965-66	7698	4263	554
1970-71	7326	6111	834
1971-72	7510	6181	823
1972-73	6990	4092	585
1973-74	7029	5932	845
1974-75	7063	5111	724
1975-76	7222	6755	935
1976-77	7043	5264	747
1977-78	7029	6087	846
1978-79	7433	6208	-
1979-80	7165	5768	-
1980-81	6905	5320	-

Source: 1947-1978 Estimates of area and Production of
Principal Crops in India (1977-78), Directorate
of Economics and Statistics, Ministry of
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APPENDIX III

Percentage share of Area and Production in each state to the total area and production in India and Productivity in each state during the year 1977-78.

State	Percent of area in each state to the total area in India	Percent of production in each state to total production in India	Productivity in Kg/hect.
Andhra Pradesh	14.86	16.06	914
Gujarat	27.73	28.39	882
Karnataka	13.16	10.69	682
Kerala	0.37	0.46	1049
Maharashtra	11.82	9.53	689
Orissa	1.45	1.93	682
Punjab	1.90	2.54	1128
Rajasthan	3.39	2.85	987
Tamil Nadu	13.59	18.30	715
Utta Pradesh	4.55	4.03	1134
Others	7.18	5.20	..
	100.00	100.00	
All India	7174.8*	6068.5*	846

/ (Area in 000 hectares) Production (000 tonnes) /

Source: Estimates of Area and Production of Principal crops in India (1977-78).

Directorate of Economics and Statistics, Ministry of Agriculture and Irrigation, Government of India.

APPENDIX IV

Area and production of groundnut in Kerala State

Year	Area (000 hectares)	Production (000 tonnes)
1966-67	13.74	23.60
1967-68	13.71	24.67
1968-69	13.11	24.29
1969-70	13.10	19.30
1970-71	14.69	16.08
1971-72	14.69	16.77
1972-73	16.00	16.40
1973-74	17.20	18.00
1974-75	17.50	19.50
1975-76	17.50	23.16
1976-77	16.60	17.50
1977-78	26.70	28.00
1978-79	N.A	N.A
1979-80	13.90	13.70
1980-81	14.40	13.50
1981-82	13.00	13.50
1982-83	13.00	N.A

N.A. - Not available

Source: Agricultural situation in India.
(April 70, Oct. 70, Oct. 74, Nov. 76,
Feb. 77, Feb. 82, March 82, Feb. 83)

Production and Marketing of Groundnut in Palghat District

By

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ABSTRACT OF THE THESIS

Submitted in partial fulfilment of
the requirement for the degree of

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ABSTRACT

A study on economics of production and marketing was taken up in Palghat District with reference to the first season (April - August) of the year 1982-83 to estimate costs and returns, resource use efficiency of groundnut cultivation, marketing cost and price spread in groundnut marketing and to identify the problems of the groundnut cultivators.

Eighty cultivators were selected by multistage random sampling method. Data were collected from samples of groundnut cultivators, traders and oil millers by personal interview method.

It was found that the average family size was 5.71. Only 76.25 per cent of the respondents were literate. The average size of land holding was 3.40 hectares. The cropping intensity was 178.90. The average capital investment including the value of land was Rs.55740 per holding and Rs.17160 per hectare. The capital investment excluding land value was Rs.8790 per holding and Rs.2700 per hectare.

Costs of cultivation per hectare of groundnut based on cost A, cost B and cost C were Rs.2340.93, Rs.3203.13 and Rs.3240 respectively. The average costs of production per quintal of groundnut pods based on cost A, cost B and cost C were Rs.181.73, Rs.261.05 and Rs.264.40 respectively.

The major item of cost was human labour which accounted 31.02 per cent (Rs.1004.88) of the total cost followed by seeds 22.49 per cent (Rs.728.80), bullock labour and machinery 7.12 per cent (Rs.249.13), fertilizers and manures 7.12 per cent (Rs.230.82) and plant protection chemicals 0.91 per cent (Rs.29.63). The average seed rate was 133.10 kg per hectare. The average amount of fertilizers used per hectare was 6.45 kg of nitrogen, 7.89 kg of phospherous and 12.35 kg of potash. The average human labour utilised per hectare was 100.49 mandays. The average bullock labour used per hectare was 10.50 bullock pair days.

Seed sowing was the most important operation which accounted for 25.65 per cent (Rs.831.83) of the total cost of cultivation followed by harvesting 15.78 per cent (Rs.511.32), manuring 9.87 per cent (Rs.320.51), after-cultivation 9.70 per cent (Rs.314.51), preparatory

cultivation 7.78 per cent (Rs.229.48) and plant
protection 1.10 per cent (Rs.35.73).

The average yield per hectare was 1087 kg of
groundnut pods. Gross income, farm business income,
family income, net income and farm investment income
per hectare were Rs.3739.43, Rs.1398.50, Rs.536.30,
Rs.499.43 and Rs.1361.63 respectively. The benefit cost
ratios based on cost A, cost B and cost C were 1.60, 1.17
and 1.15 respectively.

Cobb-Douglas production functions were fitted to
test the resource use efficiency. Marginal productivity
analysis revealed that land and human labour had positive
and significant influence on gross income.

Three channels were identified in groundnut market-
ing and most commonly used channel was producer —
village merchant — oil miller. The producer's share in
the miller's price was 87.83 per cent in Chittur Block
and 89.55 per cent in Kollengode Block. The marketing
margin for the village merchant was 5.23 per cent in
Chittur Block and 3.45 per cent in Kollengode Block. The
marketing cost incurred by the village merchant was
6.94 per cent in Chittur Block and 7.10 per cent in
Kollengode Block.

Four channels were identified in the groundnut oil marketing and most commonly used channel was oil miller —— wholesaler —— retailer —— consumer. The marketing margins were 4.66 per cent to the miller, 1.55 per cent to the wholesaler and 0.85 per cent to the retailer. The marketing costs were 5.58 per cent to the oil miller, 0.45 per cent to the wholesaler and 0.21 per cent to the retailer.

Farmers faced many problems such as incidences of pests and diseases, low price, lack of drying facilities and absence of proper marketing system.