CHAPTER - I
DESIGN OF THE STUDY
INTRODUCTION

In fact, agriculture is the backbone of Indian Economy and is central to all strategies of planned economic development in India. Agriculture accounts for 14.6 percent of Gross Domestic Product (GDP) (2009-10) and provides livelihood to 65 percent of the country’s population1. Besides providing food grains to the people at large, this sector supplies raw material to the industries. India has 328.7 million hectares of geographical area out of which net area in cultivation is 141 million hectares. One of the unique features of India is that 43 percent of total land is cultivated as against 11 percent in the world and almost 15 major climatic conditions of the world are in India. Out of 60 varieties of soil available all over the world, nearly 46 varieties can be noticed in India. The direct contribution of the agricultural sector to national economy is reflected by its share in total GDP, its foreign exchange earnings, and its role in supplying savings and labour to other sectors. Indian agriculture has progressed a long way from an era of frequent droughts and vulnerability to food shortages to a developed state of being a significant exporter of agricultural commodities. This has been possible due to persistent efforts at harnessing the potential of land and water resources for agricultural purposes. The achievements of Indian agriculture are based on a well chalked out program whose "key-areas" are

a) Land reforms for better utilization of resources and motivation for farmers.
b) Creation of facilities such as irrigation, provision of electricity and transportation.
c) Reforms in the financial structure paving the way for provision of reliable and low cost funds needed for agricultural sector.
d) Investments in agricultural research and development.

e) Development of Human Resources in the area of agriculture.
f) Encouragement and aid to allied activities of agriculture like Horticulture, Floriculture, Sericulture, Dairy Industry etc.
g) Creation of a massive network of institutions which help in the process of dissemination of the results of Research and development at the field level.

But there are some bottlenecks which are still obstructing the growth of Indian agricultural sector and are preventing the sector from reaping the benefits of above cited reforms. They are

1. **Gap between potential and actual yields:** There is a significant gap between the possible yields and the actual yields realized by the Indian farmers. As compared to the international yields per hectare, the yield is rather low requiring renewed efforts to yield maximization.

2. **Low level of value addition:** The level of value addition to agricultural products is very low as compared to world standards. It has been estimated that nearly 30% of agricultural produce can be subjected to processing in addition to the present level of processing, making agriculture more profitable to farmers.

3. **Inadequate research:** There is strong need for further investment in Research and Development in the agricultural sector to make crops more resilient and resistant to diseases.

4. **Inefficient usage of resources:** Due to inefficient resource utilization there is very high degree of wastage requiring more knowledge and better techniques for farming.

5. **Resource Degradation:** There has been high level of resource depletion and degradation caused by water logging of farms and excessive and unscientific application of fertilizers and pesticides endangering the future productivity of land.

6. **Uneconomical Farm size:** Due to the predominance of small and marginal farmers the size of operations are very small to draw the benefits of scale of operations.
7. **Low quality inputs**: This is another major problem faced by the sector. The unavailability of inputs of assured quality is one of the causes for the low productivity of Indian agriculture. This can be seen in case of spurious quality seeds, fertilizers and pesticides.

8. **Overcrowding**: In many rural areas agriculture is the only avenue for employment. In the absence of any other opportunities for gainful employment, too many people are working on farms leading to the predominance of disguised unemployment and low productivity of human element in agriculture.

9. **Inadequate credit facilities**: The inaccessibility to reliable and cheap agricultural credit continues to be a major problem for the Indian farmer and his dependence on the informal sector has often been the cause for his destruction.

10. **Inadequate insurance against crop failure**: The system of Crop Insurance has not provided adequate coverage to the farmers and the different schemes formulated have been inadequate and ineffective.

To meet these challenges there is need for further efforts to ensure that the Indian agriculture achieves higher levels of efficiency and profitability. Realistic assessment of the need for continued support and assistance to the agricultural sector from the Government is the need of the hour. So the agricultural sector must be empowered to meet the challenge of providing food and jobs and raise the per capita income to all the people at large.

**IMPORTANCE OF AGRICULTURE TO ECONOMIC DEVELOPMENT**

Indian agriculture has been the source of supply of raw material to leading industries in India. Cotton, Jute, Sugar, Vanaspati industries and plantations depend on agriculture directly and also the cottage industries like handloom weaving, oil crushing, rice husking and such depend upon agriculture for raw materials.
Agricultural products like tea, sugar, oil seeds, tobacco, spices etc. constitute the main items of export in India. Broadly speaking, the proportion of agricultural goods which are exported amount to 50 percent of total Indian exports and manufactured goods with agricultural content contribute to another 20 percent and the total comes to 70 percent of India’s exports. This has great significance for economic development. Increased exports help the country pay for the increased import of machinery and raw materials.

Moreover, the development in agriculture is an essential condition for the development of national economy. As agriculture is the major occupation of majority population it is in consonance with, good crops and large purchasing power leading to greater demand for manufacturers and consequently better prices.. Prosperity of farmers is also the prosperity of industries likewise; bad crops lead to depression in business.

Steady globalization of trade has profound implications for future agricultural development. The diversity of India’s agro-ecological setting, high bio-diversity and relatively low cost of labour provide potential for agricultural competitiveness in a globalized economy. It is expected that with increasing globalization of markets over the years there will be demand for agricultural intensification. This will also be favoured because of greater backward and forward linkages between agriculture and food industry. Therefore, increase in production and productivity is bound to be strategically important to economy.

**IMPORTANCE OF OIL SEEDS IN THE ECONOMY**

Indeed, oilseed crops constitute the backbone of the Indian agricultural economy. India stands third in the world after China and USA in the production of oilseeds and contributes about 18 percent of the total oilseeds production of the world. The oilseed crops have wide adaptability and are grown under varied agro-climatic conditions throughout the world. Both the area and production have increased considerably after the inception of All India Coordinated
Project on Oilseeds. The annual oilseed crops grown in the country are Groundnut, Rapeseed-Mustard, Linseed, Sunflower, Sesame, Safflower, Castor and Niger seed. Oilseed crops are important for cooking, preparation of pickles, flavouring the curry, animal feed, industrial use and as green vegetable. Vegetable crucifers are major source of vitamins, fiber, minerals and proteins in the human diet also. Sunflower oil is specially recommended for heart patients. However, the oil especially from the castor and Niger seed is used for industrial use in soap making, lubrication and paints. Besides oil, oilcakes rich in proteins and essential minerals are used as cattle feed. Green foliages of some crucifers particularly rapeseed-mustard are used as green vegetable. Thus, oilseeds have a very significant role in Indian agriculture since almost each part of the plant is consumed either by human beings or animals depending upon the crop and its growth stage.

Oils and fats form an integral part of food, condiments, cosmetics, soaps and detergents, lubricants and laxatives besides having medicinal and therapeutic value. Thus these oilseed groups of crops occupy an important place in India’s agricultural economy. These crops form the second largest agricultural commodity after cereals in India sharing about 14 percent of the country’s gross cropped area and contribute about 1.5 percent to its Gross National Product and about 7 percent of the value of all agricultural products. About 14 million persons are engaged in the production of oilseeds and another half a million in the processing. Therefore, in terms of value of output as well as employment potential, the oilseed sector is more important than many large industries put together.

India depends for its indigenous vegetable oil supplies on a wide variety of oil yielding species of plants which include the annuals, perennials, minor oil bearing species of forest and tree origin, non-traditional sources such as rice bran, cotton seed, maize etc.

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Among the cultivated annuals, Sesame, Rapeseed-Mustard, Niger, Castor, Linseed and Safflower are supposed to be the most ancient. Groundnut which occupies a pre-dominant position in the national edible oil scene was introduced in India, in the sixteenth century. Soybean and Sunflower are of recent introductions. The annual oilseed crops together contribute more than 85% of the country’s indigenous vegetable oil supplies. Except a few all the other oilseeds are edible oils. Castor oil is used as a lubricant in high speed engines and aero planes, in the manufacture of soaps, transparent paper, printing inks, varnishes, linoleum, synthetic resins and fibers, dyes, polishes, electric condenser impregnation, carbon paper, ointments, cosmetics, artificial leather and brake fluid. Linseed oil is an excellent drying oil used for manufacturing of paints and varnishes, oilcloth, waterproof fabrics and linoleum.

Perennial trees such as “Sal”, “Mahua”, “Karanj”, “Neem” etc. yield oils of great commercial value, but their net contribution to the vegetable oil pool is rather small. Coconut and palm oil make important perennial source of edible oil.

There has been an impressive transformation of the Indian oilseed economy from a “net importer” status in the eighties to the “self-sufficient” and then a “net exporter” status during early nineties and so it has popularly been termed as ‘Yellow Revolution’. The main factors responsible for such a significant transformation are the oilseed production technology, the expansion in cultivated area under oilseed crops, the price support policy and the institutional support, particularly the formation of the Technology Mission on Oilseeds.

Vegetable oils play major role in the human life. Of the total global production of oils and fats, about 80% is used for food purposes, 6 percent used in animal feed, and remaining 14 percent provides the basis of the oleo-chemical industry.
There is vast potential to procure tree borne oils because of very large forest areas in our country having different types of oilseed bearing trees. Presently, this potential is not fully explored and only 5 lakh tonnes of minor oilseeds are collected which gives about 1.25 lakh tonnes of oils. If proper measures are undertaken this collection can definitely be increased to 35 lakh tonnes of tree borne oilseeds yielding 6 lakh tonnes of oils in near future and would generate employment in a big way thereby helping not only the tribal but also downtrodden people of the society.

With limited scope to bring additional area under oilseeds, the future increase in oilseed production has to come primarily from highlighting a combination of high yielding plant type, Standard crop management practices and balanced crop nutrition.

The domestic demand for vegetable oils and fats has been rising at the rate of about 4 percent per annum whereas domestic output has been rising at just around 2 percent per annum only. This demand-supply gap has forced the government to resort to large-scale imports of edible oils. The rising import bill on this account has caused great alarm to the government. The growth and stability of India’s food economy is, therefore, very much linked with the growth and stability of its economy.

India occupies a prominent position on the oilseeds map of the world both with regard to the area and production. About one tenth of total cultivated area of the world is under oilseed cultivation in India, covering about 16.5 million hectors with a total production of 10 million tonnes.

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Unlike cereals there is wide range of diversity available for the farmers to select suitable oilseed crop keeping in view the field conditions, available inputs for optimum yield and quality of the produce.

In recent years, there has been greater emphasis on the production of oilseeds so as to achieve self-sufficiency. The minor and tree origin oilseeds, which contribute about 16 percent of the vegetable oil consumption in the country, have tremendous oil potential which needs to be fully tapped. Only about 45 percent of the potential of these non-traditional oil sources was exploited (1995-96), the balance of which could provide a sizeable quantity of edible and non-edible oils, reduce the gap between demand and supply.

Oil palm and coconut are expected to contribute significantly towards meeting the growing demand of edible vegetable oil. The above factors indicate the importance of Oil palm cultivation in India.

NEED AND SCOPE OF THE STUDY

Despite the fact that India is one of the largest centers in the production of oil seeds, it has been experiencing acute shortage of vegetable oils for over a decade and a half, causing serious problems on the price front and drain on the country’s foreign exchange reserves. The main problems faced by this sector are low and unstable yield on one hand and prices on the other.

Prior to the Second World War, India enjoyed a premier position in the world trade in vegetable oils and fats. Even today, it is the largest producer as regards Groundnut and Sesame and the second largest producer with regard to Rape/Mustard, Linseed and Castor seed. The point to be pondered over is that the country turned from a net exporter, to net importer. Ever increasing internal demand due to rapid growth of population, raising per capita income, rapid industrialization, lack of availability of new land that can be brought under oilseed cultivation and the low stagnant level of productivity per hectare, are some of the important factors contributing to the observed shortage. It is
paradoxical that the current consumption levels of crucial nutrients, such as, oils and fats in the country are not only below the world average but also far below the minimum nutritional requirements recommended by the ICMR. Low rates of growth in production, high instability in production and prices, virtual instability in yield levels, considerable speculative trading in oilseeds, are some of the conspicuous features of India’s oilseeds economy.

The per capita consumption of oils and fats per year in India was 11.2 kg in 2008-09 as against World’s average of 17.8 kg. Per capita consumption of oils and fats in developed countries is 48 kg. The availability of oils and fats in India is only 12 grams per day per head as against a minimum requirement of 18 grams recommended by FAO. To meet this minimum nutritional requirement, vegetable oil production should be increased one-and-a-half times more compared to the current production and hence the present situation needs immediate attention for boosting oilseed production in the country.

The domestic demand for vegetable oils and fats has been rising rapidly, at the rate of over 4 percent per annum while the output has been rising at just around 2 percent per annum. This big and ever-growing gap in the domestic supply of oilseeds has forced the government to resort to large scale import of edible oils. The import bill on this account has jumped from about Rs. 15 crores during 1975-76 to over Rs. 1000 crores in 1982-83 which further increased to Rs.1130 crores during 1984-85, making it one of the single largest items of imports after petroleum and fertilizers. Unfortunately, the gap is continuously widening, causing a heavy drain on the foreign exchange reserves of the country. India which once held a prominent position in the export trade of oil became largest importer of edible oils. The growth and stability of India’s food economy is, therefore, very much linked with the growth and stability of India’s oilseeds’ sector.

Indigenous production and adequate supplies of vegetable oils were identified as major thrust areas and consequently a National Oilseeds Mission
was launched for quick reduction of the yawning gap between production and demand in the short run and to plan for sustained and increased production for adequate availability of this commodity.

An efficient oilseed processing industry is a basic prerequisite for maximizing economic returns to the oilseed farmer and, indeed, to the society, besides providing a fair deal to consumers. As the domestic vegetable oil production is not sufficient to meet domestic demand, about 8.82 million tonnes of vegetable oil was imported during 2009-10 compared to 4.7 million tonnes during 2006-07.

With a rather low growth rate, Indian agriculture is slowly facing a distress situation. Considering population growth rate of 1.8 percent (close to 20 million additions every year) and income increases through economic growth (assuming an average of 8.5 percent a year). Consumption demand for vegetable oil is set to expand on an average by 6-7 percent each one of the next five years. This translates to roughly 7 to 8 lakh tonnes of additional demand every year. By 2015, India’s total vegetable oil consumption demand at 6 percent growth rate is slated to reach 25.6 million tones. As India’s vegetable oil consumption demand is expected to be faster than the domestic production growth, it is really an alarming situation for the country. In addition to oilseed scarcity, there is mismatch between low raw material production and high processing capacity and leading to situation of “too much capacity chasing too less raw material (oilseeds)”. Apart from low capacity utilization in the processing industry, there is pervasive sickness particularly among oil mills and solvent extraction units. Most of these are outdated and in need of renovation and modernization. Low priced imported oils already had negative impact the domestic front.

Undoubtedly the above issues are creating a great many problems for the Indian vegetable oil industry and the best way to overcome these problems is to have efficient management of oilseeds economy, including production and processing of oilseeds and oils, as well as improvements in their technologies which are of critical importance for the economic health of India. There is lot of scope for technological improvements in this sector. Indian vegetable oil industry has been ordered to reduce utilities consumption like water, steam, acids, power besides bleaching earth.

In view of the above, serious efforts have to be made to step up the production of oil seeds in the country. To improve the production, reasons for low production should be identified. Oil seed growers should be provided with necessary facilities.

Also problems associated with oilseed cultivation should be identified and rectified to improve the performance of existing cultivators and to encourage the new entry.

21st Century is looking for promising and high yielding crops coupled with higher nutritive value, eco-friendliness and sustainability. Oil Palm has been recognized as one of the best yielding crops which can yield of 4-6 tonnes of oil from 3-30 years of life span and produces two distinct oils i.e. Palm oil and Palm Kernel Oil, which are used for culinary as well as for industrial purposes. Oil palm with high yield of 4-6 tonnes oil per year compared to other nine annual oil seed crops and high nutritive value, rich in vitamins A & E, provides sustainable income (monthly three harvests) and remains for 25 years adding a lot of organic matter to soil. Moreover, it suits well for eco-friendly environment and forms an excellent import substitute consequently it helps in saving foreign exchange.
But Oil Palm cultivation is subjected to several problems

1. High degree of fluctuations is observed in the annual production owing to cultivation predominantly under low and uncertain rainfall.

2. Poor crop management leads to low yield.

3. There exists a wide variation in productivity because of lack of scientific production technology.

4. Finally the policy reforms pertaining to Palm oil cultivation are not favourable to higher yield.

In the light of the above it is intended to study the trends and patterns of growth of Oil Palm over time, and to make an in-depth analysis of the Problems associated with Financing, Marketing and Production of Oil seeds in India with special reference to Palm Oil cultivation in Krishna District.

Review of Current Literature

Several studies have been made in the area of oil seed cultivation in India and abroad in general and palm oil cultivation in particular. Most of these studies are in the form of Committee Reports, Research Papers, Books, Journals, and Doctoral Theses.

An attempt is made here to review the previous studies in the area of oil seed cultivation.

P.Srinivas et.al\(^1\) in their study made an attempt to study the seasonal effects on bunch components and fatty acid composition in Dura Oil Palm in the wet and dry seasons. Through their study it was found that different harvesting times effect oil content and fatty acid composition in the oil. They also identified that oil content and fatty acid composition in the Oil Palm are influenced not only by genetical but also by environmental factors.
Kusum R., Bimmayya H., Fayaz Pasha P. and Ramachandran.H.D have conducted a comparative analysis of current status and future prospects of Rice Bran Oil and Oil Palm. They have made an attempt to assess acceptability of these two oils. They concluded that both give higher yields in comparison with other oil yielding species and both have ability to control cholesterol levels.

Rosli.B.Mohamad et.al conducted a study to compare the performance of common broad spectrum herbicides of Paraquet, Glyphosate and Glufosinate-ammonium to control weeds and their impact to the surrounding ecological components of an oil palm plantation. Their study revealed that Glyphosate and Glufosinate-ammonium showed greater effectiveness than Paraquet. And also it was found that the herbicides, applied at their recommended rates, left no residual effects on the surrounding ecological components of Oil Palm Plantation.

I.V.Y.Rama Rao and V. Rajendra Prasad made an attempt to assess the impact of WTO on production & productivity of oil seeds in AP by estimating the patterns of growth & magnitude of instability. Their study revealed that growth performance of oil seeds production was higher during pre WTO period than post WTO period but it was accompanied by high degree of instability.


Decomposition analysis also revealed that area effect was higher than the production effect on the production differential in coastal Andhra, Telangana and Rayalaseema. They stated that growth in production should mainly come from area attributing factors like assured supply of farm input, and provision of remunerative prices etc. in coastal Andhra, Telangana and Rayalaseema regions.

Kalanithi Nesaretnam in his study on “Nutritional Attributes of vegetable oils with special reference to palm oil” opined that among the major vegetable oils, palm oil contribution is significant to the world oil market and it would continue to play a leading role in world oils and fats market with greater acceptance amongst the consumers. His nutritional studies showed no detrimental effects on palm oil consumption.

Pathan.A.L, Sananse.S.L and Bhonde.S.R in their study on Groundnut Production in India made an attempt to analyze the scenario of groundnut at global level in connection with the scenario at national level and Maharashtra State level. According to their analysis the most important groundnut growing countries are India, China, Nigeria, Sudan and USA and in India, Gujarat is the largest producer contributing 25 percent of the total production, followed by Tamil Nadu (22.48 %), Andhra Pradesh (18.81%), Karnataka (12.64 %) and Maharashtra (10.09%) during 2006-07.
P. Rethinam\textsuperscript{7} in his study on "Recent Advances in oil palm – A Global perspective," felt that a 'Three Pronged Strategy' should be adopted in planning the research and development activities for the industry. The three strategies are high-income strategy for maximization of the land use, biomass utilization to optimally exploit non-oil biomass and value added strategy to focus on high value products such as oleo chemicals and phytonutrients. He suggested measures like enhancing productivity, improving efficiency of ECO plantation, Capacity development and community development, crop insurance, strengthening the research infrastructure to satisfy the developmental need in order to meet the requirement of economically viable, environmentally sound and socially acceptable oil palm development.

M.V. Rao\textsuperscript{8} in his study on "oil palm development in India – past, present and future" opines that Andhra Pradesh is leading in oil palm cultivation from Nellore to srikakulam and also in terms of production and productivity of the crop. He expressed that concerted efforts by oil palm growers, officials of Science Department, entrepreneurs and policy makers would make oil palm crop as golden palm under Indian conditions. He suggested further learning from the experiences of Malaysia, Indonesia and other countries where oil palm is grown extensively and exploited not only for production oil but in the production of whole range of products industrial, commercial and edible. He concluded that adequate training and effective dissemination of technologies should be given prime importance.

\textsuperscript{7}P. Rethinam, "Recent Advances in oil palm – A global perspective", Proceedings of National conference on Oil palm, July, 2009.

B.N. Patil, Dr. S.R. Bhonde and D.N. Khandikar conducted a detailed study on the trends in area, production and productivity of groundnut crop in Maharashtra state for the period of 1993-94 to 2006-07 and contribution of various factors responsible for fluctuations in groundnut cultivation. They identified that groundnut crop recorded remarkable decrease from 2003. The production of groundnut was lowest during the year 2005-06 i.e. 274800 tonnes as compared to 512300 tonnes during the year 1993-94 and this decrease in productivity was due to droughts and insufficient monsoon rains, price and non-price incentives announced by the Government from time to time for other competitive and short duration varieties of oilseeds crops such as soybean, sunflower and safflower crops.

H.P. Singh in his article on “National and International scenario of Oil palm,” threw light on Indian and Global scenario of oil palm along with special focus on Technological developments, methods of enhancing efficiency of utilization, waste recycling and utilization, product diversification coupled with details of oil palm processing units in various states. His identification is that Malaysia and Indonesia are leading producers and exporters of palm oil accounting for more than 85% of world palm oil production, and in India Andhra Pradesh, Karnataka and Tamil Naidu are the potential states. He found that there has been an appreciable development in oil palm production, processing and utilization across the globe including India.


R.B.N. Prasad\textsuperscript{11} analyzed the Research & development strategies in processing of oil seed. He states that efficient oilseed processing industry is the basic prerequisite for maximizing economic returns to the oilseed forms and “Good Research and Development” strategies are very important to extract the last drop oil and to refine the oil using innovative methodologies.

M.N.Noormahayu, A.R.Khalid and M.A.Elsadig\textsuperscript{12} in their study on “Financial Assessment of Oil Palm Cultivation on Peatland in Selangor, Malaysia” explores the social and economic basis of oil palm cultivation in Peat land. They obtained data by conducting survey of 200 farmers who cultivate Oil Palm on Peat soil. They used Cobb-Douglass Production function to model the financial output from oil palm in terms of costs of chemical inputs and labour. They also calculated three financial indicators NPV, BCR and IRR. Their results indicated that chemical inputs are more important than labour cost in determining the level of financial output. Also they found that oil Palm cultivation is a profitable investment so long as growth conditions, costs, selling price and interest rate do not fluctuate substantially.

Olagunju\textsuperscript{13} in his research on “Economics of Palm Oil Processing in Southwest Nigeria” focused on medium-large scale processors. The research was undertaken to pursue the objectives of identifying the existing rural holders processing techniques, evaluating the profitability of Palm Oil processing enterprises and determining the factors affecting the net return of the processors.


R. Venkata Kumar, S.V. Ramana Rao, M. Padmaiah, D.M. Hegde\textsuperscript{14} have conducted a study on productivity potentials and profitability of non-monetary, low-cost and cost-effective oilseeds production technologies. They opine that popularizing of low cost technologies like integrated weed, water, nutrient and disease management among poor oil seed growers can help to get remunerative and sustainable yield as well as economic returns, inspite of import of huge quantity of edible oils in the globalized market economy and remote chances of acquiring additional area for cultivation of oil seeds from that of food grains.

D.M. Hegde\textsuperscript{15} in his article "Can India Achieve self-reliance in Vegetable Oils" expresses that the oilseeds policy framework has to promote the goals of economic efficiency and social equity through creative combinations of policies, which puts a premium on science and technology. He felt that public policy should support greater involvement of private sector in providing imports and services to the farmer, the processor and the trader. He further opines that the tariff policy should strike an appropriate balance between the promotion of domestic production and of export, while safeguarding the interests of consumers through reasonable inputs. His study results on the determinants of net return showed that extraction cost, cost of palm fruits are positively and significantly associated with the net return while depreciation of tools and other inputs were negatively but significantly related to net return. Also he found through his study that no significant relationship exist between net return and variables like processing experience and labour cost.


\textsuperscript{15} D.M. Hegde, "Can India Achieve Self-Reliance in Vegetable oils" vegetable oils scenario: approaches to meet the growing demands, Indian Society of oil seed research, Hyderabad, 2009.
Ramadhar\textsuperscript{16} in his article on "current crisis due to confluence of factors" opined that the crisis in 2009 had been triggered by a congruence of factors including increased use of food grains for bio fuels, surging demand for agricultural products due to population and economic growth and inadequate supply of cereals - the lowest in three decades. He suggested that innovative schemes, particularly for the small and marginal farmers, should be devised along with streamlining of delivery systems. Bold and imaginative steps are needed in most of the areas like input supply, technology generation and dissemination rural infrastructure, agro-processing value addition and marketing. In order to cause the benefits of Government programs reach the target beneficiaries. His identification is that agriculture can become an engine of growth in the rural areas provided its potential for employment generation and poverty alleviation is fully tapped.

D.M. Hegde\textsuperscript{17} studied the past & present scenario of oil seeds and made predictions on future of oilseed production in India with seed reference to rapeseed and mustard. He opines that achieving self-reliance in vegetable oils calls for new thrust for improving the productivity of oil seed crops through exploitation of untapped yield reservoir by effective technology transfer, demand driven research agenda to meet new threats and exploit fresh opportunities, value addition to oilseeds and their products and by-products to make them more competitive and favourable public policy which takes into account the interests of all sections of oil seed sector.

\textsuperscript{16} Ramadhar, "Current Crisis due to Confluence of Factors", \textit{The Hindu survey of Indian Agriculture}, 2008.

\textsuperscript{17} M. Hegde, "Oilseed Scenario in India-past, present and future with Special Reference to Rapeseed Mustard", \textit{sustainable production of oilseeds}, Argotic Publishing Academy, Udaypur, 2008, pp-13-35.
Dr. P. Rethenam\textsuperscript{18} founder of Society for Promotion of Oil Palm Research and Development discussed in detail the membership of the society, privileges of members, subscription details and palm research and development. He identified that oil palm was introduced as ornamental palm in India a century ago, attained the status of plantation crop of the forest land during 70s and 80s in Kerala and Little Andaman and had become the marginal, small and big farmers’ crop under irrigated conditions since 1988. At that time crop was being cultivated in 11 states in India and thousands of farmers were taking up the oil palm replacing the then existing low value labour intensive crops. He expressed that Society for Promotion of Oil Palm Research and Development (SOOPRAD) was formed to discuss common issues and also to get to know technology transfer, programs identified and solutions found out in the cultivation of oil palm.

DR. H.P. Singh\textsuperscript{19} in his study on “global perspective of oil palm industry”, opines that oil palm, a gift from Guinea coast of west Africa, has become the most important oil producing tree, which yields highest oil per unit area compared to any other oil producing crop. Oil palm is grown as a commercial crop in over 20 countries around the world. Malaysia and Indonesia with favourable temperature and well distributed rainfall emerged as the largest producers of palm oil and they contributed more than 85% of palm oil production. In India, importance to oil palm was given by establishing an oil palm research station in 1960. He concluded that although oil palm proved economical for the farmers, due to long gestation period coupled with high investment, there had been less interest. However, owing to support from Govt. and technology, enhanced interest prevailed in the matter of oil palm cultivation.

\textsuperscript{18} Dr. P. Rethenam, “Society for promotion of oil palm research and development”, National conference on oil palm, 2008, pp1-4
\textsuperscript{19} Dr. H.P. Singh, “Global perspective of oil palm Industry” National conference on oil palm, 2008, pp. 5-9
Dr. M.V.Rao\textsuperscript{20} studied the constraints in increasing productivity of oilseeds. He identified that Indian oilseed processing industry suffered from several problems like out dated technology, low rates of utilization of installed capacity, low oil recovery and higher unit costs. He recommended that crop ecological zoning, quality seed supply and effective technology transfer played a major role in enhancing oilseed productivity.

Dr. M. Kochu Babu\textsuperscript{21} in his study on “oil palm Research in India – A National perspective”, conducted a comprehensive research on initiation of oil palm research, present setup of oil palm research, research achievements in terms of crop improvement, crop production, crop protection, Harvesting and post harvest technology, transfer of technology, ongoing research programs and future strategies for improving oil palm research. He feels that oil palm is a perennial and totally a new crop introduced under irrigated conditions in different agro-climatic regions, warrants meticulous planning and conducting of suitable research programs.

Sangay Guenka\textsuperscript{22} through his study on “Oil palm in India”, identified that at the time of introduction of oil palm in India there was huge resistance from farmers due to ignorance, lack of training and research, lack of processing facilities and major downfall in prices of edible oil ever in history but with the passage of time and with the efforts and support of Government farmers confidence on oil palm increased as it is a perennial crop yielding for 25 years, with low labour and maintenance requirement and in future big investments are predicted in oil palm.

\begin{itemize}
\item \textsuperscript{20} Dr. M.V.Rao, “Constraints in Increasing Productivity of oilseeds”, The Hindu survey of Indian Agriculture, 2008.
\item \textsuperscript{21} Dr. M.Kochu Bau, “Oil Palm Research in India – A National perspective” National Conference on Oil Palm, February 2-4, 2008, pp10-14.
\item \textsuperscript{22} Sanjay Goenka, “Oil Palm in India”, National conference on oil palm, February 2-4, 2008.
\end{itemize}
K. Madhusudhana Rao\textsuperscript{23} in his article on “Oil palm development program in Andhra Pradesh” focused on oil palm Act identified mandals for oil palm development program and implementation of Technology Mission on Oilseeds and Pulses (TMOP) His identification is that A.P. is the first state to formulate and promulgate an oil palm act in 1993 and the act provided regulation for cultivation of oil palm, processing and matters connected there with. He also identified that 227 mandals were allotted to oil palm companies / processors as factory zone in 8 districts for development of oil palm. His conclusion is that if proper care is taken oil palm can become successful for commercial cultivation.

K.C.P. Rao\textsuperscript{24} in his study on self sufficiency of Edible oils in India opined that after complete deregulation of trade in oilseeds and edible oils, the imports of edible oils raised substantially. The share of edible oils in the total import bill for agricultural commodities ranged between 6-52\% during 1991-92 to 2005-06. The dramatic decrease in self-sufficiency over the five years is a clear indication that globalization has already made an impact on this sector. The self – sufficiency level dropped from 98\% in 1992-93 to 56\% in 2005-06. Export earnings of oil seed cases and meals also decreased considerably. He concluded that the state of self-sufficiency and competitiveness of oil seeds was less in case of edible oils and oil seeds. He suggested that a combination of both price and non-price strategies should be used to raise the self sufficiency level in edible oils from 56\% at present to atleast 66\% over the next one decade.

\begin{footnotesize}

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Dr. P. Rethinam\textsuperscript{25} in his article on “oil palm. A versatile oil yielding crop” focused on the importance of oil palm and identified that oil palm emerged as second largest oil yielding crop in the world. He conducted a collaborate study on the advantages of cultivating oil palm and found oil palm to be the crop for future. It is eco-friendly, environmentally sustainable, nutritive, import substitute and useful for cogeneration as well as bio-fuel. Above all it can help in elevating the socio-economic status of the small and marginal farmers. Once planted in field it starts yielding from the third year and upto 25 years. He also focused on oil palm promotional activities in India, commercial plantation of oil palm and oil palm development project.

Dr. N.B. Singh\textsuperscript{26} through his study on “Role of public sector in increasing oilseeds production” opined that basic reason for success of first phase of technology mission on oilseeds was the strong policy support of Government of India for enhancing production along with logistic supports like processing and market intervention through minimum support prices. He recommended that in future also strong policy interventions are required for fixation of minimum selling price and timely review of tariff on import of edible oils to safeguard the farmers’ interest. He suggested that both public and private sectors should join hands in enhancing the production of oilseed crops.


O.K. Owolarafe and C. Arumughan\textsuperscript{27} through their study assessed the performance of Palm Oil Mills which are operating under the Contract – Growers Scheme backed by Oil Palm Act in terms of technology acquisition, production efficiency and product quality. They found that technologies adopted by these mills were locally sourced and the extraction efficiencies are high. They recommended that there is need to plan the processing operations to prevent nut-cracking in mills.

S. C. Manchanda\textsuperscript{28} in an interesting lecture on 'Role of Indian mustard in controlling coronary heart diseases' states that the use of mustard oil can contribute significantly to check increasing epidemic of coronary heart diseases (CHD), which are the leading cause of death in the developing countries. Manchanda emphasized that it is a healthy cooking medium because of low saturated fatty acids (8\%), high monosaturated fatty acids (70\%) and alpha linolenic acid (10\%). He specifies that it also prevents cancer.

Dr. K.L. Chadha\textsuperscript{29} committee in their report on "progress and potential of oil palm in India" found that during last 15 years, the industry had seen several ups and downs in the rate of area expansion, yield potential, price fixation and establishment of processing facilities in the states. Govt. of India supported the oil palm development progress with a number of subsidies and incentives to achieve the desired momentum.


\textsuperscript{28} S. C. Manchanda, “Role of Indian mustard in controlling coronary heart diseases”, Current Science, VOL. 90, NO. 9, 10 May 2006.

\textsuperscript{29} Dr. K.L. Chadha, “Progress and potential of oil palm in India”, Department of Agriculture and corporation, 2006.
The committee critically assessed the experience of oil palm cultivation in India, briefly reviewed oil palm technologies, identified suitable areas for oil palm cultivation, identified sources for supply of planting material assessed the processing facilities available and suggested ways and means for financing oil palm development schemes.

Dr. Anil Kumar Singh\textsuperscript{30} in his study on productivity of agricultural farming states that as more than 90\% of the food consumed in India is produced locally, the efficiency of production has to be improved for the well being of the poor through the use of appropriate technologies. He feels that usage of bio technology in conjunction with traditional farming practices is the sustainable solution for the future and research and development funds should be directly allocated to farmers' organizations. He states that technology is the mantra for the new millennium.

Dr. D.M. Hegde\textsuperscript{31} in his article "Becoming self reliant" discusses the oil seed scenario in India and oilseed productivity growth. He felt that most of the oilseed production had to come primarily from land saving technologies, high yielding plant type and standard crop management practices. He suggested that political and international pressures on the government to follow an import-friendly policy must be resisted. Oilseed policy frame-work has to promote the goals of economic efficiency and social equity through a creative combination of policies.

\textsuperscript{30} Dr. Anil Kumar Singh, "Mantra for the new millennium", \textit{The Hindu Survey of Indian agriculture}, 2006.

\textsuperscript{31} Dr. D.M. Hegde, "Becoming self-reliant", \textit{The Hindu survey of Indian Agriculture}, 2004.
Yusof Barison and Chan Kook Weng\textsuperscript{32} in their article on “The Oil Palm Sustainability” focused on the role Oil Palm as a vehicle for the eradication of poverty in Malaysia. Their paper covered history of Malaysian Oil Palm Industry, current status of the palm oil industry and economic, process and product sustainability of Oil Palm.

G. Venkata Ramani\textsuperscript{33} in her article “Third in a row” felt that Indian agriculture was put to an acid test during 2002-03. She found that in 2002-03 third time in succession the food grains production fell short of the set target and the production from the nine major oil seeds was abnormally low and it was 15-75 million tonnes against a target of 27 million tones.

S.M. Sharma\textsuperscript{34} in his book “Vegetable oil sources and enhancement of Research in India” has dealt with constraints and opportunities of oilseed production in India.

D.M. Hegde\textsuperscript{35} in his article “Measures to turn self-reliant” feels that achieving self – reliance in oil seeds needs improvement in productivity of oilseed crops through exploitation of the commercially untapped yield reservoir by effective technology transfer, demand driven research agenda to meet new threats and exploit fresh opportunities, values addition to oilseeds and their products and by-products to make them competitive taking into account the interests of all sections of oilseed sector.


\textsuperscript{34} M. Sharma, Vegetable Oils-sources & Enhancement of Research in India, Jin Brothers, New Delhi, 2003.

\textsuperscript{35} D.M. Hegde “Measures to turn self reliant” The Hindu survey of Indian Agriculture, 2002.
G. Venkata Ramani\textsuperscript{36} in the article "Policies need to be farmer friendly" felt that the agricultural development in the country should be put on a faster track to meet food grain demand. She also stressed that to catch up with other developing countries in agricultural production and to emerge as a leader in farm production in the years to come, it is necessary to have innovative, farmer friendly and implement table farm policy.

P. Rethinam\textsuperscript{37} in his study on the "Role of oil palm in meeting the domestic edible oil needs" finds that palm oil is versatile oil being used for more than 5000 years as domestic oil. 21\textsuperscript{st} century will depend on promising and high - yielding crops with higher nutritive value.

A.R. Sukumar\textsuperscript{38} through his study on status of oil palm in Andhra Pradesh opines that Andhra Pradesh has tremendous potential for oil palm cultivation. He made a study on district wise potential of oil palm and found that krishna district had an estimated area of 1,00,000 hectares and identified as potential for the cultivation of oil palm. He focused on the incentives given to the farmers, constraints in the implementation of oil palm project along with the oil palm act, first implemented in Andhra Pradesh.

K.J. Prabhakara Rao\textsuperscript{39} in his study on "oil palm processing in Andhra Pradesh", observes that prospects for small scale plantations and matching processing facilities are brighter as compared to large scale plantations.

\textsuperscript{36} G. Venkataramani "Policies need to be farmer friendly" \textit{The Hindu survey of Indian Agriculture}, 2002


He states that concentrations on small scale plantations by the farmer are more and it helps to increase in yield levels. He identified that in Andhra Pradesh, the first plantation was taken up in 1987-88. An extent of 120 was planted and at later stages a pilot project was taken up by Department of bio technology in the year 1990 – 91. In the initial years the return was low due to newness of the cultivation & processing of oil palm crop. Taking real care was actually stated in 1993.

P. Rethinam\textsuperscript{40} in his another study on “oil palm research and development in India” analyses the historical background of oil palm production, present status of production, yield and area, constraints in production and finally research and development in the area. His observation is that India is going for a vast expansion of about one million ha by 2020 AD so that 3 to 4 million tonnes of crude palm oil and 0.3 to 0.4 million tonnes of palm kernel oil can be produced by 2025 AD which can substantially contribute to the vegetable oil pool of the country to meet the growing demand.

Dr. J.S.Khan, N.D. Seth and S.D. Gara\textsuperscript{41} in their article “Development of oil palm processing Technologies” identified that per capita consumption of edible oils is raising due to increase in population as well as improvement in socio economic conditions of population. So it is imperative to increase productivity per hectares of all oil seed crops. He suggested the precautions that should be taken to improve the productivity of oil palm.

\textsuperscript{40} P. Rethinam, “Oil palm Research and development in India”, National Research Centre for Oil Palm, 1999, pp1-10.

M.A. Sreeram Chellappa\textsuperscript{42} conducted technology commercial analysis of oil palm development in India as compared to other oilseeds. He opined that to increase the competitiveness of oil palm there should be a very strong bondage between industry and the farmer on one hand and Govt. with the industry on the other.

Dr.K.L.Chada\textsuperscript{43} in his article, “Oil Palm Development in India – Opportunities and Challenges”, opines that oil palm is a potential heavy yielder and as the harvest is at 10-day interval there is every possibility to get income round the year from its cultivation. But the challenges like shortage of power and limited or non-availability of new electrical connections, non-availability of refinancing by NABARD, reduction in import duty on edible oils are to be considered.

K.Arya\textsuperscript{44} in his article, “History of Oil Palm Development in India”, feels that oil Palm is most reliable source of edible oil to meet the ever increasing demand of edible oil and to achieve self-sufficiency. He studied the introduction, development and Present Status of Oil Palm Cultivation.

\textsuperscript{42} A. Sreeram Chellappa, “Techno Commercial Analysis of oil palm Development in India as compared to other oil seeds” \textit{Indian oil palm Journal}, Vol VII, No. 41, Jan-Feb98.

\textsuperscript{43} Dr.K.L.Chada,” Oil Palm Development in India – Opportunities and Challenges”, \textit{Seminar Proceedings on Opportunities and Challenges for Oil Palm Development in the 21\textsuperscript{st} Century}, Society for Promotion of Oil Palm Research and Development and National Research Center for Oil Palm, January 19-21,1998,Pedavegi.

\textsuperscript{44} K.Arya,” History of Oil Palm Development in India”, \textit{Seminar Proceedings on Opportunities and Challenges for Oil Palm Development in the 21\textsuperscript{st} Century}, Society for Promotion of Oil Palm Research and Development and National Research Center for Oil Palm, January 19-21,1998,Pedavegi.
K. Manjunatha and Dr. Y. Raja Ram\textsuperscript{45} in their article “can we achieve self sufficiency in edible oils” studied the constraints encountered by oil and oilseed industry. They recommended that crop insurance should be introduced to protect farmers from all kinds of risks and oil federation should be strengthened in respective states by providing all financial assistance and technical advice.

Dato Abdul Khaled Ibrahim\textsuperscript{46} conducted a study on competitiveness of oil palm industry for the 21\textsuperscript{st} century at a global perspective and presented his findings in the international palm oil congress held between 23\textsuperscript{rd} – 28\textsuperscript{th} September 1996. He states that 21\textsuperscript{st} century will certainly offer more opportunities than challenges to the oil palm industry. With the rapid shrinking of agricultural land for food production the future looks promising for high-yielding and high-nutrient crops. Oil palm is well-positioned to capitalize on this ground.

P.G. Chengappa and P.K. Mandonna\textsuperscript{47} made a study on problems and prospects of oilseed production in India. They found that production of oil seeds recorded an impressive growth mainly due to the helpful marketing intervention policy of the Government and consequently the import of edible oil decreased and the export of oil meal and other minor oils increased resulting in a positive trade balance in the oil seed sector.

\textsuperscript{45} K. Manjunatha and Dr. Y. Raja Ram, “Can we achieve self sufficiency in edible oils”, \textit{Indian oil palm Journal}, Vol. - VI, No.-33, Sep-Oct. 1996.

\textsuperscript{46} Dato Abdul Khalid Ibhrahim, “Competitiveness of Oil Palm Industry for the 21\textsuperscript{st} Century -A Global Perspective”, \textit{Indian Palm Oil Journal}, Vol. VI, No.33, Sep-Oct 96.

Dr. K.N. Ninar in his book "Edible oil seeds growth, area responses and prospects in India" made a comprehensive study of the production of oil seeds and a systematic in depth analysis of factors influencing their supply. The study includes a comparative analysis of the growth behaviour of oil seeds with the other competitive crops. It also analyses the role of both price and non-price factors, such as technology, irrigation, wealth and uncertainty across regions.

V.K. Abraham studied the potential of oil palm cultivation in India and found that the cultivation of oil palm required good rainfall throughout the year; soil must be physically fit, chemically balanced and biologically active. He opines that in India Karnataka, Andhra Pradesh, Maharashtra, Kerala and Tamilnadu are suitable for the cultivation of oil palm.

Dr. H.C. Srivastava, Dr. S. Bhaskaran, Dr. Bhartendu Vatsya, Dr. K.K. Menon elaborately studied the Constraints and opportunities of oil seed production in India. They considered environmental, technological socio-economic, organizational and infrastructural constraints and relative development programs formulated by Government to overcome these constraints.

48. Dr. K.N. Ninar, Edible oil seeds growth, Area responses and prospects in India, Oxford & IBM publishing company private limited, New Delhi, 1989.


50. Dr. H.C. Srivastava, Dr. S. Bhaskaram Dr. Bhartendu vatsy and Dr. K.K G Menon, “Oil seed production constraints and opportunities”, Oxford and IBH publishing co., New Delhi, 1985.
P.C. Joshi in his Ph.D. thesis “Oil Seed Economy of India- a Case study of Groundnut” presents a comprehensive analysis of the role of price and non-prices factors responsible for shifts in acreage under groundnut. The study brings out that, given the resource position of farmers, acreage allocation decisions in respect of groundnut have been basically governed by profitability of groundnut- vis-a-vis competing crops, the relative profitability in turn seems to have been influenced more by non price factors, such as technology and availability of irrigation than by relative price.

K.Sengupta and P.K Das in their book “Cultivated annual oilseed crops of India” have provided detailed information on various oilseeds cultivated in India and their individual contribution to the edible oil industry.


52. K.Sengupta and P.K Das, Cultivated annual oilseed crops of India, Naya udyog, Kolkata.
In all the above studies focus is more on major oilseeds i.e. Groundnut, Rapeseed-Mustard, Linseed, Sunflower, Sesame, Safflower, Castor and Niger seed. No comprehensive study has yet been done to cover Oil palm in general and the problems of Oil Palm growers in specific. So it is felt indispensable to study the problems in palm oil industry in detail so as to fill the gap in the management of Palm oil growers. Therefore the present study is specific in terms of its nature, scope and period of the study and to make it a comprehensive one, all aspects of Palm Oil cultivation are taken into consideration.

OBJECTIVES OF THE STUDY

The study namely “Oil Industry in Andhra Pradesh-A Case study of Production, Financial and Marketing Problems of Oil Palm Growers of Krishna District” is carried out with the following objectives:

1. To depict the Agro - Sector in India viz. Production, Finance and Marketing.
2. To study the growth of oil seeds in A.P. and India.
3. To discuss the Socio Economic profile of Oil Palm cultivators in the study area i.e. Krishna District.
4. To analyze Production problems of Oil Palm cultivators.
5. To examine financial problems of Oil Palm cultivators.
6. To focus on marketing problems of Oil Palm cultivators.
7. To suggest remedial measures for difficulties faced by Oil Palm cultivators.

METHODOLOGY

The period of the study that has been taken is the decade of 2000-2001 to 2009-2010. It is felt that a period of 10 years reveals the required data and other information sufficient to permit the pertinent analysis and helps in
drawing relevant conclusion, as it is sufficient to diagnose the main features and trends relevant to the objectives of the study.

Primary data is collected through questionnaire from the sample respondents located in Krishna District. Mainly Nuzivid Mandal and also other mandals where Oil Palm is cultivated are considered in this study.

To collect primary data a questionnaire with 54 questions was distributed to the oil palm growers and collected back. The sample size was 210. The sample was selected through Convenience Sampling Technique. The data gathered was analyzed with the techniques like Z-test, ANOVA, Chi-Square, Grouped Correlation, Linear Regression, Multiple Regression, NPV and IRR.

SPAN OF STUDY

The study covers the recent ten years from 2000-2001 to 2009-2010 for analysis of secondary data relating to oilseeds production and oil palm performance. The primary data relating to the opinions of farmers and market intermediaries were collected during the years 2008-09 and 2009-10. However, the base year for the study was 2008-2009.

COLLECTION OF DATA

Data can be categorized into two types – Primary data and Secondary data. Primary data is the data which is collected directly from the respondents by the researcher based on sampling. Collection of this data is time and money consuming affair. Though it is unpublished, it is relevant to the problem and the most accurate. On the other hand, Secondary data is both published and unpublished information which is readily available with external parties. Such information may not be latest but unbiased.
This study is based on both primary data and secondary data. Primary data is collected from farmers and market intermediaries. The sources of Secondary data pertaining to the study are:

1. Department of Agricultural, Hyderabad
2. Ministry of Agriculture, Hyderabad
3. Directorate of Oil Seed Development, Hyderabad
4. Ministry of Oil seeds, Hyderabad
5. Directorate of Oil seed Research, Hyderabad
6. Directorate of Oil Palm Research, Pedavegi
7. Directorate of Economics and Statistics, Hyderabad
8. Agriculture University Library, Hyderabad
9. Agriculture University Library, Bapatla
10. Horticulture Department, Vijayawada
11. Ruchi Soya Industries Limited, Ampapuram,
12. Godrej Agrovit, Pothapalli

More than primary and secondary, some other data is collected from Journals and Publications.

LIMITATIONS OF STUDY

The study namely “Oil Industry in Andhra Pradesh- A Case Study of Production, Financial and Marketing Problems of Oil Palm Growers of Krishna District” is subjected to the following limitations.

1. The study is restricted to oil palm growers.
2. The study is confined to some selected area of Andhra Pradesh i.e. Krishna District.

3. Personal prejudices and biases of respondent may act as hindrance to the study.

4. Sample size of survey is only 210 samples which may not give complete picture.

6. Non-response error has occurred in research process because a few respondents refused to give the information regarding the questions in brief because of their unwillingness.

To overcome these limitations cited above care has been taken to make the responses more objective and accurate.

PLAN OF STUDY

Keeping in view the objectives and for clarity and comprehension, the study is presented in eight chapters. They are

Chapter – I - Deals with Design of the Study. It explains the Importance of oil seeds in the economy, Need and scope of the study. It includes review of current literature, Objectives of study, Methodology, Span of study, Collection of data. Apart from this it also deals with limitations of study and plan of study

Chapter – II - Gives a Birds’ Eyeview Of Agri-Sector in India. It covers the trends in agricultural production, Agricultural finance and Agricultural marketing in India.

Chapter – III – Focuses light on Oil Seed Scenario in India. This chapter deals with Different types of oil seeds; Cultivation of oil seeds, Climatic conditions required, Production of oil seeds in different plan periods and Production of oil seeds in Andhra Pradesh with special reference to palm oil.
Chapter – IV - Comprises Socio-Economic Profile of Oil palm Cultivators in Krishna District. This chapter deals with distribution of cultivators according to area, educational qualifications and land holding among the sample population. It also covers the Role of weaker section, Indebtedness of oil palm growers.

Chapter – V - Illustrates the Cultivation problems of Oil Palm Cultivators in Krishna District.

Chapter – VI - Evinces Financial Bottlenecks for Oil palm Cultivators in Krishna District.

Chapter - VII - Covers the Marketing Problems of Oil Palm Cultivators in Krishna District.

Chapter – VIII - presents Findings and Suggestions. It put forth the findings made in the study from various angles pertaining to the production, financial and marketing problems of Oil Palm Cultivators and suggests various viable measures to surmount the problems and also to tone-up the returns for the Oil Palm Cultivators.