Report No. 140

EVALUATION OF MARKET INTERVENTION SCHEME (MIS) AND PRICE SUPPORT SCHEME (PSS) IN ANDHRA PRADESH

Prof. G. Gangadhara Rao, Ph.D.,

Agro - Economic Research Centre
Andhra University, Visakhapatnam.

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EXECUTIVE SUMMARY

PROF. G. GANGADHARA RAO, Ph.D.,

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Preface

It is a known fact that the existence of vulnerable Agricultural marketing across nation and both central and state governments are endeavouring to secure good prices to the produce of farmers. In addition to declaring 'Market Support Price' (MSP) to numerous crops, Ministry of Agriculture (MOA), Government of India (GOI), has taken several programmes for the sake of peasants in India. There have been well-planned procurements of both food and non-food crops produce through government agencies in the agricultural market. These programmes and schemes have rendered a great deal of stabilization of incomes for farmers and increase of cropped area for different crops in India during post-independent era.

MOA, GOI evaluates occasionally the impact and success of these schemes in different states. The present study is also in a similar suite and it has aimed to examine the Market Intervention Scheme (MIS) for oil palm and Price Support Scheme (PSS) for cotton in Andhra Pradesh (A.P.). The selection of crops is logical, since oil palm and cotton crops have cultivation of more than 80% and 18%, respectively in A.P. out of all-India cultivation of these crops. There are indeed dire problems in the execution of these schemes. In the price fixation, cost of cultivation for both crops is to be considered for both crops, as the MSPs are far below to current production costs of peasants. Much need is there to increase the spell of the procurement period in a season to avoid the various qualitative and quantitative exploitation of private traders. It is observed the presence of Monopsony for oil palm and Price Syndicate for cotton and hence, it would be appropriate to enhance the period of MIS and PSS in agricultural market to nullify them. Farmer community solicits stridently for sea change in procedures and practices of MIS and PSS, which may enable them to have with more net income and much coverage. Lack of storage for the produce of the farmer has made him a feeble seller in the market for cotton crop in the study area and he stands as a price receiver at the mercy of private buyer. This is much worse in case of marginal and small cultivators. Therefore, the lower farmer size groups are to be given high priority in the schemes. Though there is momentous increase in the institutional credit, still it is to knock the doors of these sections.

This project has been successfully completed with the co-operation of the officials of Cotton Corporation of India (CCI), Mumbai, NAFED, Hyderabad, Joint Directors of Agriculture and Horticulture and Chief Planning Officers of Guntur, Khammam and West Godavari Districts. I express my profound thanks for their valuable help and suggestions. I extend my thanks to Mandal Officers, Assistant Directors of Marketing and Secretaries of Mandis of the study districts and Branch Managers of CCI-Guntur, Warangal and Adilabad. I feel great pleasure to thank the farmers who participated in survey. As it is because of their perception and patience, the policy measures have come into vision and discussion. I thank, Prof. Tara Kumari, Hon. Director for given co-operation and Dr. P. Ramu and Dr. K Rambabu, Senior Investigators and Sri B. Krishna, Research Fellow for collection of data and tabulation. I appreciate Sri K. Ramesh and P. Malathi for in time typing and print of the report.

Prof. G. Gangadhara Rao
Director

PROJECT TEAM

Project Leader	:	Prof. G. Gangadhara Rao
Drafting	:	Prof. G. Gangadhara Rao
Data Collection and Analysis	:	Dr. K. Rambabu Dr. P. Ramu Sri B. Krishna
Word Processing	:	Sri K. Ramesh Smt. P. Malathi

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EXECUTIVE SUMMARY

EVALUATION OF MARKET INTERVENTION SCHEME (MIS) AND PRICE SUPPORT SCHEME (PSS) IN ANDHRA PRADESH

Background:

Agricultural marketing has still several imperfections to establish a proper stream for the flow of reliable prices to the peasants in the nation. Market Intervention Scheme (MIS): The MIS is implemented for horticultural crops, which are perishable in nature and these are not covered under the Price Support Scheme. Price Support Scheme (PSS): The Department of Agriculture and Co-operation executes Price Support Scheme (PSS) through NAFED, in addition to Cotton Corporation of India (CCI), as per the Minimum Support Price (MSP) declared by the Government of India.

1. Selected Crops Information on Production and Marketing and the Schemes:

In this study, two crops are selected for the study viz. oil palm and cotton and the production and marketing information for the two crops are given below:

1.1 Oil Palm:

There is a lot of potentiality for the oil palm crop in A.P. by 4.10 lakhs ha, but the oscillation in prices of oil palm is a negative element for crop extension in A.P. It is observed that the total area extension taken place in A.P. is 1.23 lakhs ha by 2011-12.

1.2 Cotton:

A.P. occupies major marketing share of cotton in India and it signifies the role of production of cotton of A.P.in the cotton market across nation. The percentage share of area of A.P. to all-India had been above 10 per cent in all the study period and after 2006-07, it started increase of share and it reached 18 per cent by 2012-13.

2. Review of Literature:

The literature survey is available to cotton crop with reference to volatility of prices in the market and the same is reviewed. There are no studies on evaluation of PSS for cotton crop. The studies for oil farm are hardly available with reference to prices in the market.

3. The Problem:

It is very pertinent to pursue the existing problems in reaching the schemes of the aimed peasants across nation. There are different studies, which have identified the low price existence during harvesting season for the crops. However, Government of India (GOI) has spent huge amounts on MIS and PSS, still farmers are left uncovered and facing lack of reliable supporting price in the concerned markets. Therefore, Ministry of Agriculture, GOI has assigned the project to this centre to evaluate the MIS and PSS for oil palm and cotton in A.P. To examine the problem, the following objectives are formulated to the study:

4. Objectives of the Study:

1) To understand coverage of MIS and PSS across crops and regions of India,
2) To ascertain factors that influence coverage of crops across regions,
3) To understand levels and basis of participation of farmers in MIS and PSS,
4) To understand problems of different stakeholders in operation of MIS and PSS,
5) To study the effect of MIS and PSS on the market price of commodity in A.P. and
6) To assess efficiency of Central Agencies in operation of MIS and PSS and to suggest policy measures to improve operations of MIS and PSS.

5. Methodology:

It is selected two districts with highly developed one and less developed one from Andhra Pradesh (A.P.). Each district has two blocks based on the crop development. From every block one village is selected with due weightage to mandi and 15 respondents (farmers). Thus, the total 60 respondents from a district for each crop were taken. Both secondary and primary are analyzed in the study.

6. Study of West Godavari, Guntur and Khammam Districts, Sample Blocks and Sample Villages:

Oil palm has tendency of cropping much in higher size groups than for cotton crop. It is estimated that small and medium farmers participation is higher than the other two groups. The growth of NAS shows deceleration during 2001-11 for all the sample districts. At state level

also, NAS has declined and it shows some negative trend. The marginal farmers are gradually increasing across state and in study districts. Comparatively, the semi-medium farm households reported declining trend during 2001-11, while the opposite appeared during 1991-2001. As a whole in the study area, the marginal and small farm households are in acceleration trend and for other farm households, there was decreasing trend. There is gradual acceleration for the use of tractors. There was a sea charge for the tube well irrigation and it increased in leaps and bounds during 2001-11.

The increase of bank offices has shown in study districts but post offices are stagnant in the study period. Out of the study districts, West Godavari has higher share of net irrigation in the state in all the study years followed by Khammam district. The 'other sources of Irrigation' has shown deceleration in state, despite study districts report high shares during study period except in West Godavari district. During 1980-2002, horsegram, sesamum, jowar, chillies and groundnut declined very sharply in the area and the new crops like maize, cotton, chillies and black gram came into picture. The land for non-agricultural uses was reported as first place by Pedavegi mandal and second place by Aswaraopeta mandal/block.

Out of all six-sample blocks, Nadendla mandal/block showed the least use of land for non-agricultural uses. Pedavegi and Aswaraopet mandals stood in first and second places for net area sown from all the sample blocks. The number of farm households under marginal size existed in large number in Khammam rural and Pedavegi blocks. Blocks from Khammam district show larger extent of farm group sizes compared to other blocks of study districts. All the selected blocks/mandals are 100% electrified and linked with roads. The number of commercial banks is high in chilakaluripeta block out of all the blocks. It is surprising that the blocks of Khammam district- Chintakani and Khammam (rural) do not have co-operative banks.

Pedavegi, lingapalem Aswaraopet and Dammapet are tube-well irrigated blocks. In the canal irrigation, chintakani mandal shows the highest out of all mandals followed by Khammam rural. Though paddy occupies first place in area, it reports declining trend in the both Aswaraopet and Dammapet blocks. For cotton, the demographic features report that two villages from Khammam district informed higher geographical area than the area of sample

villages from Guntur district. Aswaraopet village shows the highest marginal farmers (19%) against the selected villages for oil palm.

The sample villages of Khammam district report higher net area sown (NAS) for oil palm cropping and Vegiwada village shows the lowest amount. All the four villages of oil palm crop are under tube well irrigation. Oil palm crop demands much irrigation for, growing successfully and yielding at good level. For cotton crop cultivation, all the farmers of two sample villages from Guntur district are dependent on 'other sources' of irrigation and no other source is found for cotton cultivation in Guntur district. However, in Khammam district, farmers of both villages are using different sources of irrigation and out of these sources. 'Other sources' has major share in both villages. The Commercial banks are available in two market villages of Aswaraopet and Dammapet of Khammam district. The farm produce storage is available to Vegiwada (West Godavari district), Aswaraopet (Khammam district) and the other market centers do not possess farm produce storage or godown facility.

During 2000-11, oil palm reported acceleration and during 2008-09 and latter the increase in area became sluggish. We can find that there is extension of area for oil palm in study districts in the first decade and in the latter period, it became stagnant. In Guntur district, the cotton crop reports deceleration during 2000-11, while an acceleration is traced between 1980-92. Some socio-economic problems cropped up during 2000-2011.There have been number of suicides among cotton crop growers.

In Khammam district, a gradual increase of cotton appeared in the entire study period 1980-2011. At block/mandal level, Pedavegi mandal has shown declining trend for oil palm during 2000-11, as this crop stood by 10% in 2000-02 and declined to 8.6% by 2010-11. On the other, Lingapalem mandal reported nearly stable share of oil palm in the total cropped area of block/mandal. In Khammam district, oil palm crop had shown increasing trend during 2000-09 and latter, it displayed decline in the cropped area in both blocks/mandals. From Guntur district, the selected mandals/blocks viz., Chilakaluripeta and Nadendla have shown acceleration of cotton-cropped area across selected mandals during 2003-11 and the similar trend appeared for sample blocks/mandals of Khammam district.

7. Results and Discussions:

In two sections, the results of two crops- oil palm and cotton are discussed.

7.1 Oil palm

There was no need of regular MIS for the oil palm farmers due to existence of market price higher than MSP in A.P. Hence, it is examined 2010-11, 2009, and 2000-01 years for the implemented years of MIS for oil palm. There was much acceleration of crop in West Godavari district, but in other districts show slow increasing trend. Khammam district informs a lot of scope for extension of oil palm crop. Cost of cultivation is high in Khammam district than in its counterpart. The coverage of farmers has been good during the study years and there is no bias or deletion any farmer.

Farmers are much crop specific in case of oil palm. Still non-institutional credit is predominant among farmers at higher rates of interest. All the produce of oil palm reaches to milling site and there is no wastage except some falling of oil return due to much delay in milling. There are no different market channels for the farmers except the one allotted one by government and there is no question of rejection of produce. Farmers express that MIS is not a good catalyst to extend area but it worked out for the increase in incomes during the lower price period. The scheme reached all the farmers and they knew very well about the scheme. Price under MIS is very low and the payment is delayed, and it does not cover the increased cost of produce. There are no other problems regarding packing and transport.

7.2 Cotton

During 2000-12, cotton had only four years under PSS, while safflower had the highest number of years (nine) under PSS. Share of PSS was very low with 3% to 4% in Guntur district and with 40% and 20% in Khammam district out of the total market arrivals and these purchases were not subjected to cess or commission of the market because of bearing by state and central governments. Near stagnancy appears for Guntur district in the area, while there is increasing trend in Khammam district. There is high productivity in Guntur district rather than its counterpart.

The coverage of PSS is low and the prices of private traders are not available with mandies selected. The coverage of farmers is 100% for PSS in the sample villages. Still the non-institutional credit is high for the cotton cultivators in both districts at 24% interest rate or more. Large farmers along with cotton in both areas crop cash crops. There is no home consumption for cotton. Marketing costs are similar in both private and PSS channels, but the price variation has led to increase in net income under PSS channel. There is no discrimination over farmers during the purchases, but the purchase officials use the wet of the produce to fix low price. Many marginal and small farmers are not covered. The insufficient market price of PSS and Cartel formation by Private traders is the basic problem for marketing the cotton produce along with lesser weight fixation to cotton produce of the farmer in the market.

A.P. Oil Seeds Federation, CCI and NFAFED are executing the schemes of MIS and PSS in A.P. and they express the need of extension of the period to seven months of MIS for oil palm and much storage and warehousing for cotton. The timely AMC bills to CCI will enable it to pay in-time payment to farmers. The additional incidental charges will make the schemes to be on right path.

8. Conclusions/Policy Measures:

The policy measures are given for two crops separately.

8.1 Oil Palm:

8.1.1 Cost of Cultivation:

Cost of cultivation is not reflected in the fixation of price in the MIS, though the cost of cultivation of government research centre gives at higher level. Hence, it is better to encourage the cultivator of oil palm through the realty of changing cost conditions in the cultivation.

Need of Regular MIS:

As the irregular scheme and the lower price fixation of MSP are the basic elements in the turn out of the level of market price. It is better to arrange the MIS to oil palm on a regular basis, as the scheme, in any case, is very much limited to lower period. There would be very

much good impact over the market price or miller price fixation, if the scheme is in force in the peak season.

8.1.2 Avoiding Power of Monopsony and Need of Institutional Body in Marketing:

The market structure is 100% monopsony for oil palm farmer. There is no say to farmer and he stands as 'price receiver'. It would be better to establish some market structure that should set the competition in the market. There are no instances as the mill owners have followed any competitive price in the market. There will be much existence of surplus to 'Monopsonist' in case of oil palm milling and therefore, it is imperative to establish any institutional body to reduce the power of 'Monopsonist'/ Miller to give good price or justice to the peasant of the oil palm. This body, having consisted of representatives from mill owners, farmers and the government nominated officials, could do successfully the proper price fixation to the farmer community of oil palm on a regular basis.

8.1.4 Proper Weighing and in-time Payment:

It is also very important segment of the oil palm marketing. There is weighing by factory owners only and it could hardly be reliable. Subsequently, it is important to erect the alternative weighing machines to farmers to check the produce. It is better to arrange payments in time to avoid undue interest payments by farmers, as the private factory owners are in practice of delay the payment of all farmers in all areas across study districts.

8.2 Cotton:

8.2.1 Cost of Cultivation:

All the farmers express unanimously the need of MSP reflecting the changed cost of cultivation. They quote the increase in wages of labour and material charges at large extent. In such a dire context, the MSP for cotton is to be declared to meet the changed cost of production.

8.2.2 Institutional credit:

There is big claim for increase of institutional credit, though there is considerable rise in it (as the recent data informs). Cotton cultivation takes much investment within a short period for fertilizers, pesticides and weedisides. Most of the suicides are among the cotton cultivators across A.P. due to indebtedness arisen from the exorbitant interests and low price to their produce.

8.2.3 Need of Fair Market Structure:

8.2.3.1 Weighing:

There is lot of criticism over the method of weighing either by private traders or by the officials of PSS. The farmers attribute malpractices of weighing through the wet aspect of 'Kapas' in the market. Calculation and weighing is very much corruption oriented and it leads to falling of net income to the farmer in the market site. In case of quality fixation also, the methods adopted by private traders and officials of PSS are non-acceptable for the proper price fixation. There is a cry with distress from farmers for the change of scenario.

8.2.3.2 Quality:

All the cultivators under PSS say that there is a lot of practice of lowering the quality of their produce in the market by both private traders and the officials of PSS. To this end, they use pretext of 'Moisture and colour '. Thus the farmer is being cheated at the mandi by the both private traders and the officials of CCI.

8.2.3.3 Packing Material:

The packing material is supplied at subsidy price (gunny bags) to farmers, but this amount is not fully reached the respondents and further the whole produce could hardly be covered under this subsidy of packing material.

8.2.3.4 Storage facility in Mandi:

No sufficient space is available for the storage of cotton produce in the mandis. Many a time unseasonal rains have given trouble to farmers in the market in storing the produce in the market.

8.2.3.5 Rejection of Farmer produce and milakat with private trader:

Farmers blame the PSS officials for the practice of rejection of their produce and the same quality is being purchased from private traders. This practice gives lower price to farmer by private trader and in return, the private trader gets high price for same produce from the CCI officials by selling the same quality of cotton.

8.2.3.6 Misappropriation of Farmer Card/Passbook by Private Traders:

Private traders are misappropriating the farmers' passbooks or landholding record for the purpose of selling their produce under PSS, and getting higher price to their produce, which was bought from the farmers at lower prices.

8.2.3.7 Delayed Payment:

CCI officials are not paying in time to the cultivators for the purchases done, while the private traders pay on the same day. Therefore, the farmers, who are at dire need of cash, are selling their produce at lower prices to the private traders. It could be avoided, if the payment from CCI is done at an earlier instant.

8.2.4 Coverage of Marginal and Small Farmers:

A very important aspect is the coverage of PSS for marginal and small farmers, as these farmer size groups are covered at lower ebb under the scheme. Location, transport, and quantum of produce with these groups are the factors for uncovering by CCI officials in the implementation of PSS. Hence, it is imperative to change policy of the CCI or Government of India to confine to the designated mandi or collection centres. The collection centres may be increased to cover these farmer size groups and further, these farmers may be arranged with sub-collection centres at some nearest villages, then marginal and small farmers may transport their produce to the proximate collection centre, which should not be a necessarily a mandi of the concerned state government.

8.2.5 Removal of Price Syndicate and CCI Purchases:

As per the farmers, there is allegation of existence of common price fixation by all the private traders during harvest season. To avoid this, it would be better to increase the purchases of CCI during harvest season, instead of confining to very limited period. Otherwise, the storage facilities could much be enhanced to the farmers coupled with bank loans over the stocks.

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CHAPTER – I

Projection of Oil Palm, Cotton, MIS, and PSS in Andhra Pradesh and Methodology of the Project

1.1 Introduction:

Agricultural marketing has still several weaknesses in establishing a proper stream for reliable prices to the peasants in the nation. Therefore, governments are trying to secure good prices to the produce of farmers. There have been well-planned procurements of both food crops and non-food crops through government agencies in the agricultural market. These programmes and schemes have rendered a great deal of stabilization of incomes and increase of cropped area for different crops in India. Government of India and state governments have been implementing several schemes for the proper mechanism of agricultural marketing for various crops in the post independence period.

1.2 Problems in Marketing of Agricultural Produce in Andhra Pradesh (A.P.):

In A.P. there are 299 Agricultural Marketing committees and E-market trading available for the farmers. With objective of enabling the farmers and consumers by reliable prices, Rythu Bazaar was started. For the storage of produce of the farmers, cold storage has been available to the cultivators. Despite this, farmers of A.P. still face number of problems in the realization of proper prices. They have to face very lower prices during the harvest season to paddy, cotton, chillies, sugarcane and other crops. As Warehousing is scanty for the produce of the farmer, he is compelled to sell away the harvested at the lower prices for various commodities across all the 22 districts in the state. Private traders' role is predominant and they fix lower prices during harvest season. For some commodities, they become 'Cartels' and control the price of the market.

1.2.1. Importance of Cotton and Oil Palm crops in A.P. in this Study:

Soils of A.P. are suitable for cotton and oil palm crops, whereas the oil palm demands much irrigation. Cotton is cropped for a long period as commercial crop, while oil palm was brought to A.P. in late 1990s. Cotton was produced by 2400.0 thousand hc during 2012-13 and the production and yields were 73000.0 thousand bales (170 kgs) and 521kgs per hc, respectively in 2012-13. Oil palm is cropped in many districts, though it is recent origin in state and India. The projected production for oil palm was 4.75 lakh tones in 2010-11. Based on the available data, oil palm area, production and yields were 1.0 lakh hc, 3.75 lakh tones and 7.18tonnes respectively. The yield refers to the matured cropped area only. The cotton area has become stagnant in A.P. due to the lower price existence and increase of cost of cultivation across state. There are market imperfections for cotton market in A.P. and therefore, Government of India has been implementing 'Price support Scheme' and the evaluation of this scheme for cotton is done in the

coming chapters. Oil palm is given 'Market intervention Scheme' by both state and central governments and this scheme will be evaluated in the current study.

1.2.2. Origin and Development of Market Intervention Scheme (MIS) and Price Support Scheme (PSS):

The government intervention/support in agricultural markets in developing countries is an obligatory task, since these markets are with several imperfections. In the similar context, the agricultural market interventions in post independence India refers to agricultural policy 1965. Minimum Support Prices (MSP) have been in implementation in India for some major crops like Rice, Wheat, Sugarcane, Chilles, Tobacco, Cotton etc., This is done in India by the Commission for Agricultural Costs & Prices (CACP) based on the survey and study of cost of cultivation of a crop in question. The MSP is implemented through some agencies of centre and state governments, ex. Rice and wheat are procured by the Food Corporation of India. The table 1.1 gives the MSPs for selected crops during 2010-11 and 2011-12 across nation. These prices of different crops, as declared by CACP, were executed by different agencies in India. The impact of MSP has been manifold in the increase of production of different crops.

1.2.3. Market Intervention Scheme (MIS):

The MIS is implemented for horticultural crops that are perishable in nature and these are not covered under the Price Support Scheme (PSS). The basic aim of MIS is to avoid distress sale by farmers in the event of bumper crop during the peak arrival period. It arrests the indiscriminate sale in the market at the prices that do not cover cost of production. The government will implement this scheme when the huge crop by 10 per cent or more or the decline of process 10 per cent in the market over the previous normal year. The scheme will come into force at the behest of state/U.T. government, since the state government is to bear 50 percent loss, but in case of northeastern states, only 25 per cent of loss is to be borne by them. For the purchases and bearing of burden on 50:50 bases between central and state government is limited to 25 per cent of the total procurement value. The procurement value also includes the overhead expenses. The NAFED as an agency from central government and other any agency from state government will execute the scheme within the concerned state up to the stabilization of prices or for fixed period. The MIS was implemented in five states for potato in Uttar Pradesh and West Bengal, for Oil palm in Andhra Pradesh 47,500 MTs, for apple Himachal Pradesh 6100 MTs and for areca nut from Karnataka for 1200 MTs.

1.2.4. Price Support Scheme (PSS):

The Department of Agriculture and Co-operation executes Price Support Scheme (PSS) through NAFED, in addition to Cotton Corporation of India (CCI), as per the Minimum Support Price (MSP) declared by the Government of India. Usually NAFED undertakes procurement of oil seeds and pulses under the PSS

and for cotton, CCI puts into practice the PSS in the major markets when the prices fall short of MSPs of these commodities. The PSS will continue in that market season up to the stabilization of prices. The central government will reimburse the losses or any expenditure of NAFED and CCI. In similar way, profit will also be credited to central government. For the 2010-11, the PSS was implemented for milling copra in four states i.e. Tamilnadu (7434 Mts), Kerala (12,408 MTs), Andaman & Nicobar Islands (5335 MTs) and Karnataka (3,086 MTs). In all these four states, the total procurement value stood as 135 crores, since the prices were lower than MSP for urad, arhar, and NAFED procured 291MTs of arhar costing by 97.45 crores in Maharashtra, Karnataka and A.P. and 131 MTs of urad valued at Rs.45.88 crores.

There has been laudable positive impact on the area and production of several crops due to MSP policy in India. The change in area and production has been remarkable in the case of arhar (Tur), moong and urad. During 2006-07 and 2010-11, gram displayed 23 per cent and 30 per cent increase for area and production respectively and the similar trend was reported by arhar (23 percent for area and 25 per cent for production), while groundnut showed much acceleration in production (55 per cent). Soya bean crop exhibited the growth of 15 per cent for area and 43 per cent for production during 2010-11, whereas cotton increased for area 22 per cent and 43 per cent production respectively. In agriculture market, Bihar, Eastern Uttar Pradesh, Odisha, Assam, Madhya Pradesh and Chattishgarh report surplus in some agricultural commodities. Therefore, the extension of MSP operations and market infrastructure has become needy in India.

1.2.5. Price Support Scheme for Various Crops through NAFED during 2012-14:

In the Table - 1 it is shown the price support prices for different crops which are under nodal agency NAFED. There are 11 crops for the kharif season under NAFED for the PSS. The support prices are not changed for Sunflower seed and Urad during 2012-14. For five crops of rabi season are under PSS through NAFED, whereas for perennial crops, there are only three crops are covered under this agency for 2012-14.

Table - 1 Price Support Scheme for Various Crops Through NAFED during 2012-14

Commodity	2012-13	2013-14
Kharif Crops		
Soybean (yellow)	2240	2560
Soybean (Black)	2200	2500
Groundnut-in- shell	3700	4000
Sunflower Seed	3700	3700
Sesamum Seed	4200	4500
Niger Seed	3500	3500
Moong	4400	4500
Urad	4300	4300
Tuar (Arhar)	3850	4300
Cotton (Medium Staple Length)	3600	3700
Cotton (Long Staple Length)	3900	4000
Rabi Crops		
Rape Seed/ Mustard	2500	3000
Safflower Seed	2500	2800
Gram	2800	3000
Masur (Lentil)	2800	2900
Toria	2425	2970
Perennial Crops		
Milling Copra	5100	5250
Ball Copra	5350	5500
De-Husked Coconut	1400	1425

Source: NAFED website

1.3. Commodity Specific Information on Production and Marketing and the Schemes:

There are two crops under study viz. cotton and oil pal m and the area, production and yields and the scheme implemented for these two crops are analyzed in the following pages. These two crops are examined in different sections as one and two for oil palm and cotton, respectively.

1.3.1. Oil Palm

1.3.1.1 Area, Production and Yield of Oil Palm in A.P.:

The cultivated area of A.P. is presented in Table - 2. Among the states, A.P has done pioneering work for oil palm development in India with 1.25 lakh ha of area by 80% in the total cropped area in India. It is shown the area, production and yields of oil palm in A.P. during 2005-11. There is lot of potentiality for the oil palm crop in A.P. by 4.10 lakhs ha, but the oscillation in prices of oil palm is a negative element for crop extension in A.P.

Table - 2

Area, Production and Yield of Oil Palm in A.P. 2005-11

Year	Area (ha.)		Production (MTs)	Yield rate/ha/MTs.
	matured	Total		
2005-06	27,600	71,365	1,02,000	3.70
2006-07	29,600	77,342	1,24,097	4.19
2007-08	37,829	85,571	2,06,895	5.47
2008-09	43,807	91,549	2,12,028	4.84
2009-10	522,58	1,00,000	3,75,000	7.18
2010-11	--	--	4,75,000*	

* Projected

Source**:** A.P. oil fed, Government of Andhra Pradesh, Hyderabad.

During the five-year period (2005-11), the oil palm area became doubled in A.P. in oil palm developed area and the total area increased continuously and reached one lakh ha by 2010-11. The production of Fresh Fruit Bunches (FFBs) accelerated four and a half times during 2005-11. The increase in production shows that there is good yield rate and it has increased during the study period. The yield rate doubled during 2005-10. Though crop is new to A.P., farmers have successfully adapted the cultivation in their fields and achieved high yields. However, they face problem in receiving reliable and reasonable price in the market for their produce. This will be discussed in coming chapters.

1.3.1.2. District wise Area Extension during 2003-12.

The oil palm area extension is given in Table - 3 for 2003-12. It is observed that the total area extension taken place in A.P. is 1.23 lakhs ha by 2011-12. Out of the total cropped area of oil palm, there is distribution of area by 47% in West Godavari, 18% in East Godavari, 9% Krishna and 9% in Khammam districts. Thus, it is concentrated 83% in these four districts and the remaining 17% is spread in six districts. But Ananthapur and Nalgonda districts entered into oil palm cultivation in 2010-11 only and area in these two districts was only 465 ha in 2011-12. Though West Godavari had higher crop area by 2003-04, it showed much extension of area for oil palm during 2004-12. In the extension of area for oil palm is reported much in East Godavari, Krishna, and Khammam districts. In the other districts, the extension of area is sluggish in all the years under study. There is lot of scope for extension in these districts, as the soils and temperature are fit for the oil palm, but for the due consideration of plenty of water, which is highly required, oil palm may not be extended in these lagging districts. If we observe the allotment of number of mandals/blocks from box 1 and 2 for different districts and companies, it can be estimated some problems encountered in the fields. These could be: 1) lack of plenty of water 2) lack of sufficient hours of electric power 3) lack of initiation and dynamism from the cultivators of the concerned mandals/ blocks and 4) absence of proper and needy extension work in the lagging districts for the oil palm extension from the departments of agriculture and horticulture.

Table - 3

Oil Palm Area Extension District Wise in A. P.: 2003-12

Sl No	Name of the District	up to 2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Total Area
1	Srikakulam	719	37 (-94.85)	233 (529.73)	377 (61.80)	497 (31.83)	367 (-26.16)	239 (-34.88)	251 (5.02)	177.04 (-29.47)	2897 (2.36)
2	Vizianagaram	1656	350 (-78.86)	825 (135.71)	1175 (42.42)	1420 (20.85)	1441 (1.48)	848 (-41.15)	336 (-60.38)	944.42 (181.08)	8995 (7.32)
3	Visakhapatnam	1432	206 (-85.61)	335 (62.62)	451 (34.63)	197 (-56.32)	721 (265.99)	562 (-22.05)	542 (-3.56)	698.41 (28.86)	5144 (4.18)
4	East Godavari	9280	1126 (-87.87)	1733 (53.91)	1638 (-5.48)	981 (-40.11)	1836 (87.16)	2243 (22.17)	1418 (-36.78)	2106.86 (48.58)	22362 (18.18)
5	West Godavari	13375	3220 (-75.93)	5112 (58.76)	6347 (24.16)	8471 (33.46)	7928 (-6.41)	3242 (-59.11)	3297 (1.70)	6565.37 (99.13)	57557 (46.81)
6	Krishna	3493	540 (-84.54)	543 (0.56)	852 (56.91)	1089 (27.82)	1372 (25.99)	1086 (-20.85)	372 (-65.75)	1422.68 (282.44)	10770 (8.76)
7	Nellore	3185	54 (-98.30)	65 (20.37)	33 (-49.23)	95 (187.88)	108 (13.68)	43 (-60.19)	30 (-30.23)	57.51 (91.70)	3670 (2.98)
8	Khammam	2252	445 (-80.24)	717 (61.12)	1010 (40.86)	1473 (45.84)	1611 (9.37)	726 (-54.93)	584 (-19.56)	2269.47 (288.61)	11087 (9.02)
9	Anantapur	--	--	--	--	--	--	--	141	110.86 (-21.38)	252 (0.20)
10	Nalgonda	--	--	--	--	--	--	--	66	147.41 (123.35)	213 (0.17)
Total		35392	5978 (-83.11)	9563 (59.97)	11883 (24.26)	14223 (19.69)	15384 (8.16)	8989 (-41.57)	7037 (-21.72)	14500 (106.05)	122947 (100.00)

Note: Parentheses refer percentage change compared to previous year. Source: A. P. Cooperative Oilseeds Growers Federation Ltd., Hyderabad

1.3.1.3 Cost of Production per MT. of Oil Palm:

Indian Institute of Oil Palm Research (IIOPR), Pedavegi, West Godavari district, A.P. has given cost of cultivation for oil palm per metric ton production of FFBs (Table - 4). Among the items of cost of cultivation, irrigation and bore well expenditure reported high amount by Rs.19,200 followed by fertilizers with Rs.13,237 and harvesting, collection and transportation also showed Rs. 11,781 per ha. Therefore, the cost of production per metric ton is estimated as Rs. 5547/-. In the price fixation of FFBs, the concerned factories are to be followed the price decided by the Government of A.P. The price of FFBs is fixed every year based on the cost of cultivation estimates given by IIOPR. The method of price fixation is explained below.

Table No – 4

Cost of Production per MT. of Oil Palm (Fresh Fruit Bunches) (FFBs)

S.No.	Item of Cost (per ha)	Amount (Rs/ha)
1	Maintenance of basins (3 mts. Radius) including weeding in the basins: 2 times/year @ Rs.15/- per basin: 15x2x143	4290.00
2	Irrigation a. Two man days per irrigation: 80 irrigations per year @ Rs. 120 per man day (80 x 2 man days x Rs.120)	19200
	b. Depreciation of bore well, Electric Motor, accessories etc. (12% of Rs.2,60,000/- (a+b+c+d)/4 acres i.e..,Rs.31,2000/-) Each bore well caters to the requirement of 4 acres (depending on The discharge of water)	19500
	c. Electrical Maintenance Charges (15HO) (Rs.750x12/4)2.5 (No charges-deposits/incidentals	5625.00
	d. Formation of irrigation channels twice in a year (4 man days x 2 x Rs.120)	960.00
3	Manures a. Farm Yard Manure (FYM) 7 tractor loads (14mt.per ha): 7 x Rs.700/-	4900.00
	b. FYM application charges 10 x 2 x Rs.120/-	2400.00
	c. Neem cake 5 kg. per palm 143 x 5 x Rs.6/-	4290.00
4	Fertilizers a UREA @ 3 kg x 143 Palms x Rs.5.00 2145.00 b SSP @ 5 Kg x 143 Palms x Rs.5.00 3375.00 c MOP @ 5 Kg x 143 Palms x Rs. 4.60 3289.00 d $Mg.SO_4$ @ 1 Kg x 143 Palms x Rs. 13.00 1859.00 e Borax @ 0.10 Kg x 143 Palms x Rs. 65.00 929.50 f Fertilizer application charges – 6 x 2 mandays x 120/- 1440.00	13237.50
5	Harvesting, Collection & Transportation of FFB (Average Nos. of harvesting per year is 45) Total Charges under the head is coming to Rs.18,850 for 4 acres or 1.6 ha. Hence, cost per ha. would be Rs.11,781.25 (18,850/1.6ha.)	11,781.25
6	Pest control Pesticides 1 Ltr. Fungicides 500 gms and application charges	1380.00
7	Mulching with Fronds & Other materials (Rs.250/- per ha.** x 2 hrs per x 2.5	1250.00
8	Others a Juvenile period interest on working capital and cost of cultivation (opportunity cost)	3630.00
9	Total expenditure	92443.75
10	Interest on working capital	7395.50
11	Grand Total of cost of cultivation	99839.25 Say 99840.00
12	Cost of Production of one MT. of FFBs	5546.62 Or 5547.00

Source: Indian Institute of Oil Palm Research, Pedavegi, A.P.

1.3.1. 4 Prices of Oil Palm and MIS in A.P.:

The basic impact on market prices of oil palm in A.P. appears import of palm oil. If the prices of imports of crude palm oil are low, in return, this will reduce the existing price of produce of farmers. Therefore, whenever the market price has become very low when compared to the cost of cultivation of oil palm, both governments (central and state governments) are to come to the salvage of the farmer through MIS. The MIS scheme was implemented in 1999-2000, 2000-01, 2008-09, and 2010-11 years for oil palm in A.P.

1.3.1.5 Price Fixation and MIS:

The Government of A.P will fix the price as per the price fixation committee's recommendation i.e. @ 12 per cent of the weighted average CPO price of the current month and 33 per cent of the realized value of palm nuts, which was informed to farmers in the price fixation. The oil palm millers will pay the price fixed by Government of A.P. The difference amount arrived by the amount paid by miller and existing market price, will be reimbursed by the AP OIL FED. The state government arranged the working capital to AP OIL FED to reimburse the price differences and thus MIS is implemented for oil palm in A.P. The reimbursed amount of A.P. Oil fed will be shared based on 50:50 between central government and A.P. government. This will be done after the payments made to oil farmers through oil farm millers. Since the FFBs are to be milled within 24 hours, the produce will be transported from a collection centre to palm oil mill and the farmer transports from the fields to collection centres after immediately cutting the FFBs. There are several palm oil mills in A.P. and these mills are allotted mandals /blocks. These processing mills will collect the FFBs from the farmers of the concerned area only. The progress of MIS operation shall be communicated to state government and central government at weekly intervals by nodal agency 'AP OIL FED'.

The millers will procure the FFBs from farmers based on 'Fair Average Quality' (FAQ). This is decided as: 1) Fully matured bunches having orange red colour fruit 2) free from pest attack and 3) bunch stick position should not exceed 5cms.The millers will sell the crude palm oil in open market at the prevailing prices. The Government of India permits edible oils under Open General License (OGC) by reducing the 'duty'.

1.3.1. 6 Quarterly Market Rates of Oil Palm in A.P. 2006-10:

The prices for different quarters are given in Table - 5. During 2006-08, the oil palm prices report increasing trend from quarter-I one to quarter IV. The average prices of 2009 and 2010 declined drastically compared to the previous years. There had been increase in prices year to year during 2006-08, but later this trend was reversed.

Table - 5
Quarterly Market Rates of Oil Palm in A.P. 2006-08 (Rs**/**MT)

Year	Q1	Q2	Q3	Q4
2006	3875	4165	4415	4572
2007	4778	4874	5002	5040
2008	5381	5801	6210	4341
2009	3987 Average Price*			
2010	3943 Average Price*			

* Average price is derived from monthly prices of Jan-Dec, 2009 and Jan-July 2010.
Source: A.P. Cooperative Oil Seed Growers Federation, Hyderabad.

1.3.1. 7 MIS Scheme for Oil Palm:

1.3.1.7.1 MIS for 2010-11:

The MIS scheme for oil palm is given in Table - 6. It shows the quantity purchased and value of FFBs for the year 2010-11. The purchase was high in October 2010 than in other months. The Central and State governments shared MIS equally as Rs. 2,72,52,500. MIS was in force for nearly six months during 2010-11. The highest amount paid under MIS was in October month followed by March. December and January months appear at lower level for MIS. There was equal share of subsidy amount by both central and state governments. The price paid was Rs 5000/- per Mt. along with Rs.1000/- and Rs.100/- for component loss and incidental charges, respectively.

Table - 6

MIS of Oil palm in A.P. 2010-11

Months	Qty Mts	Value of FFB under MIS@ Rs.5000/MT	MIS Loss component@ Rs.1000/MT	Incidental Charges @ Rs.100/-Mt	50% share Govt. of A.P	50% share Govt. of India
Oct.'10	47500	261250000	47500000	4750000	26125000	26125000
Nov.'10	21000	115500000	21000000	2100000	11550000	11550000
Dec.'10	15200	83600000	15200000	1520000	8360000	8360000
Total (Sep to Dec)	83700	460350000	83700000	8370000	46035000	46035000
Jan.'11	13050	71775000	13050000	1305000	7177500	7177500
Feb.'11	15250	83875000	15250000	1525000	8387500	8387500
March'11	21250	116875000	21250000	2125000	11687500	11687500
Total (Jan to Mar)	49550	272525000	49550000	4955000	27252500	27252500
Grand Total	133250	732875000	133250000	13325000	73287500	73287500

Source: A P Cooperative Oilseeds Growers Federation Ltd., Government of A.P., Hyderabad.

1.3.1. 7.2 MIS for 2009 at District Level:

Government of India approved Market Intervention Scheme (MIS) for oil palm for the period March and April of 2009 for procurement 30,000 MTs of oil palm Fresh Fruit Bunches (FFBs). On 50:50 basis of

sharing of scheme burden by Government of A.P and Government of India, state government released assistance Rs.4.59 crores to the A.P. Oil Fed for a quantity of 36,752 Mts. The Government of India is promoting oil palm crop through technology mission.

In Andhra Pradesh, oil palm crop under MIS existed in Srikakulam, Vizianagaram, Visakhapatnam, East and West Godavari, Krishna, Khammam and Nellore districts in March and April months in 2009 (Table - 7). In the table, data is shown separately for March and April, since the financial years are different. For MIS under oil Palm, West Godavari district displays 51% of share of the total production and occupies first place. East Godavari and Krishna districts report second and third places. The least production of Oil Palm appeared in Srikakulam and Nellore districts. Based on the shares of production of Oil Palm of different districts, the amount of MIS was distributed. The subsidy amount Rs. 1250 per metric ton was given to the farmers. The subsidy amount was shared by Government of A.P. and Government of India on 50:50 basis (Rs. 625/- and Rs. 625/-). Therefore, we can find the relevant amounts for various districts in A.P. West Godavari district received the highest MIS amount in March 2009. In April 2009 also, the similar trend appeared for MIS as well as in March, 2009. Therefore, the distribution of amounts under MIS would be the same. In March 2009, under MIS, 1.66 crores was disbursed to farmers and the same was shared by both Central and State governments on 50:50 basis. For MIS in April, 2009, the subsidy amount distributed was Rs. 2.93 crores and borne equally by both Governments. Oil Palm appears in large extent in West and East Godavari, Krishna and Khammam districts.

1.3.1. 7.3. MIS for 2009 at Company level:

The company wise oil Palm under MIS during 2009 in A.P. is given Table - 8. Though there is no change in the amount of subsidy under MIS, it has shown to focus the company wise milling of oil palm in A.P. While half of the companies in A.P. did not move any considerable milling of oil palm in A.P., the remaining companies occupied the whole milling of FFBs of oil palm. M/S Parton Tech India Ltd., did the milling of one-fourth of total milling nearly during 2009(both in March and April). Based on the milling of the FFBs, the amount of from the companies was disbursed to the farmers through bank cheques. No cash transaction took place in neither company in A.P. There is no variation of amount under MIS through companies with reference to district wise amount under MIS taken place. The amount and quantity of FFBs (in MTs) was tallied and it was the same. Only some companies viz., Sri Srinivas Palm Oil, Simhapuri Agro, M/s. Agro Co-operative and Ruchi Soy Industries did not show any reasonable milling of FFBs during 2009 (both months – March & April).

Table - 7

Statement Showing the District -Wise FFB Procurement Details under M.I.S for March & April 2009

S.NO	Name of the District	March 2009						April 2009					
		Qty. MTs	Share of Qty to Total Qty	Eligible Amount Rs.4615/MT	MIS Rs.1250/MT	Govt. AP Rs.625/MT	GOI Rs.625/MT	QTY. MTs	Share of Qty to Total Qty	Eligible Amount Rs.4615/MT	MIS Rs.1250/MT	Govt. AP Rs.625/MT	GOI Rs.625/MT
1	Srikakulam	45.805	0.34	211390.075	57256.25	28628.13	28628.13	106.404	0.45	491054.5	133005	66502.5	66502.5
2	Vizianagaram	479.364	3.60	2212264.86	599205	299602.5	299602.5	736.646	3.14	3399621	920807.5	460403.8	460403.8
3	Vishakhapatnam	220.612	1.66	1018124.38	275765	137882.5	137882.5	320.782	1.37	1480409	400977.5	200488.8	200488.8
4	East Godavari	3544.034	26.62	16355716.9	4430042.5	2215021	2215021	5689.0493	24.23	26254963	7111311.625	3555656	3555656
5	West Godavari	6798.572	51.07	31375409.8	8498215	4249108	4249108	12866.432	54.80	59378584	16083040	8041520	8041520
6	Krishna	1212.825	9.11	5597187.38	1516031.25	758015.6	758015.6	1957.171	8.34	9032344	2446463.75	1223232	1223232
7	Khammam	877.051	6.59	4047590.37	1096313.75	548156.9	548156.9	1624.154	6.92	7495471	2030192.5	1015096	1015096
8	Nellore	133.35	1.00	615410.25	166687.5	83343.75	83343.75	180.24	0.77	831807.6	225300	112650	112650
TOTAL		13311.613	100.00	61433094	16639516.3	8319758	8319758	23480.8783	100.00	108364254.1	29351097.88	14675549	14675549

Note: the share of A.P & GOI are equal and on 50:50.

Source: A P Cooperative Oilseeds Growers Federation Ltd., Hyderabad

Table - 8

Statement Showing the Company wise FFB Procurement Details under M.I.S for the Months of March & April 2009

S.NO	Name of the Company	March 2009						April 2009					
		Qty. MTs	Share of Qty to Total Qty	Eligible Amount	MIS	Govt. AP	GOI	Qty. MTs	Share of Qty to Total Qty	Eligible Amount	MIS	Govt. AP	GOI
				Rs.4615/MT	Rs.1250/MT	Rs.625/MT	Rs.625/MT			Rs.4615/MT	Rs.1250/MT	Rs.625/MT	Rs.625/MT
1	M/s Simhapuri Agro Products Pvt. Ltd., Nellore	133.35	1.00	615410.25	166687.5	83343.75	83343.75	181.24	0.77	836422.6	226550	113275	113275
2	M/s Agro Co-Operatives Corpn. Vishakhapatnam	150.42	1.13	694188.30	188025	94012.5	94012.5	208.705	0.89	963173.6	260881.25	130440.6	130440.6
3	M/s Ruchi Soy Industries Srikakulam	34.462	0.26	159042.13	43077.5	21538.75	21538.75	54.846	0.23	253114.3	68557.5	34278.75	34278.75
4	M/S Palm Tech India Ltd. Samalkot	3509.63	26.37	16196942.45	4387037.5	2193519	2193519	5603.85	23.86	25861768	7004812.5	3502406	3502406
5	M/s Godrej Oil Plantation Ltd. Ch. Pothepally	2897.374	21.77	13371381.01	3621717.5	1810859	1810859	4864.401	20.72	22449211	6080501.25	3040251	3040251
6	M/S Food Fats & Fertilizers Ltd Yernagudem	1215.481	9.13	5609444.82	1519351.25	759675.6	759675.6	2846.668	12.12	13137373	3558335	1779168	1779168
7	M/S Mac Oil Palm Ltd Ampapuram	1443.597	10.84	6662200.16	1804496.25	902248.1	902248.1	2324.854	9.90	10729201	2906067.5	1453034	1453034
8	Laxmi Balaji Oils Pvt Ltd Vizianagaram	127.637	0.96	589044.76	159546.25	79773.13	79773.13	210.091	0.89	969570	262613.75	131306.9	131306.9
9	Radhika Oils Pvt Ltd Sreeramnagar	351.727	2.64	1623220.11	439658.75	219829.4	219829.4	526.555	2.24	2430051	658193.75	329096.9	329096.9
10	Navabharat Agro Products Ltd Jangareddygudem	1344.645	10.10	6205536.68	1680806.25	840403.1	840403.1	2663.584	11.34	12292440	3329480	1664740	1664740
11	AP Coop oilseeds Growers Fedn Pedavegi	2091.948	15.72	9654340.02	2614935	1307468	1307468	3945.526	16.80	18208602	4931907.5	2465954	2465954
12	Sri Srinivasa Palm Oil Mill Lingalavalasa	11.343	0.09	52347.95	14178.75	7089.375	7089.375	51.558	0.22	237940.2	64447.5	32223.75	32223.75
TOTAL		13311.614	100.00	61433098.6	16639517.5	8319759	8319759	23481.878	100.00	1.08E+08	29352347.5	14676174	14676174

Note: The share of A.P &GOI are equal and on 50:50 basis

Source: A P Cooperative Oilseeds Growers Federation Ltd., Hyderabad

1.3.1.7.4. MIS -2000-01:

The data is available only with reference to the company and there were 14 companies in Andhra Pradesh during 2000-01(Table - 9). Out of there, Palm Teach India Limited had the highest share in 2000 with 22% followed by 'Godrej' Agrovet Limited (21%) and SICAL oil palm Limited (17%). The least Milling took place by Maheswari and S & S Oil Industries and Environ Extraction companies displayed very lower amount milling oil palm in 2000. All the companies milled 98 thousand MTs in 2000 (01.01.2000 to31.12.2000) under MIS scheme in Andhra Pradesh. The milling of oil palm under MIS declined in 2001 (73 thousand MTs only). In 2001, Godrej Agrovet Limited had the highest share (23%) in the total milling under the scheme. Palm Tech India showed second place (21%) followed by SICAL Oil Palm Limited (15%) and A.P. Oil Fed Limited respectively. The milling of Environ, S & S oil industries and Maheswari had not been improved during 2000-2001. These companies did not mill in 2001.

Table -9

Statement Showing Company Wise MIS Procurement: 2000-2001

S.No.	Name of the Company	01.01.2000 To 31.12.2000	% of share	01.03.2001 To 16.09.2001	% of share
1	A.P. Oilfed	15511.94	15.79	11053.812	15.14
2	Godrej Agrovet Ltd	20921.07	21.29	16506.235	22.61
3	Sical Oil Palm Ltd	16522.14	16.82	11266.958	15.43
4	Navabharat Agro Pro Ltd	11066.81	11.26	8282.015	11.34
5	Food Fats & `Fertilizers	4907.474	4.99	4397.064	6.02
6	Palm Tech India Ltd.,	21437.17	21.82	15449.187	21.16
7	Radhika Veg. Oil Ltd.,	4063.536	4.14	2641.435	3.62
8	Sriba Agro Ltd	521.647	0.53	260.21	0.36
9	Simhapuri Agro (P) Ltd	2397.028	2.44	2696.535	3.69
10	Cpb Srikakulam & Kmm	461.561	0.47	421.75	0.58
12	Maheswari	83.31	0.08	36.415	0.05
13	S & S Oil Industries	227.221	0.23	0	0.00
14	Environ Extraction	131.405	0.13	0	0.00
Total		98252.31	100.00	73011.616	100.00

Source: A.P. Co-operative Oilseeds Growers Federation Ltd., Hyderabad

1.3.1.8. List of Oil Palm Mills in A.P.:

The list of processing Oil palm mills is given Table - 10. There are 10 mills in A.P. and their processing capacity stands 149 mts per hour. Out of these 10 mills, A.P. OILFED started its mill in 1995 and later M/s. Radhika Vegetable Oils (PVT.) was started in 1996. The highest milling capacity is with M/s Palm Tech India and M/s. Godrej Agrovet with 30 MTs per hour. All these mills were allotted cropped area by earmarking mandals/blocks in A.P.

Table – 10

List of Oil Palm Milling Units in A.P. 2012

S.No.	Name of the Company	Location of Factory	Year of Establishment	Processing Capacity (M.T/Hr.)
1	M/s. Srinivasa Enterprises (Private)	Lingalavalasa (V) Srikakulam	2005	4
2	M/s. Radhika Vegetable Oils (Private)	Garividi Vizianagaram	1996	5
3	M/s. Agro Co-operative Corp. (Private)	LBP Agraharam (Vizag)	2008	5
4	M/s. Palm Tech India Ltd. (Private)	Peddapuram (East Godavari)	1999	30
5	M/s. Food Fats & Fertilizers (Private)	Yernagudem (West Godavari)	M.T. per hour Unit from 2006 onwards	10
6	M/s. A.P. OILFED (Cooperative)	Pedavegi (West Godavari)	(1995 upgraded 2009	10 (New Unit)
		Aswaraopeta (Khammam Dist.)	2007 (Upgraded)	10
7	M/s. Godrej Agrovet Ltd. (Private)	Ch. Pothe palli (West Godavari)	2007	30
8	M/s. Navabharat Agro Product (Private)	Janagareddi gudem (West Godavari)	2002 (upgraded)	20
9	M/s. MAC Oil Palm (Private)	Ampapuram (v) Krishna Dist	2001 (Upgraded)	20
10	M/s. Simhapuri Agro Products Ltd. (Private)	Manubolu (v) Nellore	1997	5
	Total Capacity			149

Source: A.P. Co-operative Oilseeds Growers Federation Ltd., Hyderabad .

1.3.1.9 District wise and Company wise Allotted Mandals/Blocks in A.P.:

The allotted blocks or mandals in different districts to various companies is displayed in Box-1. Initially the A.P. Oil Fed is the pioneer in starting the factory in Pedavegi block in West Godavari district. Later, different private factories were started in different districts based on the available cultivable area and allotment of block s.

Box -1

District wise & Company wise Mandals/blocks allotted for Development of Oil Palm

Districts covered	Name of the companies	No. of Mandals allotted	Names of Mandals
Srikakulam	M/s. Srinivasa Enterprises	17	1. Veeragattam 2.Vangara 3.Palakonda 4.R.Amudalavalasa 5.Rajam 6. Shanthakaviti 7.Burja 8.Surbujji 9.Jalamuru 10.Heeramandalam 11.Kothuru 12.Bhamini 13.Pathapatnam 14.Nukkyaputti 15.Tekkali 16.Sarvakota 17.Sompeta
	M/s. Ruchi Soya Industries	10	1. G. Singdam 2. Ranastalam 3. Laaveru 4. Echerla 5. Ponduru 6. Amudalavalasa 7. Narasannapeta 8.Polaki 9.Gara10. Srikakulam
Vizianagaram	M/s. Lakshmi Balaji Oils	8	1. Komarada 2. Kurupam 3. Jiyammavalasa 4.Parvathipuram 5. Garugubilli 6. Balajipeta 7.Boblili 8.Badangi.
	M/s. Radhika Vegetables Oils	10	1. Garividi 2. Saluru 3. Gurla 4. Cheepurupalli 5.Merakamudi dam 6. Makkuva 7. Pachipenta 8.Mentada 9. Nellimerla 10.Ramabhadrapuram
	M/s. Food Fats & Fertilizers	4	1. Dathiraju 2.Gajapathinagaram 3.S.Kota 4.Vempadu.
Visakhapatnam	M/s. Agro Co-Operative Corp.	8	1. Padmanabam 2. Bheeminipatnam 3. Sabbavaram 4.K.Kotapadu 5. Madugula 6. Chodavaram 7.Anakapalli 8.Kasimkota
	M/s. Palm Tech India Ltd.	11	1. Rayavaram 2.Payakarakpeta 3.Kotauratla 4.Nathvaram 5.Ravikamatham 6.Yalamanchili 7.Rolugunta 8.Naripatnam 9.Devarapally 10.Munagapaka 11.Golugunta. .
	M/s. Food Fats & Fertilizers	2	1. Chinthapally 2.Cheedikada.
East Godavari	M/s. Palm Tech India Ltd.	27	1. Peddapuram 2.Jaggampeta 3.Gandepalli 4.Rangampeta 5.Rajanagaram 6.Korukonda 7.Tuni 8.Tondangi 9.Gokavaram 10.Seethanagaram 11.Rajahmundry 12.Kadium 13.Samalkota 14.Bikkavolu 15.Sankavaram 16.Kotananduru 17.Gollaprolu 18.Pinthapuram 19.Rajavomangi 20.Rampachodavaram 21.Devipatnam 22.Addateegala 23.Y.Ramavaram 24. Anaparthi 25.Mandapeta 26.U.Kothapalli 27. Gangavaram.
	M/s. A.P. Oilfed	3	1.Pathipadu 2.Eleshwaram 3.Kirlampudi

West Godavari	M/s. Food Fats & Fertilizers	6	1. Nallajerla 2.Bhimadolu 3.Devaralappi 4.T.P.Gudem 5.Nidadavolu 6.Chagallu.
	M/s. A.P. Oilfed	2	1.Pedavegi 2.Lingapalem
	M/s. Godrej Agrovet Ltd.	4	1. Chinthalapudi 2.Kamavarapukota 3.D.Tirumala 4. Unguturu
	M/s. Sical Oil Palm	3	1.Denduluru 2.Pedapadu 3.Eluru
	M/s. Navabharat Agro Product	9	1.Janga Reddy gudem 2.Jeelugumilli 3.Buttayagudem 4.Koyalagudem 5.Gopalapuram 6.T.Narsapuram 7.Polavaram 8.Tallapudi 9.Kovvuru
Krishna	M/s. Godrej Agrovet Ltd.	2	1.Musnoor 2.Chatrai
	M/s. Sical Oil Palm	21	1. Totlavalluru 2.Vijayawada 3.G.Konduru 4.Vastavai 5.Jaggayapeta 6.Chandarlapadu 7.Nandigama 8.Penugachiprolu 9.Verullapadu 10.Ibrahimpatnam 11.Mylavaram 12.Agiripalli 13.Vuyuru 14.Bapulapadu 15.Nuzveedu 16.Unguturu 17.Gannavaram 18.Kanchikacherla 19.Penamaluru 20. Kankipadu 21. Reddygudems Names of Mandals
Nellore	M/s. Simhapuri Agro Products Ltd.	46	1.Venkatachalem 2.Buchireddipalem 3.Nellore ® 4.Guduru 5.Sydapuram 6.Manubolu 7.Ozili 8.Chillakuru 9.Kota 10.Vakadu 11.Indukurupeta 12.Kalvoy 13.Rapurui 14.Dakkili 15.Venkatagiri 16.Bylayyapalli 17.Naidupeta 18.Pellakuru 19.Doravaristram 20.Tada 21.Sullur 22.Chittamuru 23.Muthukuru 24.T.P.Gudur 25.Kovvuru 26.Chejerla 27.Podalakuru 28.Ananthasagaram 29.Udayagiri 30.Vijamuru 31.Jaladanki 32.Sangam 33.Vidavaluru 34.Bogolu 35.Degadarthi 36.Annasamudrampeta 37.sitharampuram 38.Varikuntapadu 39.Kondapuram 40.Duttaluru 41.Kaligiri 42.Kavali 43.Alluru 44.Kodavaluru 45.Atmakuru 46.Marripadu
Khammam	M/s. A.P. Oilfed	19	1. Mulkalapally 2.Sathupally 3.Vemsooor 4.Kallur 5.Tallada 6.Wyra 7.Burgampahad 8.Kothagudem 9.Palvanch 10.Dammapeta 11.Penubilli 12.Madhira 13.Bonakal 14.Yerrupalem 15.Chinthakani 16.Mudigonda 17.Nelakondapally 18.Kusumanchi 19.Aswaraopeta.
	M/s. Godrej Agrovet Ltd.	10	1.Velerupadu 2.Kukunoor 3.Tekulapalli 4.Julurpadu 5.Chandragondu 6.Enukur 7.Konijerla 8.Khammam 9.Khammam(U) 10.Tirumalayapalem
	M/s. Food Fats & Fertilizers	5	1. Buyyaram 2.Garla 3.Karepally 4. Yellandu 5.Kamepally.

1.3.1.10. New Allotment of Blocks/Mandals to Companies District Wise in A.P.:

The Government of A.P. allotted new blocks/mandals to the different companies for the development of oil palm crop and the milling of the oil palm produce. There will be in leaps and bounds the extension of area for oil palm based on the area taken place under different blocks given in Box - 2. There is drastic change in the allotment of mandals. The new districts came into picture like Ananthapur and Nalgonda in the new allocation of area to the new companies. Government of A.P. distributed 52

blocks/mandals to new companies in different districts as shown in Box - 2. Hence, these companies may extend much area under oil palm in the coming years.

Box - 2

Allotment of (52) New Mandals/Blocks for New Factory Zones- 2010

Name of the District	Name of the company	No of mandals allotted	Names of the Mandals allotted
Vizianagaram	M/s. Gopala Krishna Oil Extractions Ltd.,	3	Therlam, Sithanagaram G.L. Puram
	M/s. Sri Srinivasa Palm Oil Mills	2	Pusapatirega Vizianagaram
	M/s. R.V. Rayanam	2	Jami, Gantyada
	M/s. Nagavalli Solvent Oils (Pvt.) Limited	2	Kothavasala L.Kota
Vishakhapatnam	M/s. Haripriya Palm Tech Pvt. Ltd.,	2	Achutapuram,Butchaiyyapeta
	M/s. Palm Tech India Ltd.,	2	Koyyuru Makavarapalem
East Godavari	M/s. Subramaneyawara Agro Products Ltd.,	4	Atreyapuram,Kothapeta Ravulapalem,Inavalli
West Godavari	M/s. Aroma Bio-Tech Pvt. Limited	4	Undarajavaram, Peravalli,Achanta Penugonda
	M/s. Foods, Fats & Fertilizers Pvt. Ltd.	3	Elamanchili, Mogalturu,Narasapuram
	M/s. Clean Foods Ltd.,	2	Palakollu, Poduru
Khammam	M/s. AP Oil Fed, Hyd	3	Aswapuram, Cherla, Venkatapuram
	M/s. Farmax Retail Pvt. Ltd.,	3	Bhadrachalam, Kunavaram, V.R. Puram
Nalgonda	M/s. Meghana Engg., & Infrastructure Ltd.,	4	Garidepalli, Huzurnagar,Mellacheruvu Penphad
	M/s. MAC Oil Palm	4	Kodad, Mothe,Munagala Nadigudem
Nalgonda	M/s. IRP Agro Tech Ltd.,	3	Miryalaguda, Vemulapally Naredcherla
	M/s. Sarda Yellishalla Agro Tech Pvt. Ltd.,	4	Halia (Anumula),Nidamanur Tripuravaram, Tipparthy
Krishna	M/s. MAC Oil Palm Ltd.,	1	1. Pedaparupudi
Anantapur	M/s. M. Satyanarayana Raju	4	Urvakonda, Kudair ,Vajrakarur Bommanahal
52			

1.3.2. Cotton

The commercial crop cotton has its own influence and significance among all the crops in India and the Indian farmer community had its impact through its 117 lakhs ha of area and 351 lakhs bales of production in 2012-2013. It has shown its affect over the cropping pattern by occupying much area across India. Because of its sway over cultivators and entrepreneurs, there is good machinery to take care of prices and quantum of exports and imports. Cotton is sown and harvested during May and June and September–December, respectively in different parts of the country. This crop is spread in Andhra Pradesh (A.P.), Haryana, Gujarat, Karnataka, Maharashtra, Madhya Pradesh, Rajasthan, Punjab and Tamilnadu. In India, cotton has been growing for millenniums. Deccan Muslin and other cotton varieties from India have had much demand in other countries for centuries. Thus, today India ranks first in cotton area and second in production in the world. There are different phases of cotton cultivation in India. Indian farmers produce all the required varieties–Long and short and thus nation has emerged as exporter of cotton. The Technology Mission-Cotton (TMC, launched in 2000) has been much instrumental to change the overall quality and quantity of cotton along with Cotton Association of India (CAI).

1.3. 2.1. Change in Area, Production & Yield of Cotton in India: 1950–2013:

Area, Production and Yield (APY) for all India are given in Table - 11 for 1950-2011. In 1950-51 area was very limited and it was doubled during 1950-2011 by increase from 59 lakh ha to 91 lakh ha, but interestingly, production increased seven times and yield displayed 3.4 times enhancement in the same period. After 1990-91, APY have shown much acceleration. The area has been continuously increasing except in 80s. For production and yield, the decline appeared in 60s. In the remaining period, there has been positive trend for decades for cotton crop in India.

Table -11
Area, Production and Productivity of Cotton in India: 1950-2011

Year	Area in lakh hectares	Production in lakh bales of 170 kgs	Yield kgs per hectare
1950-51	58.82	34.3	99
1960-61	76.1 (29.38)	60.12 (75.28)	134 (35.35)
1970-71	76.05 (-0.07)	56.64 (-5.79)	127 (-5.22)
1980-81	78.23 (2.87)	78.00 (37.71)	169 (33.07)
1990-91	74.39 (-4.91)	117.00 (50.00)	267 (57.99)
2000-01	85.76 (15.28)	140.00 (19.66)	278 (4.12)
2010-11	90.91 (6.00)	247.80 (77.00)	457 (64.39)

Note: Parentheses refer percentage of change Source: Cotton Advisory Board, Bumabi.

1.3.2.2. Growth of Area, Production and Productivity of Cotton in India: 2000-13

Growth of APY during 2000-13 is estimated yearly through compound annual growth rate (CAGR) for cotton crop in India in Table - 12. The CAGR reports more than 2% and less than 9% in different years during 2005-13, whereas there was decline in 2004. For production, it could be seen the higher growth rate than that of area during the study period. During 2004-09, the production had shown very much acceleration in between 19% to 6% and these rates were higher than those of area and yield. From 2010 onwards, there has been a sea change in the growth rate of yield which reported deceleration ranging from -1% to -4%. There may be saturation of yield level or any other factors to be studied and it is out of the present study

Table - 12
Area, Production and Productivity of Cotton in India

Year	Area in lakh ha	Production in lakh bales	Yield kgs per ha
2000-03	83.24	144.67	296
2001-04	80.09 (-4.00)	157.67 (9.00)	336 (13.00)
2002-05	80.28 (0.00)	186.00 (18.00)	390 (16.00)
2003-06	83.64 (4.00)	221.00 (19.00)	447 (15.00)
2004-07	88.69 (6.00)	254.67 (15.00)	488 (9.00)
2005-08	90.78 (2.00)	276.00 (8.00)	516 (6.00)
2006-09	93.21 (3.00)	292.33 (6.00)	533 (3.00)
2007-10	97.10 (4.00)	300.67 (3.00)	527 (-1.00)
2008-11	102.86 (6.00)	306.67 (2.00)	508 (-4.00)
2009-12	112.10 (9.00)	327.67 (7.00)	497 (-2.00)
2010-13*	116.45 (4.00)	337.33 (3.00)	493 (-1.00)

Note: Parentheses refer compound annual growth rate. Source: Cotton Advisory Board, Bumabi. * Projected

1.3.2.3. Cotton Balance Sheet: 2001-13:

The cotton balance sheet for 2001-13 is given in Table – 13. It is observed that the crop size has been in acceleration in the study period except four years and the total consumption in the nation has been increasing with exemption for three years. The exports of cotton from 0.5 lakh bales to 70 lakhs bales took place during 2001-13, while the imports are not that much of exports. During 2001-05, the imports of cotton are greater than exports and latter during 2005-13, the exports reported manifold increase compared to imports. The total consumption of cotton of India has been regularly enhanced except in three years with minor difference. Both Mill and small mill consumption has shown tremendous increase.

Table - 13
Cotton Balance Sheet

Quantity in lakh bales of (170 kgs)

Item	Supply				Demand				Export	Total disappearance	Carry forward
	Opening stock	Crop size	Imports	Availability	Mill consumption	Small Mill consumption	Non-Mill consumption	Total consumption			
2001-02	29	158	25.26	212.26	147	11.7	13.06	171.76	0.5	172.26	40
2002-03	40 (38.00)	136 (-14.00)	17.67 (-30.00)	193.67 (-9.00)	142.42 (-3.00)	11.63 (-1.00)	14.78 (13.00)	168.83 (-2.00)	0.84 (68.00)	169.67 (-2.00)	24 (-40.00)
2003-04	24 (-40.00)	179 (32.00)	7.21 (-59.00)	210.21 (8.00)	150.39 (6.00)	13 (12.00)	13.71 (-7.00)	177.1 (5.00)	12.11 (1342.00)	189.21 (11.00)	21 (-13.00)
2004-05	21 (-13.00)	243 (36.00)	12.17 (69.00)	276.17 (31.00)	163.98 (9.00)	16.57 (27.00)	14.48 (6.00)	195.03 (10.00)	9.14 (-25.00)	204.17 (8.00)	72 (243.00)
2005-06	72 (243.00)	241 (-1.00)	5 (-59.00)	318 (15.00)	180 (10.00)	19 (15.00)	20 (38.00)	219 (12.00)	47 (414.00)	266 (30.00)	52 (-28.00)
2006-07	52 (-28.00)	280 (16.00)	5.53 (11.00)	337.53 (6.00)	194.89 (8.00)	21.26 (12.00)	15.88 (-21.00)	232.03 (6.00)	58 (23.00)	290.03 (9.00)	47.5 (-9.00)
2007-08	47.5 (-9.00)	307 (10.00)	6.38 (15.00)	360.88 (7.00)	195.67 (0.00)	22.08 (4.00)	19.13 (20.00)	236.88 (2.00)	88.5 (53.00)	325.38 (12.00)	35.5 (-25.00)
2008-09	35.5 (-25.00)	290 (-6.00)	10 (57.00)	335.5 (-7.00)	190 (-3.00)	20 (-9.00)	19 (-1.00)	229 (-3.00)	35 (-61.00)	264 (-19.00)	71.5 (101.00)
2009-10	71.5 (101.00)	305 (5.00)	6 (-40.00)	382.5 (14.00)	219 (15.00)	23 (15.00)	17 (-11.00)	259 (13.00)	83 (137.00)	342 (29.00)	40.5 (-43.00)
2010-11	40.5 (-43.00)	339 (11.00)	2.38 (-60.00)	381.88 (-1.00)	221.77 (1.00)	24.46 (6.00)	13.38 (-21.00)	259.61 (0.00)	76.5 (-8.00)	336.11 (-2.00)	45.77 (13.00)
2011-12	45.77 (13.00)	353 (4.00)	12 (404.00)	410.77 (8.00)	217.68 (-2.00)	21.63 (-12.00)	14.09 (5.00)	253.4 (-2.00)	128.81 (68.00)	382.21 (14.00)	28.56 (-38.00)
12-13**	28.56 (-13.00)	334 (-5.00)	12 (-100.00)	374.56 (-9.00)	230 (6.00)	20 (-8.00)	20 (42.00)	270 (7.00)	70 (-46.00)	340 (-11.00)	34.56 (21.00)

Note: Parentheses refer compound annual growth rate. Source: Cotton Advisory Board, Bumbai. **-Provisional

1.3.2.4. PSS Operations for Cotton in A.P. during 2004-11:

In A.P., the CCI conducts PSS operations for cotton. There are four branch offices: (1) Adilabad, 2) Guntur 3) Warangal and 4) Raichur (A.P.). These branch offices (BOs) are covering various districts. Guntur B.O covers Guntur, Khammam, Prakasam, Krishna, Nalgonda and Kurnool districts and Warangal B.O is for Warangal, Mahaboobnagar, Karimnagar and Medak districts and Adilabad B.O. administers only for Adilabad district. The Raichur B.O (A.P) is not shown for any district by CCI in its website. Thus, the CCI has covered 11 districts through its 66 purchasing centres in A.P. The PSS operations for cotton in A.P. during 2004-11 are given in Table - 14. The data is only available for quantity purchased by CCI through its branches for the period 2004-11. The operations for MSP are available from CCI Website and based on these the quantity purchased has shown in the table and examined here. The Adilabad branch reported the highest purchases in 2008-09 by 7.146 lakh bales out of all the years in the study period and the purchase was reported in 2007-08.

The Guntur branch displayed the highest MSP operations in 2008-09 (12 lakh bales) followed by 2004-05 year (7 lakh bales) while Warangal branch reported the highest (13.66 lakh bales) in 2008-09 out of all branches and years. Raichur branch showed minimum operations and these also were for two years only. Across A.P. the MSP operations for cotton are in nearly acceleration trend.

Table - 14
PSS Operations for Cotton in A.P. during 2004-11

Name of the Branch	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Adilabad	2.207	1.035	3.175	0.219	7.142	0.685	--
Guntur	7.137	2.103	0.834	1.316	11.951	1.305	--
Warangal	2.515	0.362	121.268	0.652	13.665	2.466	--
Raichur (A.P.)	0.247	0.035	--	--	--	--	--
Andhra Pradesh	12.106	3.536	5.276	2.187	32.758	4.456	--
All India	44.01 (100.00)	28.23 (100.00)	44.77 (100.00)	97.94 (100.00)	36.66 (100.00)	76.75 (100.00)	--

Source: Cotton Advisory Board, Bumbai.

The lion's share of MSP operations for cotton in India are in A.P., as the share of purchases ranged between 28 per cent to 98 per cent when compared to the purchases of all–India during 2004-10. Thus, A.P. occupies major marketing share of cotton in India and it also signifies the role of production of cotton of A.P.in the cotton market across nation.

1.3.2.5. Area, Production and Yield of Cotton & Consumption in A.P. and all-India: 2002-13

It is important to know the level of production of cotton and its consumption to estimate the market forces in India (Table - 15). Further, the supply of cotton in Andhra Pradesh and All-India is to be estimated

to find the spatial and temporal influences in the supply and demand in cotton market. Therefore, area, production, and yields are given for Andhra Pradesh and all-India for cotton during 2002-13. The consumption of cotton is shown for All-India only, since it is only available at national level. During 2002-13, the area of cotton increased continuously in A.P. and India and the similar trend is found for production of cotton, while yield rate reported acceleration in 2002-08, and decline during 2008-13 for both A.P. and all-India. The percentage share of area of A.P. to all-India had been above 10 per cent in all the study period and after 2006-07, it started increase of share and it reached 18 per cent by 2012-13.

Table - 15
Area, Production and Yield of Cotton & Consumption in A.P. and all-India: 2002-13
(Area in ha, Production in lakh bales and yield per ha.)

Year	Andhra Pradesh						All India			Consumption at all- India Level	Production @all-India > or < to Consumption
	Area	% to all-India	Production	% to all- India	Yield	% to all- India	Area	Production	Yield		
2002-03	8.03	10.47	19.75	14.52	418	138	76.67	136.00	302	154.05	<
2003-04	8.37	10.97	27.40	15.30	557	140	76.30	179.00	399	163.39	>
2004-05	11.78	13.41	33.00	13.58	476	101	87.86	243.00	470	180.55	>
2005-06	10.33	11.90	33.00	13.69	543	115	86.77	241.00	472	199.00	>
2006-07	9.72	10.63	36.00	12.85	630	121	91.44	280.00	521	216.15	>
2007-08	11.33	12.13	46.00	14.98	690	125	94.14	307.00	554	217.75	>
2008-09	13.90	14.78	53.00	18.27	644	123	94.06	290.00	524	210.00	>
2009-10	14.75	14.31	9.00	2.95	336	67	103.10	305.00	503	242.00	>
2010-11	--	--	--	--	--	--	111.42	325.00	496	236.00	>
2011-12	18.79	15.43	56.00	15.86	507	103	121.78	353.00	493	230.00	>
2012-13*	21.40	18.43	72.00	21.56	572	117	116.14	334.00	489	--	--

Source: 1) Cotton Corporation of India, Mumbai 2) Cotton Advisory Board,Bumbai. * Projected Estimates.

The production of A.P. stood above 13 per cent for all the years for cotton across nation except in 2009-10 and this increased to 18 per cent by 2008-09 and reached to 22 per cent by 2012-13. Thus, A.P. has occupied major share in total production of cotton in India. The farmers of A.P have also demonstrated higher rate of yield in their fields when compared to all India yield rates during the study period except in 2009-10 and this year is very exceptional year for area, production and yields in A.P. In the remaining years, the yield rates in A.P were higher ranging from 117 per cent to 140 per cent for different years when compared to the yield rates of all-India and the highest yield rate was in 2003-04 with 140 per cent.

The consumption of cotton in India for several years reported less than the production and only one year i.e. 2002-03 displayed higher consumption (154 lakh bales) than that of production (136 lakh bales) and in all other years, consumption of cotton has been less than the production at all India level. It indicates that the market forces are unfavourable for cotton farmers in the country or otherwise, the surplus of the domestic market is to be exported to other nations, which are also showing surplus in their markets. Consequently, government may contemplate over other alternatives like limitation of area. However, this may be practically encountered with different problems.

1.4. Review of Literature:

The literature survey is available to cotton crop with reference to volatility of prices in the market and the same is reviewed and there are no studies on evaluation of PSS for cotton crop. The studies for oil farm are hardly available with reference to prices in the market.

S. Chandrasekhar, et.al (2001), examined the errors in the forecast of production and demand for Cotton for all India for the period 1980-98. They further estimated the relationship between yarn production and price behavior of cotton across nation and analyzed the need of accuracy of forecasts for production and demand of cotton. The use of hybrid technology is suggested to eliminate the deficiencies in the method of forecasting of production and demand for cotton. Narayanamurthy A, S.S. Kalamkar (2006) found that there was substantial higher amount in cost of cultivation for Bt. Cotton when compared to non-crop, but the returns were also in the same pro rata. Against this back drop, there were some inherent problems by socio-economic groups of cultivators along with quality problems hailing from different inputs followed by indiscriminate dosage. Though the yield rates were high, these existed in irrigated area only. Thus, there are differences in profit realization in between wet and rain fed areas in Bt. Cotton cultivation.

Sekhar C.S. (2004) analyzed the volatility of agricultural prices in domestic market for selected crops against the international volatility of markets. It was observed that the prices of cotton were much more volatile in domestic markets than in international markets. The study clearly found that the intra-year variability had been high compared to inter-year variability. This indicates that the volatility has been high in a year in question in India for cotton rather than in long-term prices. Therefore, there is a need for taking measures for price stabilization in the domestic market for cotton in India. Vivek Cariappa and Juli Cariappa (2004) argued that it would be better to restrict imports and to investment in improving varieties to face the crises of cotton crop prices and thus to give safe guard the farmer. It was reviewed the better varieties like Shankar 416, DCH 32, MLU5 and SUVIN could be encouraged to face the competition in the market.

G. Parthasarathi and Shameen (1998), estimated the volatile price impact on the incomes of farmers and their indebtedness and they estimated price change year to year particularly during harvest season. The needy farmer is compelled for immediate cash to sell away at the lower prices. P. Narasimha Rao and K. C. Suri (2006) estimated the existence of low returns for the cultivation of cotton with the support of the field survey in Guntur district and they argued for good prices to avoid indebtedness and to be vested with reliable incomes to the farmers. They argued for a policy that should be lobbied by the farmers for proper price fixation either in market or in policy of governments.

1.5. The Problem:

It is very pertinent to pursue the existing problems in reaching the schemes of the aimed peasants across nation. There are different studies, which have identified the low price existence during harvesting season for the crops. However, Government of India (GOI) has spent huge amounts on MIS and PSS, still farmers are left uncovered and facing lack of reliable supporting price in the concerned markets. Therefore,

Ministry of Agriculture, GOI has assigned the project to this centre to evaluate the MIS and PSS for oil palm and cotton in A.P. To examine the problem, the following objectives are formulated to the study:

1.5.1. Objectives of the Study:

- To understand coverage of MIS and PSS across crops and regions of India,
- To ascertain factors that influence coverage of crops across regions,
- To understand levels and basis of participation of farmers in MIS and PSS,
- To understand problems of different stakeholders in operation of MIS and PSS,
- To study the effect of MIS and PSS on the market price of commodity in the Andhra Pradesh(A.P.),
- To assess efficiency of Central Agencies in operation of MIS and PSS and
- To suggest policy measures to improve operations of MIS and PSS in A.P.

1.6 Methodology:

The above objectives mostly meet terms of reference of Department of Cooperation (DOC) for the present study for MIS and PSS. The above study requires secondary as well as primary data. The secondary information about coverage of PSS and MIS for crops across Andhra Pradesh (A.P.) is obtained for the last five/ten years from DOC, in New Delhi. The existing information on MIS/PSS operation available at state level may further be looked for districts, mandals/blocks and villages.

1.6.1. Sampling Framework:

There are two districts for each crop in A.P. and these districts are in the representation of extreme market related infrastructures for the crop in question. In each of the selected district, the most important regulated market is chosen. The same is used as benchmark for selection of village clusters. Each cluster from different administrative units in a district and again each cluster is of two villages. It is observed that the selected villages should be 10kms away from the selected villages of concerned cluster. The village clusters are separated from each other by a distance of more than 15 km. These clusters are to capture market and infrastructure related variability of the selected district.

After locating the list of villages in a selected road, villages and the distance of villages and chosen benchmark mandi are selected with reference to distance aimed. Thus, villages are selected randomly from the list keeping in view one village on the road and another village away from road with 10kms. From each village, it was collected the beneficiaries list of the targeted crop in the study area and it facilitated to select them on random basis.

1.6.2. Selection of Crops:

In A.P. the crops were selected as oil palm and cotton based on the suggestion of the Ministry. After studying the area, production and yields of the districts in A.P., it was selected Guntur and Khammam districts for cotton crop and West Godavari and Khammam districts for oil palm crop. These districts stand as

the very advanced, highly concentrated, and recently started or less area grown respectively. It is tried to compare the implementation of MIS and PSS in the selected districts.

1.6.3 Data Sources:

1.6.3.1. Secondary Data Sources:

The secondary data has been collected from Directorate of Economics and Statistics, Government of A.P. for area, production and yields of 22 districts of A.P. and NAFED, Hyderabad supplied the data for different crops of MIS. Some data for cotton crop has been down loaded from the Website of Cotton Corporation of India (CCI), Government of India. Block level or mandal level data was collected from the Chief Planning Offices of Guntur, West Godavari and Khammam districts. It was collected the recent data from the Joint Directors of Agriculture of study districts and Director of National Research Centre for Oil Palm, Pedavegi, West Godavari district. Finally, the selected mandals of different districts were taken for the purpose of the data of the marketing of the selected crops in the study area.

1.6.3.2. Primary Data Source:

As discussed earlier, the primary data was collected from 15 beneficiaries of MIS and PSS from each sample village for each crop. The field survey was taken place during 2013. The pre-tested schedule was used to collect the data from the respondents. The opinion of officials of National Agricultural Co-operative Marketing Federation of India (NAFED) and CCI is collected through a structured questionnaire.

1.7. Chapterization of the Study:

This study is divided into three chapters, as the first one explains the concepts and area, production and yields of targeted crops and the schemes of MIS and PSS. Second one estimates the profile of selected districts, blocks/mandals and sample villages against the backdrop of selected crops for study and further it gives socio-economic background of the sample households of this study. Finally, the last chapter analyzes the impact and the problems prevailed in the implementation of MIS and PSS in two parts A and B for oil palm and cotton, respectively. While the part- C of third chapter informs the opinion of the implementing agencies of the schemes, the last part-D is referred with summary and policy measures of the project study.

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CHAPTER – II

Profile of West Godavari, Guntur and Khammam Districts and Sample Blocks and Villages

In this chapter, it is estimated West Godavari, Guntur and Khammam districts, blocks/mandals and villages in Andhra Pradesh (A.P.) for both cotton and oil palm. The important variables of demographic, agriculture, credit, household assets, and other infrastructural aspects are analyzed at district, mandal/block, and village level. The sample blocks/mandal and sample villages are examined in the light of study districts.

2.1. Distribution of Sample Farmers:

The distribution of sample villages for both targeted crops is given in Table - 2.1. The number of respondents is 15 for each village distributing across different farmer size groups. It is given priority to lower sizes than that of higher farmer size groups. Oil palm has tendency of cropping much in higher size groups than for cotton crop. It is estimated that small and medium farmers' participation is higher than the other two groups. The sample is intentionally slanted towards lower sizes to know the economics of cropping of targeted crops in the selected villages and districts in Andhra Pradesh.

Table - 2.1

Distribution of Sample Farmers in West Godavari, Guntur and Khammam Districts: 2013

District	Collection Centre	Block	Village	No. of respondents under MIS	Category of farmers (as per size of holdings)			
					Marginal (< 1ha)	Small (1-2 ha)	Medium (2-5 ha)	Large (>5 ha)
West Godavari (Oil Palm)	Kalraigudem	Pedavegi	Vegiwada	15	4	2	8	1
	Tallagoka varam	Lingapallem	Ayyapuraju gudem	15	2	5	4	4
Khammam (Oil Palm)	Aswaraopet	Aswaraopet	Aswaraopet	15	2	4	4	5
	Aswaraopet	Dammapet	Dammapet	15	2	4	7	2
Guntur (Cotton)	APMC	Chilakaluripeta	Veluru	15	3	6	5	1
	APMC	Nadendla	Appapuram	15	2	4	8	1
Khammam (Cotton)	APMC Khammam	Chintakani	Kodumuru	15	2	4	7	2
	APMC Khammam	Khammam (Rural)	Thallampadu	15	1	2	9	3

Source: Field Survey, 2013.

2.2. Demographic Features of West Godavari, Guntur and Khammam Districts & A.P.:

The demographic features of selected districts – West Godavari, Khammam and Guntur are given in the Table - 2.2. More or less, all the districts show the same geographical area during the study period except in case of Khammam district with 1.30% increase in area during 1990-11.There was gradual increase in the number of inhabited villages in Khammam and Guntur districts while there was decline in West Godavari district

Table - 2.2

Demographic Features of West Godavari, Guntur and Khammam Districts and A.P. : 1990-11

Particulars	West Godavari			Khammam			Guntur			Andhra Pradesh		
	1990-91	2000-01	2010-11	1990-91	2000-01	2010-11	1990-91	2000-01	2010-11	1990-91	2000-01	2010-11
Geographical area	7,79,538 (2.84)	7,79,538 (2.84)	7,74,200 (2.81)	15,80,936 (5.76)	15,80,936 (5.76)	16,02,900 (5.83)	1132824 (4.13)	1132824 (4.13)	1139100 (4.14)	2,74,40,049(100)	2,74,40,049(100)	2,75,04,500 (100)
% of Change		0.00	-0.68		0.00	1.39		0.00	0.55		0.00	0.23
No. of inhabited villages (no)	839 (3.06)	849 (3.19)	895 (3.36)	1,101 (4.02)	1092 (4.11)	1234 (4.14)	692 (2.53)	692 (2.60)	721 (2.71)	27,379 (100)	26,586 (100)	26,613 (100)
% of Change		1.19	-0.47		-0.82	0.82		0.00	4.19		-2.90	0.10
Total population (00's)	35176 (5.29)	37961 (5.01)	39348 (4.65)	22158 (3.33)	25654 (3.39)	27982 (3.31)	41070 (6.18)	44055 (5.82)	48892 (5.77)	665080 (100)	757275 (100)	84665533 (100)
% of Change		7.91	3.65		15.78	9.07		7.26	10.97		13.86	11.80
Rural population (00's)	27890 (5.74)	30487 (5.52)	31262 (5.55)	17676 (3.64)	20574 (3.73)	21425 (3.80)	29203 (6.01)	31743 (5.75)	32325 (5.74)	486209 (100)	552239 (100)	563118 (100)
% of Change		9.31	2.54		16.39	4.13		8.69	1.83		13.58	1.96
Urban population (00's)	7286 (4.07)	7475 (3.65)	8086 (2.85)	4482 (2.51)	5080 (2.48)	6557 (2.31)	11867 (6.63)	12312 (6.00)	16567 (5.84)	178871 (100)	205036 (100)	283537 (100)
% of Change		2.59	8.17		13.34	29.07		3.74	34.55		14.62	38.28
Male population (00's)	17641 (5.23)	19061 (4.98)	19632 (4.62)	11300 (3.35)	13055 (3.41)	13919 (3.27)	20845 (6.18)	22203 (5.80)	24411 (5.74)	337246 (100)	382868 (100)	425099 (100)
% of Change		8.05	2.99		15.53	6.61		6.51	9.94		13.52	11.03
Female population (00's)	17535 (5.35)	18900 (5.05)	19716 (4.68)	10857 (3.31)	12734 (3.40)	14063 (3.34)	20225 (6.17)	21852 (5.84)	24481 (5.81)	327834 (100)	374407 (100)	421557 (100)
% of Change		7.78	4.32		17.28	10.43		8.04	12.03		14.20	15.29
Male literacy (%)	59.75	78.43	77.63	50.04	67.04	73.20	56.54	71.32	75.40	55.13	70.85	75.56
% of Change		31.26	-1.02		33.97	9.18		26.14	5.72		28.51	6.64
Female literacy (%)	46.98	69.45	71.05	30.53	48.16	57.85	35.85	54.16	60.64	32.72	51.17	59.74
% of Change		47	2.30		57.75	20.12		51.07	11.96		56.39	16.75

Source**:** 1990-91, 2000-01, and 2010-11 Statistical Abstract of Andhra Pradesh, Directorate of Economics and Statistics, Govt. of Andhra Pradesh

during 2001-11. Guntur district reported higher population out of three districts followed by West Godavari district. As well as in the state population trend, all the three districts reported decline in population growth during 2001-11, though it was found increase in the preceding period. The similar trend has been traced for rural population across sample districts.

The opposite trend was found for urban population in all three districts. Guntur district shows much increase in urban population during 2001-11 when compared to other districts. The less increase reported by West Godavari in urban population. As we discussed earlier, the shares of male population appeared high in Guntur district. The female population also showed much higher in Guntur district rather than other two districts. Guntur district displayed the higher growth of male and female population out of all districts during 2001-11. West Godavari district reported high male literacy rates compared to other two districts. These literacy rates of male (West Godavari) are higher to the male literacy rates of Andhra Pradesh. The similar trend was found with female literacy rates across selected districts and state. The percentage change in male literacy reported some declining trend during 2001-11 for all selected districts and Andhra Pradesh.

2.3. Land Use Classification of West Godavari, Guntur and Khammam Districts and A.P.: 1990-11

The land use classification for selected districts and state is given in Table - 2.3. Khammam district reported the highest share of geographical area from the selected districts followed by Guntur district. It was found that the land to non-agricultural uses showed the highest for Guntur district among the selected districts and Khammam district took second place. In the selected districts, the land put to non-agricultural uses displayed much increase during 1990-2001, while in the latter period it showed decline the net area sown (NAS). It shows highest share for Guntur district among sample districts. The growth of NAS shows deceleration during 2001-11 for all the sample districts. At state level also, NAS has declined and it shows some negative trend. There is a lot of oscillation in the area sown more than once among sample districts and the state and therefore, gross cropped area also reflects the same during study period for the state and study districts.

Table - 2.3

Land Use Classification of West Godavari, Guntur and Khammam Districts and A.P.: 1990-11

Particulars	West Godavari			Khammam			Guntur			Andhra Pradesh		
	1990-91	2000-01	2010-11	1990-91	2000-01	2010-11	1990-91	2000-01	2010-11	1990-91	2000-01	2010-11
Geographical area	7,79,538 (2.84)	7,79,538 (2.84)	7,74,200 (2.81)	15,80,936 (5.76)	15,80,936 (5.76)	16,02,900(5.83)	1132824 (4.13)	1132824 (4.13)	1139100 (4.14)	2,74,40,049 (100)	2,74,40,049 (100)	2,75,04,500 (100)
% of Change		0.00	-0.68		0	1		0.00	0.55		0.00	0.23
Land put to non agriculture uses.	91379 (4.00)	105602 (4.21)	121053 (4.49)	83292 (3.64)	124968 (4.98)	129545 (4.80)	145052 (6.35)	155919 (6.21)	153706 (5.70)	2285983 (100)	2509036 (100)	13397657 (100)
% of Change		15.56	14.63		50	4		7.49	-1.42		9.32	10.01
Net area sown	433537 (3.99)	476765 (4.33)	463017 (4.30)	459447 (4.23)	451618 (4.11)	448676 (4.16)	596814 (5.49)	643565 (5.85)	625774 (5.81)	10863208 (100)	10999599 (100)	10777118 (100)
% of Change		9.97	-2.88		-2	-1		7.83	-2.76		1.80	-0.03
Area sown more than once	185712 (17.62)	244780 (17.06)	264807 (8.97)	10819 (1.03)	18118 (1.26)	62782 (2.13)	19386 (1.84)	26179 (1.82)	211387 (7.16)	1054096 (100)	1434589 (100)	2952183 (100)
% of Change		31.81	8.18		67.00	247.00		35.04	707.48		30.47	139.54
Gross cropped area	644819 (5.01)	693042 (5.17)	684294 (5.05)	482989 (3.75)	483646 (3.61)	506261 (3.74)	826400 (6.42)	867320 (6.47)	831361 (6.14)	12868399 (100)	13397657 (100)	13546574 (100)
% of Change		7.48	-1.26		0.00	5		4.95	-4.15		4.33	15.09

Source**:** 1990-91, 2000-01, and 2010-11 Statistical Abstract of Andhra Pradesh, Directorate of Economics and Statistics, Govt. of Andhra Pradesh

There is no change in geographical area for selected districts and A. P. in 1990-91, 2000-01 and 2010-11. Land put to non-agricultural uses is high in Guntur district and it is low in West Godavari district in the comparing years. In West Godavari and Khammam districts, the increasing trend is reported during 1990–2011 for land put to non-agricultural uses and the increase is high in West Godavari. At state level, the acceleration appears in between 2001-11. Alarmingly, the decline in Net area sown (NAS) appeared for A.P. during 2001-11 and a little increase was reported to the previous period. The similar trend appears for West Godavari and Guntur districts, while Khammam district shows the opposite trend in both periods for NAS.

The area sown more than once (ASMO) reports much share for West Godavari district from A.P. with 17% to 9%, nevertheless, the other districts show very lower shares except for Guntur district in 2010-11. There is a rapid change in Guntur district during 2001-11 for ASMO. The percentage change in ASMO is high in Guntur and Khammam districts. This might be because of extension of canal irrigation in these districts during the study period. From the selected districts, Guntur shows the highest share from A.P. for gross cropped area followed by West Godavari. One significant fact is that A.P. shows much change in gross cropped area compared to selected districts West Godavari and Guntur districts show decline during 2010-11, while Khammam maintains increase in the same period.

2.4. Farm Households in West Godavari, Guntur and Khammam districts and A.P.: 1990-11

The different categories of farm households in selected districts and state are shown in Table- 2.4. The marginal farmers are gradually increasing across state and in study districts. The change is much higher in Khammam district for one ha below for farm households followed by West Godavari district. In case of small farmer households also the similar trend appears across study districts and A.P. It appears continuous increase of small farmer household, in the study area. Comparatively, the semi-medium farm households reported declining trend during 2001-11, while the opposite appeared during 1991-2001.

The farm households reported decreasing trend for the sample districts and A.P. during 1991-2011. The large farm households are hardly beneficial in cultivation in study area. The large farm households exhibited deceleration across study area except for Guntur district and in this district, there was little acceleration during 2001-11. As a whole in the study area, the marginal and small farm households are in acceleration trend and for other farm households, there was decreasing trend. Therefore, in the policy formulation, the marginal and small farmers are to be given high priority for the subsidy or any governmental services.

Table - 2.4

Different Categories of Farm Households in West Godavari, Guntur and Khammam districts and A.P.: 1990-11

Particulars	West Godavari			Khammam			Guntur			Andhra Pradesh		
	1990-91	2000-01	2010-11	1990-91	2000-01	2010-11	1990-91	2000-01	2010-11	1990-91	2000-01	**2010-11**
0-1 hectare	313410	395406	428699	147605	216987	291106	385532	472410	536458	5210703	7023118	8424698
	(6.01)	(5.63)	(5.09)	(2.83)	(3.09)	(3.46)	(7.40)	(6.73)	(6.37)	(100)	(100)	(100)
% of Change		26.16	8.42		47.01	34.16		22.53	13.56		34.78	19.96
1.1-2 hectare	77648	90297	87299	77885	89021	105973	116702	136320	150843	1971862	2518124	2918374
	(3.94)	(3.59)	(2.99)	(3.95)	(3.54)	(3.63)	(5.92)	(5.41)	(5.17)	(100)	(100)	(100)
% of Change		16.29	-3.32		14.30	19.04		16.81	10.65		27.70	15.89
2.1-5 hectare	53226	49798	42385	69589	69189	62384	71613	71882	66198	1598490	1640019	1586741
	(3.33)	(3.04)	(2.67)	(4.35)	(4.22)	(3.93)	(4.48)	(4.38)	(4.17)	(100)	(100)	(100)
% of Change		-6.44	-14.89		-0.57	-9.84		0.38	-7.91		2.60	-3.25
5.1-10 hectare	11475	7126	5905	17273	12583	7604	11511	8805	6529	390899	284590	209634
	(2.94)	(2.50)	(2.82)	(4.42)	(4.42)	(3.63)	(2.94)	(3.09)	(3.11)	(100)	(100)	(100)
% of Change		-37.90	-17.13		-27.15	-39.57		-23.51	-25.85		-27.20	-26.34
More than 10	2536	1316	850	4080	2540	1270	1798	864	618	118388	66094	35653
hectare	(2.14)	(1.99)	(2.38)	(3.45)	(3.84)	(3.56)	(1.52)	(1.31)	(1.73)	(100)	(100)	(100)
% of Change		-48.11	-35.41		-37.75	-50.00		-51.95	-28.47		-44.17	-46.06

Source**:** 1990-91, 2000-01, 2010-11 statistical Abstract of Andhra Pradesh, Directorate of Economics and Statistics, Government of Andhra Pradesh

2.5. Implements, Infrastructure and Institutions in Study Districts and A.P.: 1990-11

Implements, infrastructure and institutions in selected districts of A.P. are given Table - 2.5. For electrification and connecting roads, the selected districts are with 100 percent. There is gradual acceleration for the use of tractors. There was a sea change for the tube well irrigation and it increased in leaps and bounds during 2001-11, while the increase was slow during 1991-2001. It clearly indicates the tube well irrigation role. The increase of bank offices has shown in study districts but post offices are stagnant in the study period. The co-operative societies are also remained nearly the same in the study period and there is limited credit to farmers.

2.6. Sources of Net Area Irrigated in West Godavari, Guntur and Khammam Districts and A.P.- 1990-2011:

The net area irrigated though different sources of irrigation during 1990-2011 is presented in Table - 2.6. Tube-well irrigation has reported much in all the study districts and as well as in A.P. Out of the study districts, West Godavari has higher share of net irrigation in the state in all the study years followed by Khammam district. In the canal irrigation, all the study districts reported declining trend except between 1990-01, while in A.P. the deceleration was shown for the entire period under study. Guntur district has major share of canal irrigation among the study districts and West Godavari comes next to it. Tank irrigation has shown negative trend in both study districts of A.P. The decline is very high in West Godavari district across study districts. The lower share of tank irrigation is in Guntur district against the highest shares during the study period in Khammam district. The 'other sources of Irrigation' has shown deceleration in state, despite study districts report high shares during study period except in West Godavari district.

The irrigation sources like canals and tanks showed declining trend during the study period, but 'other Sources' only reported some increase in Guntur district. The share of canal irrigation is high in Guntur district than other two districts. Guntur district occupies 18% in the total canal irrigation in the state followed by West Godavari district. The share of tank irrigation is high in Khammam district than that of other two districts. Guntur district reported very high level of tank irrigation, whereas there is a declining trend for tank irrigation in the study area for the other two districts and state.

Khammam district has shared major part than other two districts for 'other sources' followed by Guntur district. Except in Guntur district, other two districts and state reported declining trend for 'other Sources' of irrigation during 1991-2011, but Guntur district displayed increasing trend during 1991-2011.In the study area, Guntur and West Godavari districts have higher shares in canal irrigation and thus, these reported high irrigation share in A.P.

Table - 2.5
Implements, Infrastructure and Institutions in West Godavari, Guntur and Khammam Districts and A.P.: 1990-11

Particulars	West Godavari			Khammam			Guntur			Andhra Pradesh		
	1990-91	2000-01	2010-11	1990-91	2000-01	2010-11	1990-91	2000-01	2010-11	1990-91	2000-01	2010-11
Tractors	3371	7453	1593	1160	4496	5177	2601	6375	13161	32537	90333	109290
% of villages electrified	100	100	100	100	100	100	100	100		100	100	100
Electric operated tube wells	15128	28338	177362	8948	26092	83270	4378	13983	77442	663878	1115452	2461439
Motor able road	1877		3000	1908		2906			3393	43449		209659
% of villages connected with roads	100	100	100	100	100	100	100	100	100			
Bank offices	247	275	378	145	154	214	291	329	441	4576	5288	7365
Post office	765	756	757	600	605	605	879	852	853	16244	16199	16141
Co-operative society	254	266	258	209	208		281	289	168	4660	4678	
Existence of KGK/KVK	-	1	2	-	-	1	-	1	1	7	13	30
Ag. Produce market			42			43			43			894
MIS/PSS procurement centre												

Source**:** 1990-91, 2000-01, and 2010-11 Statistical Abstract of Andhra Pradesh, Directorate of Economics and Statistics, Govt. of Andhra Pradesh

Table - 2.6
Sources of Net Area Irrigated in West Godavari, Guntur and Khammam Districts and A.P.:1990-11

Particulars	West Godavari			Khammam			Guntur			Andhra Pradesh		
	1990-91	2000-01	2010-11	1990-91	2000-01	2010-11	1990-91	2000-01	2010-11	1990-91	2000-01	2010-11
Tube -well	89612 (15.62)	129167 (6.74)	684226 (29.04)	26186 (4.57)	52404 (2.73)	84891 (3.60)	19356 (3.37)	38912 (2.03)	70755 (3.00)	573554 (100)	1916903 (100)	2356133 (100)
% of Change		44.14	429.72		100.12	61.99		101.03	81.83		234.22	22.91
Canals	215782 (12.10)	188346 (11.49)	185708 (11.46)	62768 (3.52)	65010 (3.97)	55858 (3.45)	305734 (17.14)	306150 (18.68)	294007 (18.14)	1783654 (100)	1639306 (100)	1620468 (100)
% of Change		-12.71	-1.40		3.57	-14.08		0.14	-3.97		-8.09	-1.15
Tanks	38754 (4.38)	32685 (4.48)	14589 (2.69)	50636 (5.72)	53560 (7.34)	37652 (6.93)	4856 (0.55)	5413 (0.74)	5083 (0.94)	885534 (100)	729574 (100)	543245 (100)
% of Change		-15.66	-55.37		5.78	-29.70		11.46	-6.09		-17.61	-25.54
Others	12109 (1.63)	9327 (4.72)	8280 (4.88)	25124 (3.38)	25040 (12.67)	17579 (10.37)	8126 (1.09)	15467 (7.83)	18662 (11.00)	743735 (100)	197629 (100)	169588 (100)
% of Change		-22.97	-11.23		-0.33	-29.80		90.33	20.66		-73.43	-14.19

Source**:** Statistical Abstract of Andhra Pradesh, Directorate of Economics and Statistics, Govt. of Andhra Pradesh

2.7. Cropping Pattern in West Godavari, Guntur and Khammam Districts-1980-2011:

The cropping pattern for principal crops is given in Table - 2.7, 2.7a and 2.7b for West Godavari, Khammam and Guntur districts respectively in 1980-2011. In West Godavari district, the cropping pattern took sharp change. During 1980s in West Godavari paddy, jowar, horse gram, groundnut, sesamum, chillies, tobacco and sugarcane were major crops along with other minor crops. This picture has gradually changed. During 1980-2002, horse gram, sesame, jowar, chillies and groundnut declined very sharply in area and the new crop maize came into picture. By 2010-11, in West Godavari district, some crops like paddy (62%), maize (6%), tobacco (4%) and sugarcane (4%) stood as major crops. Other crops fall sharply below one per cent level and thus become non-significant crops – jowar, horse gram, cow gram, sunflower, and red gram. There is major shift in the cropping pattern in the west Godavari district. Finally, paddy with 63% share in the cropped area stood as the major important crop in the study district.

Khammam district also demonstrated shift in cropping pattern during study period. In 1980-82, paddy, jowar, maize, greengram, redgram, horsegram, groundnut, chillies and tobacco were important crops and by 2008-09, the cropping pattern changed and jowar and horsegram declined to very insignificant level. Further new crops– cotton and black gram reported good level of cropped area during 2000-09.The interesting fact is that paddy occupied major share by 38% and jowar became insignificant by 0.44% by 2010-11. Maize, green gram, black gram, red gram, groundnut, chillies, cotton and sugarcane have become major crops in Khammam district. Khammam district reported major change in cropping pattern by adopting new crops. Cash crops like maize sugarcane and cotton are given priority in the cultivation in this district.

As well as other two districts, Guntur district also reported sea change in cropping pattern in a larger extent. The major crops–paddy has shown declining trend during 1982-2011. New crops – maize and Bengal gram took place in cropping pattern, while tobacco–important cash crop, for long period, reported sharp decline due to demand conditions and area allocation by Tobacco Board, Government of India. The important crops decreased in large area are groundnut, jowar and sesamum during 1982-2011. In Guntur district, cotton was cropped in large scale compared to other two districts in the area. At present Guntur district reports cotton, maize and chillies as cash crops and this is different from the previous one. During 1980s, tobacco, chillies and cotton were cash crops but a sea change took place in the cropping pattern in Guntur district during the study period.

Table - 2.7

Area (ha) Under Different Crops in West Godavari During 1982-11

Crops	1980-82	%	1990-92	%	2000-02	%	2008-09	%	2009-10	%	2010-11	%
Paddy	406946	71.96	420604	66.16	439572	64.64	450458	62.17	115690	18.72	456516	62.71
Jowar	10014	1.77	1903	0.30	739	0.11	75	0.01	542	0.09	50	0.01
Maize	1508	0.27	2256	0.35	14691	2.16	48100	6.64	44669	7.23	44682	6.14
Green gram	772	0.14	2605	0.41	3189	0.47	3007	0.41	1935	0.31	2700	0.37
Black gram	46	0.01	0	0.00	24	0.00	5954	0.82	25236	4.08	6982	0.96
Red gram	1847	0.33	1176	0.18	441	0.06	259	0.04	231	0.04	589	0.08
Horse gram	12878	2.28	4440	0.70	482	0.07	449	0.06	207	0.03	284	0.04
Cow gram	-	0.00	818	0.13	836	0.12	0	0.00	199	0.03	342	0.05
Bengal gram	1905	0.34	16467	2.59	6398	0.94	584	0.08	200	0.03	-	0.00
Groundnut	5827	1.03	9461	1.49	3663	0.54	10690	1.48	4840	0.78	5883	0.81
Sesamum	13898	2.46	4665	0.73	736	0.11	557	0.08	2048	0.33	959	0.13
Sunflower	0	0.00	0	0.00	300	0.04	2340	0.32	4049	0.66	688	0.09
Chillies	7278	1.29	7108	1.12	4632	0.68	2351	0.32	1859	0.30	1628	0.22
Tobacco	20889	3.69	27313	4.30	19329	2.84	21614	2.98	29166	4.72	28168	3.87
Cotton	77	0.01	2090	0.33	2281	0.34	4503	0.62	2522	0.41	3956	0.54
Sugarcane	20449	3.62	25945	4.08	33679	4.95	29394	4.06	20329	3.29	26564	3.65
Oil Palm	-	-	-	-	10301	1.51	42695	5.89	45941	7.43	49526	6.80
Total cropped area	**565505**	**100.00**	**635782**	**100.00**	**679993**	**100.00**	**724584**	**100.00**	**617944**	**100.00**	**727997**	**100.00**

Source: 1990-91, 2000-01, and 2010-11 Statistical Abstract of Andhra Pradesh, Directorate of Economics and Statistics, Govt. of Andhra Pradesh

Table - 2.7a

Area (ha) Under Different Crops in Khammam District 1982-11

Crops	1980-82	%	1990-92	%	2000-02	%	2008-09	%	2009-10	%	2010-11	%
Paddy	96300	21.34	163553	32.96	166363	36.27	194799	37.11	103100	23.48	218252	38.26
Jowar	185317	41.07	47470	9.57	16083	3.51	3161	0.60	8336	1.90	2514	0.44
Maize	4963	1.10	8716	1.76	19006	4.14	37646	7.17	36989	8.42	35057	6.15
Green gram	55373	12.27	63402	12.78	29339	6.40	19220	3.66	20589	4.69	20454	3.59
Black gram	418	0.09	203	0.04	6102	1.33	6805	1.30	2000	0.46	9675	1.70
Red gram	11545	2.56	29207	5.89	24472	5.33	14682	2.80	42389	9.65	14867	2.61
Horse gram	19545	4.33	5923	1.19	630	0.14	31	0.01	30	0.01	63	0.01
Cow gram	503	0.11	7106	1.43	5264	1.15	2939	0.56	3081	0.70	2228	0.39
Bengal gram	3069	0.68	6475	1.30	61	0.01	184	0.04	145	0.03	297	0.05
Groundnut	20866	4.62	34993	7.05	7286	1.59	6804	1.30	6580	1.50	6404	1.12
Sesamum	3958	0.88	8795	1.77	8759	1.91	5084	0.97	4369	1.00	5273	0.92
Sunflower	0	0.00	0	0.00	202	0.04	155	0.03	0	0.00	249	0.04
Chillies	16181	3.59	27677	5.58	23720	5.17	28669	5.46	29688	6.76	28990	5.08
Tobacco	12513	2.77	12699	2.56	5671	1.24	5165	0.98	5327	1.21	4488	0.79
Cotton	358	0.08	32268	6.50	87570	19.09	118513	22.58	131900	30.04	14809	2.60
Sugarcane	48	0.01	1794	0.36	4323	0.94	3037	0.58	1150	0.26	30491	5.35
Oil palm	-	-	-	-	793	0.17	4525	0.86	6160	1.40	6947	1.22
Total cropped area	451204	100.00	496198	100.00	458716	100.00	524952	100.00	439050	100.00	570371	100.00

Source: 1990-91, 2000-01, and 2010-11 Statistical Abstract of Andhra Pradesh, Directorate of Economics and Statistics, Govt. of Andhra Pradesh

Table - 2.7b

Area (ha) Under Different Crops in Guntur district-1980-10

Crops	1980-82	%	1990-92	%	2000-02	%	2008-09	%	2009-10	%	2010-11	%
Paddy	314697	42.37	311910	36.23	313561	36.94	332849	40.01	302868	38.05	329465	38.02
Jowar	26875	3.62	4004	0.47	894	0.11	5108	0.61	3629	0.46	4001	0.46
Maize	1516	0.20	4394	0.51	8107	0.95	96331	11.58	69329	8.71	80352	9.27
Green gram	18192	2.45	9746	1.13	19149	2.26	4108	0.49	4818	0.61	21711	2.51
Black gram	79875	10.75	197889	22.98	160266	18.88	40246	4.84	62715	7.88	70029	8.08
Red gram	12594	1.70	424942	49.35	40472	4.77	19067	2.29	33692	4.23	24969	2.88
Horse gram	3559	0.48	14	0.00	2	0.00	0	0.00	78	0.01	0	0.00
Cow gram	3	0.00	0	0.00	0	0.00	0	0.00	3	0.00	0	0.00
Bengal gram	5079	0.68	1283	0.15	1713	0.20	12603	1.52	9439	1.19	9334	1.08
Groundnut	22496	3.03	21198	2.46	4505	0.53	5242	0.63	3844	0.48	4746	0.55
Sesamum	14778	1.99	12298	1.43	12627	1.49	536	0.06	1966	0.25	6751	0.78
Sunflower	0	0.00	0	0.00	7	0.00	100	0.01	50	0.01	24	0.00
Chillies	13020	1.75	25833	3.00	53927	6.35	63628	7.65	66938	8.41	64708	7.47
Tobacco	25409	3.42	7488	0.87	4579	0.54	6246	0.75	9223	1.16	4116	0.48
Cotton	91034	12.26	162075	18.82	130320	15.35	166289	19.99	151490	19.03	170086	19.63
Sugarcane	4073	0.55	4337	0.50	1314	0.15	762	0.09	409	0.05	908	0.10
Oil palm	-	-	-	-	-	-	-	-	-	-	-	-
Total cropped area	742699	100.00	861024	100.00	848918	100.00	831838	100.00	795936	100.00	866499	100.00

Source**:** 1990-91, 2000-01, and 2010-11 Statistical Abstract of Andhra Pradesh, Directorate of Economics and Statistics, Govt. of Andhra Pradesh

2.8. Demographic Features of Sample Mandals/Blocks-2010:

The demographic features selected blocks/mandals are given in Table - 2.8 Out of all the mandals, Aswaraopet mandal reported the highest share of geographical area from its district and the second place was shown by Pedavegi mandal from West Godavari district. The highest number of inhabited villages were reported by Pedavegi mandal from West District followed by Lingapalem mandal from the same district with 27 and 24 villages, respectively. Out of all select mandals, chilakaluripet mandal showed the highest population and it was followed by Khammam rural mandal. The Khammam rural mandal also reported the highest rural populous share to the district and the second place was occupied by Pedavegi mandal from West Godavari district.

In case of urban population, chilakaluripeta mandal shows 6% share in the total urban population of Guntur district and Khammam rural mandal reported high urban population. The higher male population is found with chilakaluripeta mandal out of all six sample mandals followed by Khammam rural mandal. For female population also, chilakaluripeta mandal represents the highest out of all mandals. Regarding literacy rates, the district level literacy rates are higher of all sample districts over mandal literacy rates of both males and females. The basic reason for this is that the literacy rates of districts are the combination of urban and rural. Within the mandals/blocks, chilakaluripeta mandal reported the highest male literacy with 73% followed by Nadendla mandal with 65% and those mandals hailed from Guntur district.

In female literacy rate also, the above reason of the combined literacy rate (urban plus rural) of the districts appeared higher. The agricultural labour of four sample mandals of Khammam district were less than that of district level and the agricultural labour participation rates in these mandals were lower when compared to other sample mandals from other districts of West Godavari and Guntur districts. The non-agricultural workers represented lower levels for all mandals when compared to district levels. Out of all the mandals, Pedavegi and lingapalem mandals reported first and second places for non-agricultural workers, respectively. Chilakaluripeta mandal from Guntur district displayed higher share for rural households out of all mandals and Khammam rural mandal stood in second place.

Table - 2.8

Demographic Features of Sample Blocks VS Study Districts

Particulars	West Godavari District			Guntur District			Khammam District				
	District	Mandals /blocks		District	Mandals /blocks		District	Blocks (Oil Palm)		Blocks (Cotton)	
	West Godavari	Peda vegi	Linga palem	Guntur	Chilakaluri peta	Naden dla	Khammam	Aswarao pet	Dam mapet	Chinta kani	Khammam (Rural)
Geographical area	774200 (100)	25774 (3.33)	20580 (2.66)	1139100 (100)	24921 (2.19)	16045 (1.41)	1602900 (100)	54024 (3.37)	44723 (2.79)	18444 (1.15)	22909 (1.43)
No. of inhabited villages (no)	895 (100)	28 (3.13)	25 (2.79)	721 (100)	15 (0.21)	11 (0.16)	1234 (100)	20 (1.82)	22 (2.00)	16 (1.45)	24 (2.09)
Total population (00's)	39348 (100)	889 (2.26)	583 (1.48)	48892 (100)	1472 (3.01)	619 (1.27)	27982 (100)	518 (1.85)	535 (1.91)	480 (1.72)	733 (2.62)
Rural population (00's)	31262 (100)	889 (2.84)	583 (1.86)	32325 (100)	555 (1.72)	619 (1.91)	21425 (100)	518 (2.42)	535 (2.50)	480 (2.24)	641 (2.99)
Urban population (00's)	8086 (100)	(0.00)	(0.00)	16567 (100)	917 (5.54)	0 (0.00)	6557 (100)	- (0.00)	- (0.00)	0 (0.00)	92 (1.40)
Male Population (00's)	19632 (100)	417 (2.12)	279 (1.42)	24411 (100)	734 (3.01)	313 (1.28)	13919 (100)	260 (1.87)	273 (1.96)	243 (1.75)	373 (2.68)
Female Population (00's)	19716 (100)	396 (2.01)	269 (1.36)	24481 (100)	738 (3.01)	306 (1.25)	14063 (100)	258 (1.83)	263 (1.87)	237 (1.69)	360 (2.56)
Male literacy (%)	77.63	52.84	53.73	75.4	73.02	65.52	73.2	56.94	63.23	61.52	63.48
Female literacy (%)	71.05	47.16	46.27	60.64	52.10	44.69	57.85	45.10	46.08	40.65	41.65
Agriculture labour (%)	56.71	55.10	56.30	49.01	44	45	49.19	26.00	31.00	37	25
Non –Agricultural workers	30.84	29.50	27.90	33.20	4	13	27.90	20.00	15.00	8	17
Number of rural households	770429 (100)	19347 (2.51)	12852 (1.67)	783685 (100)	33785 (4.31)	14672 (1.87)	486856 (100)	11823 (2.43)	12028 (2.47)	11898 (2.44)	17876 (3.67)

Source**:** District Hand Book, 2010, Chief Planning Office of Eluru, Guntur and Khammam

2.9. Land Use Classification in Sample Blocks:

The land use classification of studied blocks or mandals is presented in Table - 2.9. Aswaraopet and Pedavegi mandals reported first and second places, respectively for the shares in geographical area to the respective districts. Chintakani is the smallest mandal out of all sample mandals/blocks. The land for non-agricultural uses was reported as first place by Pedavegi mandal and second place by Aswaraopet mandal/block. Out of all six sample blocks in the study, Nadendla mandal/block showed the least use of land for non-agricultural uses.

Pedavegi and Aswaraopet mandals stood in first and second places for net area sown from all the sample blocks. Nadendla mandal shows the least amount for net area sown. This block is very small in the area compared to its counterparts among sample blocks. Chintakani mandal is the highest for 'area sown more than once' out of all six blocks and followed by Dammapeta block. Nadendla block reports very insignificant area for 'area sown more than once' and it becomes the last one in the above aspect. In the gross cropped area, Pedavegi shows the highest and followed by Chintakani mandal. Out of all blocks, Pedavegi shows the highest level of cultivation activity in the study area.

2.10. Categories of Farm Households in Sample Mandals/Blocks:

Different categories of farm households of sample blocks are presented in Table - 2.10. The number of farm households under marginal size existed in large number in Khammam rural and Pedavegi blocks. The least number reported in Aswaraopet mandal. Khammam rural block exhibited the highest number of small farmer size groups out of all blocks and it was followed by Chintakani block. Nadendla block reports the existence of the lowest small farmer size group across all study blocks. Aswaraopet block displayed the first place for the number of semi-medium size farmers, while Khammam rural block occupied the second place. Basically the blocks from Khammam district show larger extent of farmer sizes compared to other blocks of study districts.

The lowest number of medium farmers appeared in Lingapalem mandal. The medium farmer size group reports in all sample blocks (four sample blocks) of Khammam district. Comparatively to other four blocks, these four blocks from Khammam district report the higher shares of medium farmer size groups. The larger farmer size group reports less in number in West Godavari and Guntur districts. Khammam rural and chintakani mandals displayed higher number of large farmer size groups with first and second places. Nadendla mandal shows very limited number of larger farmers. As a whole Khammam district displayed higher existence of different farmer size groups compared to other districts.

Table - 2.9

Land Use Classification of Sample Blocks of Study Districts

Particulars	West Godavari District(ha)			Guntur District(ha)			Khammam District(ha)				
	District	Mandals /blocks		District	Mandals /blocks		District		Blocks (Oil	Blocks (Cotton)	
	West Godavari	Peda vegi	Linga palem	Guntur	Chilakaluripeta	Nadendla	Khammam	Aswaraopet	Dammapet	Chintakani	Khammam (Rural)
Geographical area	774200 (100)	25774 (3.33)	20580 (2.66)	1139100 (100)	24921 (2.19)	16045 (1.41)	1602900 (100)	54024 (3.37)	44723 (2.79)	18444 (1.15)	22909 (1.43)
Land put to non agriculture uses.	112237 (100)	4505 (4.01)	2612 (2.33)	157303 (100)	3405 (2.16)	862 (0.55)	129825 (100)	3948 (3.04)	2545 (1.96)	1800 (1.39)	3014 (2.32)
Net area sown	479345 (100)	17258 (3.60)	11470 (2.39)	611207 (100)	12587 (2.06)	11475 (1.88)	439756 (100)	13315 (3.03)	11289 (2.57)	11562 (2.63)	11160 (2.54)
Area sown more than once	288241 (100)	4526 (1.57)	4534 (1.57)	228536 (100)	4039 (1.77)	118 (0.05)	91026 (100)	399 (0.44)	1890 (2.08)	3259 (3.58)	496 (0.54)
Gross cropped area	727997 (100)	21784 (2.99)	16004 (2.20)	839743 (100)	16626 (1.98)	11593 (1.38)	570371 (100)	13714 (2.40)	13179 (2.31)	14821 (2.60)	11656 (2.04)

Source: District Hand Book, 2010, Chief Planning Office of Eluru, Guntur and Khammam

Table - 2.10

Categories of Farm Households in Sample Blocks of Study Districts

Particulars	District	Blocks		District	Blocks		District	Blocks (Oil Palm)		Blocks (Cotton)	
	West Godavari	Pedavegi	Linga palem	Guntur	Chilakaluri peta	Nadendla	Khammam	Aswaraopet	Dammapet	Chintakani	Khammam (Rural)
0-1 hectare	428699 (100)	12678 (2.96)	9559 (2.23)	536458 (100)	10046 (1.87)	8095 (1.51)	261106 (100)	3067 (1.17)	4080 (1.56)	5121 (1.96)	7744 (3.26)
1.1-2 hectare	87299 (100)	3403 (3.90)	2094 (2.40)	150843 (100)	3392 (2.25)	2681 (1.78)	105973 (100)	2150 (2.03)	2453 (2.31)	5121 (4.83)	7744 (8.22)
2.1-5 hectare	42385 (100)	1842 (4.34)	985 (2.32)	66198 (100)	1552 (2.34)	1554 (2.35)	62384 (100)	3034 (4.86)	2241 (3.59)	2171 (3.48)	2951 (4.24)
5.1-10 hectare	5905 (100)	659 (11.16)	437 (7.40)	6529 (100)	236 (3.61)	223 (3.41)	7604 (100)	226 (2.97)	367 (4.83)	652 (8.57)	759 (9.98)
More than 10 hectare	850 (100)	39 (4.59)	59 (6.94)	618 (100)	15 (2.43)	8 (1.29)	1270 (100)	82 (6.46)	69 (5.43)	102 (8.03)	47 (3.70)

Source**:** 2010 District Hand Books, Chief Planning Officer Selected Districts

2.11 Implements, Infrastructure and Institutions in Sample Blocks:

All the selected blocks/mandals are 100% electrified and linked with roads. The number of commercial banks is high in chilakaluripeta block out of all the blocks and it is hailing from Guntur district. The lower number of bank branches are in the blocks of Khammam district. Many blocks from khammam inform the possession of higher number of post-offices followed by the blocks of Guntur district. It is surprising that the blocks of Khammam district-Chintakani and Khammam (rural) do not have co-operative banks, while the blocks from West Godavari district displays the highest number of co-operative banks. Number of tractors and other variables data is not available from the concerned areas (as per the field staff of our centre).

Table - 2.11

Implements, Infrastructure and Institutions in Sample Blocks of Study Districts

Particulars	West Godavari		Khammam		Guntur		Khammam	
	Peda vegi	Linga palem	Aswarao pet	Damma pet	Chilaka luiripeta	Nadendla	Chinta kani	Khammam (Rural)
Tractors*								
% of villages electrified	100	100	100	100	100	100	100	100
Electric operated tube wells *								
Motor able road (km)	0	0						
% of villages connected with roads	100	100	100	100	100	100	100	100
Bank offices	4	3	6	6	12	3	2	2
Post office	14	9	8	13	27	16	21	24
Co-operative society	4	5	2	1	2	2	0	0
Existence of KGK/KVK*								
Ag. Produce market *								
MIS/PSS procurement centres*								

Note: *Data is not available as per senior investigators of the centre from those blocks/mandals.
Source: 2010 District Hand Books, Chief Planning Officer Selected Districts.

2.12. Sources of Net Area Irrigated in Sample Blocks/mandals:

Sources of net area irrigated in the sample blocks are given in Table - 2.12. The blocks could be classified into two groups as tube-well irrigated and level irrigated since the remaining sources are insignificant. Pedavegi, lingapalem Aswaraopet and Dammapet are tube-well irrigated blocks. Pedavegi and Dammapet have shown the higher places as first and second. Chilakaluripeta and Nadendla and Khammam displayed no tube-well irrigation. In the canal irrigation, chintakani mandal shows the highest out of all mandals followed by Khammam rural. Tank Irrigation existed only in two mandals – chintakani and khammam. Irrigation under 'others' four mandals khammam rural chintakani, Nadendla and Chilakaluripet exhibited considerable irrigation level, while other mandals do not show any irrigation of crops and these are only tube well irrigated mandals.

2.13. Cropping Pattern in Selected Blocks:

The cropping pattern of blocks/mandals selected is presented in Table - 2.13 and 2.13a for both oil palm and cotton, respectively during 2008-11. The blocks, mandals i.e., Pedavegi, Lingapalem, Aswaraopet and Dammapet are shown cropping pattern of samples of Oil palm. By 2010-11 the cropping pattern was confined to major five crops in Pedavegi mandal, whereas it was seven crops in Lingapalem mandal in West Godavari district. In Pedavegi block, oil palm occupied more than 20% in all the study years, while it was only 10% in Lingapalem mandal. The Pedavegi mandal is the harbinger of oil palm crop in India, as this crop was on trial basis cropped in this block during early 1990s. Both mandals show much share for maize by 2010-11. It is observed the decline of paddy cropping during the study period in both blocks in West Godavari district.

The cropping pattern in the selected blocks of Khammam district for oil palm crop displays a sharp shift. Across the two blocks, the area for oil palm shows the second biggest out of all major crops in the study blocks. Though paddy occupies first place in area, it reports declining trend in the both Aswaraopet and Dammapet blocks. It is observed increasing trend for cotton and tobacco crops in both blocks in the study period. It indicates that the farmer community has shifted towards commercial crops rather than cereal crops in the selected blocks in Khammam district. Other important crops are maize, cowpe, sugarcane and sesamum.

Table - 2.12

Sources of Net Area Irrigated in Sample Blocks of Study Districts

Particulars	District (in ha)	Blocks (in ha)		District (in ha)	Blocks (in ha)		District (in ha)	Blocks (Oil Palm) (in ha)		Blocks (Cotton) (in ha)	
	West Godavari	Pedavegi	Lingapalem	Guntur	Chilakaluripeta	Nadendla	Khammam	Aswaraopet	Dammapet	Chintakani	Khammam (Rural)
Tube -well	177362 (100)	16659 (9.39)	4834 (2.73)	77442 (100)	0 (0.00)	0 (0.00)	83270 (100)	3286 (3.95)	3592 (4.31)	660 (0.79)	20 (0.02)
Canals	186880 (100)	0 (0.00)	0 (0.00)	301037 (100)	12 (0.00)	2153 (0.72)	59277 (100)	0 (0.00)	0 (0.00)	1483 (2.50)	886 (1.49)
Tanks	19325 (100)	287 (1.49)	0 (0.00)	5422 (100)	0 (0.00)	0 (0.00)	51323 (100)	0 (0.00)	0 (0.00)	864 (1.68)	82 (0.16)
Others	9495 (100)	- (0.00)	- (0.00)	16920 (100)	1950 (11.52)	2357 (13.93)	17157 (100)	0 (0.00)	0 (0.00)	2631 (15.33)	4221 (24.60)

Source**:** District Hand Books, Chief Planning Offices of West Godavari, Guntur and Khammam.

Table - 2.13
Cropping Pattern in Sample blocks of West Godavari & Khammam Districts:1980-11

Crops	1980-82	1990-92	2000-02	2008-09 Area	% of total area	2009-10 Area	% of total area	2010-11 Area	% of total area	2008-09 Area	% of total area	2009-10 Area	% of total area	2010-11 Area	% of total area
				West Godavari District											
				Pedavegi						Lingapalem					
Paddy	-	-	-	1465	13.88	3047	19.34	3553	17.82	892	9.79	953	8.50	3122	23.19
Jowar	-	-	-	0	0.00	0	0.00	0	0.00	0	0.00	312	2.78	0	0.00
Maize	-	-	-	253	2.40	4259	27.04	6282	31.50	3100	34.04	3060	27.29	3328	24.72
Green gram	-	-	-	240	2.27	224	1.42	198	0.99	129	1.42	187	1.67	159	1.18
Black gram	-	-	-	401	3.80	205	1.30	330	1.65	308	3.38	302	2.69	329	2.44
Red gram	-	-	-	90	0.85	13	0.08	132	0.66	220	2.42	150	1.34	53	0.39
Horse gram	-	-	-	0	0.00	26	0.17	0	0.00	0	0.00	65	0.58	32	0.24
cowpea	-	-	-	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	12	0.09
Bengal gram	-	-	-	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Groundnut	-	-	-	421	3.99	985	6.25	627	3.14	304	3.34	280	2.50	175	1.30
Sesamum	-	-	-	0	0.00	0	0.00	0	0.00	36	0.40	40	0.36	215	1.60
Sunflower	-	-	-	0	0.00	500	3.17	25	0.13	564	6.19	412	3.67	272	2.02
Chillies	-	-	-	0	0.00	0	0.00	0	0.00	241	2.65	359	3.20	650	4.83
Tobacco	-	-	-	0	0.00	100	0.63	20	0.10	1432	15.72	1425	12.71	1421	10.55
Cotton	-	-	-	253	2.40	253	1.61	176	0.88	329	3.61	359	3.20	692	5.14
Sugarcane	-	-	-	93	0.88	93	0.59	359	1.80	76	0.83	88	0.78	162	1.20
Oil Palm	-	-	-	3729	35.34	3814	24.21	4234	21.23	1300	14.27	1328	11.84	1435	10.66
Total area	-	-	-	10552		13047		19943		9108		11212		13465	
				Khammam District											
				Aswaraopet						Dammapet					
Paddy	-	-	-	2580	31.97	2475	27.67	2321	24.93	2580	31.97	2475	27.67	2321	24.93
Jowar	-	-	-	76	0.94	43	0.48	32	0.34	76	0.94	43	0.48	32	0.34
Maize	-	-	-	568	7.04	670	7.49	832	8.94	568	7.04	670	7.49	832	8.94
Green gram	-	-	-	11	0.14	7	0.08	9	0.10	11	0.14	7	0.08	9	0.10
Black gram	-	-	-	77	0.95	47	0.53	62	0.67	77	0.95	47	0.53	62	0.67
Red gram	-	-	-	131	1.62	98	1.10	0	0.00	131	1.62	98	1.10	0	0.00
Horse gram	-	-	-	11	0.14	0	0.00	17	0.18	11	0.14	0	0.00	17	0.18
cowpea	-	-	-	204	2.53	208	2.33	375	4.03	204	2.53	208	2.33	375	4.03
Bengal gram	-	-	-	0	0.00	1	0.01	2	0.02	0	0.00	1	0.01	2	0.02
Groundnut	-	-	-	70	0.87	104	1.16	121	1.30	70	0.87	104	1.16	121	1.30
Sesamum	-	-	-	87	1.08	115	1.29	222	2.38	87	1.08	115	1.29	222	2.38
Sunflower	-	-	-	5	0.06	3	0.03	6	0.06	5	0.06	3	0.03	6	0.06
Chillies	-	-	-	34	0.42	22	0.25	13	0.14	34	0.42	22	0.25	13	0.14
Tobacco	-	-	-	0	0.00	1059	11.84	1448	15.55	0	0.00	1059	11.84	1448	15.55
Cotton	-	-	-	700	8.67	916	10.24	1007	10.82	700	8.67	916	10.24	1007	10.82
Sugarcane	-	-	-	267	3.31	402	4.49	226	2.43	267	3.31	402	4.49	226	2.43
Oil Palm	-	-	-	1231	15.25	1385	15.48	1471	15.80	1658	20.54	2043	22.84	2272	24.40
Total area	-	-	-	8071		8946		9311		8071		8946		9311	

Source: Agricultural Action Plans, Joint Director of Agricultural, Department of Agricultural, Selected blocks from selected district

*since the selected crops are only important crps, and the other crops area in not shown in the table.

Table - 2.13a
Cropping Pattern in Sample Blocks of West Godavari & Khammam districts: 1980-11

Crops	1980-82	1990-92	2000-02	2008-09 Area*	% of total area	2009-10 Area	% of total area	2010-11 Area	% of total area	2008-09 Area	% of total area	2009-10 Area	% of total area	2010-11 Area	% of total area
				Guntur District											
				Chilakaluripeta						Nadendla					
Paddy	-	-	-	280	2.63	527	4.53	350	2.64	1986	18.23	2207	19.67	2023	17.14
Jowar	-	-	-	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Maize	-	-	-	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Green gram	-	-	-	0	0.00	0	0.00	25	0.19	0	0.00	0	0.00	0	0.00
Black gram	-	-	-	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Red gram	-	-	-	450	4.22	646	5.56	436	3.29	245	2.25	326	2.91	262	2.22
Horse gram	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cowpea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bengal gram	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnut	-	-	-	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Sesamum	-	-	-	49	0.46	75	0.65	0	0.00	69	0.63	75	0.67	121	1.02
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chillies	-	-	-	1241	11.65	2302	19.81	858	6.48	1211	11.12	2213	19.73	1050	8.90
Tobacco	-	-	-	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Cotton	-	-	-	4985	46.79	6385	54.95	7952	60.08	5119	46.99	5504	49.06	5897	49.98
Sugarcane	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oil Palm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total area	-	-	-	10654		11619		13234		10894		11218		11799	
				Khammam District											
				Chintakani						Khammam (Rural)					
Paddy	-	-	-	2328	19.78	2766	23.08	2856	22.65	2492	18.10	2966	22.26	3034	22.61
Jowar	-	-	-	05	0.04	0	0.00	3	0.02	135	0.98	69	0.52	55	0.41
Maize	-	-	-	2953	25.09	3376	28.18	3927	31.15	952	6.91	1024	7.69	986	7.35
Green gram	-	-	-	1061	9.01	731	6.10	781	6.19	1893	13.75	1679	12.60	1471	10.96
Black gram	-	-	-	122	1.04	61	0.51	119	0.94	222	1.61	175	1.31	151	1.13
Red gram	-	-	-	1354	11.50	1138	9.50	954	7.57	1198	8.70	1162	8.72	1028	7.66
Horse gram	-	-	-	0	0.00	0	0.00	0	0.00	2	0.01	19	0.14	17	0.13
cowpea	-	-	-	0	0.00	0	0.00	0	0.00	74	0.54	93	0.70	0	0.00
Bengal gram	-	-	-	0	0.00	0	0.00	9	0.07	0	0.00	0	0.00	96	0.72
Groundnut	-	-	-	289	2.46	239	1.99	0	0.00	102	0.74	154	1.16	121	0.90
Sesamum	-	-	-	0	0.00	0	0.00	232	1.84	0	0.00	0	0.00	0	0.00
Sunflower	-	-	-	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Chillies	-	-	-	1381	11.73	1310	10.93	1188	9.42	1445	10.49	1569	11.78	1617	12.05
Tobacco	-	-	-	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Cotton	-	-	-	2271	19.29	2296	19.16	2431	19.28	4073	29.58	4399	33.02	6476	48.26
Sugarcane	-	-	-	50	0.42	6	0.05	3	0.02	22	0.16	15	0.11	13	0.10
Oil Palm	-	-	-	34.22	0.29	35.42	0.29	39.01	0.31	205	1.49	238	1.79	275	2.05
Total area	-	-	-	11770		11982		12608		13769		13324		13419	

Source: Agricultural Action Plans, Joint Director of Agricultural, Department of Agricultural, Selected blocks from selected district ,

*since the selected crops are only important crps, and the other crops area is not shown in the table.

The cropping pattern for selected blocks of Chilakaluripet and Nadendla in Guntur district displays a commanding hight to cotton cropped area out of all principal crops in both blocks with 60% and 50% by 2010-11. These two blocks in Guntur district stand for crops specific as cotton and chillies. Paddy has considerable area with 17% in Nadendla block but it is very low in Chilakaluripet block. The selected blocks, thus, stand as best blocks for cotton study. In Khammam district, the selected blocks are Chintakani and Khammam (rural) for cotton study. In these two blocks, cotton showed the higher shares, while Khammam (rural) reported the highest share. In both mandals, other important crops are maize, paddy red and green grams and chillies. Thus, it could be concluded that the selected blocks for cotton are relevant to estimate PSS scheme among the cultivators of cotton crop.

2.14. Demographic Features of Sample Villages:

The demographic features are given in Table - 2.14 for oil palm and cotton sample villages. Among the four sample villages of oil palm from selected districts, the villages from Khammam district displayed higher geographical area, total population and male population compared to the villages of West Godavari district. In case of male literacy, Ayyapurajugudem reported the highest out of all four oil palm villages. For female literacy, the two villages of West Godavari showed better literacy than the villages of Khammam district. Thus, the villages of West Godavari report better edge than its counterpart for oil palm.

For cotton, the demographic features report that two villages from Khammam district informed higher geographical area than the area of sample villages from Guntur district. In case of population also, the similar trend appeared. For male and female population, the villages from Khammam district showed higher proportions compared to the villages from Guntur district. The literacy shows the highest for both male and female in Kodumuru from Khammam district compared to all other villages in the study for cotton cultivation. Within the two villages of Guntur, Veluru has high literacy for both gender. Thallampadu village reports the lowest literacy rates for both males (22%) and females (18%) and these literacy rates are very low compared to mandal, district and state levels. It shows that the village has limited schooling facility to its children.

Table - 2.14

Demographic Features of Sample Villages in Study Districts - 2011

Particulars	West Godavari		Khammam (Oil Palm)		Guntur		Khammam (Cotton)	
	Vegi wada	Ayyapu rajugudem	Aswarao pet	Dam mapet	Veluru	Appa puram	Kodu muru	Thallam padu
Geographical area	2384 (9.25)	3096 (15.04)	10379 (19.21)	11012 (24.62)	1957 (7.85)	900 (5.61)	1500 (8.13)	4904 (21.41)
Total population (00's)	44 (4.95)	35 (6.00)	206 (39.77)	104 (19.44)	47 (3.19)	30 (4.85)	33 (6.88)	72 (9.31)
Rural population (00's)	44 (4.95)	35 (6.00)	206 (39.77)	104 (19.44)	47 (8.47)	30 (4.85)	33 (6.88)	72 (11.23)
Urban population (00's)	0	0	0	0	0	0	0	0
Male population (00's)	22 (5.28)	18 (6.45)	104 (40.00)	52 (19.05)	21 (2.86)	13 (4.15)	16 (6.58)	33 (8.85)
Female population (00's)	22 (5.56)	17 (6.32)	102 (39.53)	52 (19.77)	21 (2.85)	13 (4.25)	16 (6.75)	33 (9.17)
Male literacy (%)	41.65	62.36	59.62	54.66	40	38	65	21.99
Female literacy (%)	54.83	55.52	50.04	42.78	35	36	59	18.10

***** Paretheses refer to figures calculated mandal data with selected villages. Source**:** Mandal Revenue Offices of Selected Village

2.15. The Socio-Economic Status of Sample Households:

The socio-economic status of sample households is given in Table - 2.15. It gives the distribution of farmer groups and the labour between agriculture and non-agriculture. The table gives the information for both study crops- oil palm and cotton. West Godavari and Khammam for oil palm and Guntur and Khammam for Cotton are selected districts. Aswaraopet village shows the highest marginal farmers (19%) against the selected villages for oil palm. For small farmers, Ayyapurajugudem village reports the highest out of all sample oil palm villages, while vegiwada and Ayyaparajugudem sample villages stood as the highest for semi-medium and medium farmers. If we take absolute figures, the large farmers exist at very low level in these villages (2, 4, 6 and 5 farmers).

The much concentration of agricultural labour is in Ayyapurajugudem by 80% compared to all other sample villages for oil palm crop followed by Aswaraopet village (77%). In Khammam district, the agricultural labour is high in the selected villages rather than in West Godavari for oil palm villages.

For cotton crop cultivation from the selected villages, Kodumuru from Khammam district displays the highest marginal farmers out of selected villages for cotton crop. The small farmers are in large share in Appapuram (5.33%) out of the sample villages, while Kodumuru village reports the highest share of semi-medium and medium group farmers out of the compared villages. Thus, Kodomuru exhibits higher existence in the cropping of cotton out of the sample villages. The distribution of agricultural labour is in large extent in Appapuram village followed by Tallampadu. Kodumuru has shown the least agricultural labour (60%) share in total workforce of the village among the sample villages.

Table - 2.15 Socio-Economic Status of Sample Village Households

Village	No. of household according to size of holding					% of agri. Labour household	% of non-agri workers household
	Marginal	Small	Semi-med	Medium	Large		
West Godavari							
Vegiwada	318 (2.51)	415 (12.20)	179 (9.72)	66 (10.02)	2 (5.13)	47	61
Ayyapurajugudem	260 (2.72)	314 (15.00)	83 (8.43)	59 (13.50)	4 (6.78)	80	10
Khammam (Oil Palm)							
Aswaraopet	591 (19.27)	186 (8.65)	144 (4.75)	24 (10.62)	6 (7.32)	77	23
Dammapet	226 (5.54)	275 (11.21)	115 (5.13)	33 (8.99)	5 (7.25)	76	34
Guntur							
Veluru	584 (5.81)	177 (5.22)	40 (2.58)	10 (4.24)	2 (13.33)	65	35
Appapuram	290 (3.58)	143 (5.33)	85 (5.47)	5 (2.24)	1 (12.50)	75	25
Khammam (Cotton)							
Kodumuru	350 (6.83)	250 (4.88)	130 (5.99)	54 (8.28)	3 (2.94)	60	40
Thallampadu	265 (3.42)	196 (2.53)	39 (1.32)	17 (2.24)	1 (2.13)	70	30

* Parentheses refer to per cent of sample village to block. Source: Mandal Revenue Offices of Selected Village

2.16. Land Classification of Sample Villages:

Land classification of sample villages is given in the Table- 2.16.The share of villages to mandal/block is estimated for all the sample villages of oil palm and cotton crops in the selected districts. From the sample villages of oil palm crop, Dammapet village occupies the highest share of geographical area followed by Aswaraopet village. These two villages are from Khammam district. The lowest geographical area is with Appapuram village from Guntur district. In the use of land to non-agricultural purposes, Aswaraopet and Dammapet villages stand as first and second out of four villages of oil palm crop. The lowest use is shown by Ayyapurajugudem village (1%). The sample villages of Khammam district report higher net area sown (NAS) for oil palm cropping and vegiwada village shows the lowest amount. Area sown more than once reports in much area in vegiwada and Ayyapurajugudem villages, while gross cropped area reports in larger extent in Aswsraopet and Dammapet villages.

For sample villages of cotton crop, Tallampadu has shown the highest share of geographical area in mandal/block level and the other villages report lower shares for geographical area. Appapuram stands first in the use of land for non-agricultural uses followed by Tallampadu. NAS reports the highest with Tallampadu and the veluru stands as the second in the NAS. Appapuram village reports the least place for NAS, area sown more than once and gross cropped area. Veluru, from Guntur district exhibits, first place for 'area' sown more than once' and the second place occupied by Thallampadu village. Thallampadu stands in first place for the gross cropped area. From the sample villages of cotton crop, Thallampadu

village demonstrated the highest place in the examined variables and on the other side, Appapuram stands as the lowest one.

2.17. Sources of Net Irrigated Area in Sample Villages:

Sources of net irrigated area in sample villages for oil palm and cotton is given in Table - 2.17. All the four villages of oil palm crop are under tube well irrigation. No other source is derived for the cropping of oil palm in both West Godavari and Khammam districts. Oil palm crop demands much irrigation for, growing successfully and yielding at good level. Farmers are entirely dependent on ground water and therefore there will be some pressure for depending on ground water for all the cultivators of this crop. There will be some threat to cultivators of oil palm for falling ground water levels in long run and then this crop may be badly affected in the study area.

For cotton crop cultivation, all the farmers of two sample villages from Guntur district are dependent on 'other sources' of irrigation and no other source is found for cotton cultivation in Guntur district. But in Khammam district, farmers of both villages are using different sources of irrigation and out of these sources, 'other sources' has major share in both villages. Electric power is not available in Khammam district for tube wells except diesel pump-sets.

Table - 2.16
Land use classification of Sample villages in Study Districts

Particulars	West Godavari (in ha)		Khammam (Oil Palm) (in ha)		Guntur (in ha)		Khammam (Cotton) (in ha)	
	Vegi wada	Ayyapuraju gudem	Aswarao pet	Damma pet	Veluru	Appa puram	Kodu muru	Thallam padu
Geographical area	2384 (9.25)	3096 (15.04)	10379 (19.21)	11012 (24.62)	1957 (7.85)	900 (5.61)	1500 (8.13)	4904 (21.41)
Land put to non agriculture uses.	479 (10.63)	26 (1.00)	1695 (42.93)	836 (32.85)	173 (5.08)	200 (23.20)	100 (5.56)	454 (15.06)
Net area sown	1800 (10.43)	1943 (16.94)	4027 (30.24)	3847 (34.08)	1784 (14.17)	700 (6.10)	1400 (12.11)	3485 (31.23)
Area sown more than once	850 (18.78)	641 (14.14)	36 (9.02)	191 (10.11)	512 (12.68)	8 (6.78)	410 (12.58)	58 (11.69)
Gross cropped area	2650 (12.16)	2584 (16.15)	4063 (29.63)	4038 (30.64)	2296 (13.81)	708 (6.11)	1810 (12.21)	3030 (30.40)

*Parentheses refer to figures calculated mandal data with selected villages Source: Mandal Revenue Offices of selected villages.

Table - 2.17

Sources of Net Area Irrigated in Sample Villages

Village	Canal	Tanks	Well	Tube wells		Others
				Electric	Diesel	
West Godavari(in ha)						
Vegiwada	-	-	-	1276 (7.66)	-	-
Ayyapurajugudem		-	-	473 (9.78)	-	-
Khammam (Oil Palm) (in ha)						
Aswaraopet	-	-	-	489 (14.88)	-	-
Dammapet	-	-	-	353 (9.83)	-	-
Guntur(in ha)						
Veluru	-	-	-	-	-	282 (14.46)
Appapuram	-	-	-	-	-	318 (13.49)
Khammam (Cotton) (in ha)						
Kodumuru	88 (5.93)	32 (3.70)	-	-	46 (6.97)	165 (6.99)
Thallampadu	41 (4.63)	-	-	0	0	354 (8.39)

* Parentheses refer figures calculated mandal data with selected villages. Source**:** Mandal Revenue Offices of Selected Villages.

2.18. Market and Market Infrastructure in Sample Villages:

The market and market infrastructure is presented in Table - 2.18 and 2.18a tables for oil palm and cotton crops for the selected districts. In all the villages, primary school is there. The school is located within the village and there is no question of distance. The public schools are available to the villages except for Veluru and Thallampadu villages and these villages have the schools at the distance of 5 kms and 10 kms distance for Veluru and Thallampadu, respectively. The private medical practioner is available in five villages and the remaining three villages are dependent on the adjacent villages but these villages are located within six kms distance. Veterinary dispensary also available in five sample villages and the other three villages depend on nearby hospitals. As many as six villages did not possess either ITI or polytechnic, but two villages have. In Aswaraopet mandal ITI is there and this mandal is in Khammam district and another village named Thallampadu is also located in Khammam district. The private ITI or polytechnic centres to the study villages are located ranging from 5 kms to 50 kms.

No sample village is not having Khadi and village Industries office. This office is available to the sample villages in between 5 kms to 30 kms. In Aswaraopet, there is khadi and village industries office. Except one village all the villages have NGO or SHGs. In Kodumuru, there is no NGO or SHG. The

motorable road is available in all the sample villages of the select agricultural market centres. All the sample market villages have post offices except in Kodumuru.

The Commercial banks are available in two market villages of Aswaraopet and Dammapet of Khammam district. The other villages get service of commercial bank located in other villages. These banks are located at distance between 3 kms to 12 kms. The co-operative society is available within the village to Aswaraopeta, Dammapeta (Khammam district) and Appapuram (Guntur district). The factories are existed in vegiwada (West Godavari district) Aswaraopet (Khammam district) and Dhammapet (Khammam district). The farm produce storage is available to Vegiwada (West Godavari district), Aswaraopet (Khammam district) and the other market centres do not possess farm produce storage or Godown facility.

Fair price shops are available to all villages except for Appapuram and (Guntur district) Kodumaru (Khammam district). The Agricultural Produce market (APMC) is only available to one sample village i.e., Vegiwada (West Godavari district). The remaining villages are getting services of APMC from other villages which are approachable at the distance of 5 kms to 50 kms distance. The MIS/PSS procurement centre is not available to any sample village. These Centres are available in other villages at the distance between 5 kms to 12 kms. The village market is available in Vegiwada (West Godavari district) Aswaraopet (Khammam district) Dammapet (Khammam district) Appapuram (Guntur district) and Kodumuru (Khammam district). On average, the market infrastructure is appropriate in some villages, though there is some much requirement in other villages.

Table - 2.18

Details of market Infrastructure and Institutions-Proximate to Sample Villages

Facility	West Godavari				Khammam (Oil Palm)			
	Vegiwada		Ayyapurajugudem		Aswaraopet		Dammapet	
	Available in village or not	If not, then distance (Km)	Available in village or not	If not, then distance (Km)	Available in village or not	If not, then distance (Km)	Available in village or not	If not, then distance (Km)
Primary school	Y		Y		Y		Y	
Public school	Y		Y		Y		Y	
Primary health centre	Y		N	5	Y		Y	
Private medical practitioner	Y		N	5	Y		N	6
Veterinary dispensary	N	3 KM	N	5	Y		Y	
Govt. training centres (ITI, Polytechnic etc)	N	10KM	N	25	Y		N	5
Private Training centre (with trade of training)	N	10 KM	N	25	N	50KM	N	45KM
Presence of Khadi and village industries corporation office	N	30 KM	N	25	Y		N	6
Active NGO or SHGs (no)	Y		Y		Y		Y	
Nearest Motorable road	Y		Y		Y		Y	
Post office	Y		Y		Y		Y	
Commercial banks	N	3KM	N	5	Y		Y	
Co-operative society	N	3KM	N	5	Y		Y	
Existence of factories	Y		N	15	Y		Y	
Farm produce storage	Y		N	5	Y		N	6
Fair price shop/ration dept. (no)	Y		Y		Y		Y	
Agri. produce market (APMC)	Y		N	25	N	50KM	N	45KM
MIS/PSS Procurement centre	N	5KM	N	5	N		N	
Existence of village market/hat	Y				Y		Y	

Source**:** Field Survey, 2013.

Table - 2.18a

Details of Market Infrastructure and Institutions Proximate to Sample Villages

Facility	Guntur				Khammam (Cotton)			
	Veluru		Appapuram		Kodumuru		Thallampadu	
	Available in village or not	If not, then distance (Km)	Available in village or not	If not, then distance (Km)	Available in village or not	If not, then distance (Km)	Available in village or not	If not, then distance (Km)
Primary school	Y		Y		Y		Y	
Public school	N	5KM	Y		Y		N	10
Primary health centre	Y		N	4KM	Y		Y	
Private medical practitioner	N	5KM	Y		Y		Y	
Veterinary dispensary	N	5KM	Y		Y		Y	
Govt. training centres (ITI, Polytechnic etc)	N	5KM	N	11KM	N	12	Y	
Private Training centre (with trade of training)	N	5KM	N	11KM	N	12	N	10
Presence of Khadi and village industries corporation office	N	5KM	N	11KM	N	12	N	10
Active NGO or SHGs (no)	Y		Y		N	12	Y	
Nearest Motorable road	Y		Y		Y		Y	
Post office	Y		Y		N	12	Y	
Commercial banks	N	5KM	N	11KM	N	12	N	10
Co-operative society	N	5KM	Y		N	12	N	10
Existence of factories	N	5KM	N	4KM	N	12	N	10
Farm produce storage	N	5KM	N	11KM	N	12	N	10
Fair price shop/ration dept. (no)	Y		N	11KM	N	12	Y(3)	
Agri. produce market (APMC)	N	5KM	N	11KM	N	12	N	10
MIS/PSS Procurement centre	N	5KM	N	11KM	N	12	N	10
Existence of village market/hat	N	5KM	Y		Y		N	10

Source: Field Survey, 2013.

2.19. Emergence and Importance of Oil Palm and Cotton in West Godavari, Guntur and Khammam Districts: 1980-11

The emerging trends and importance of oil palm and cotton during 1980–11 are given in Table-2.19. The two selected districts are, West Godavari and Khammam for oil palm, and Guntur and Khammam for Cotton. It is observed that oil palm was introduced newly in India and therefore we cannot find the crop in 1980s and early 1990s in study districts. During 2000-11, oil palm reported acceleration and the increase in area became slow during 2008-09. In West Godavari district, oil palm reports near stagnancy during 2009-11, while in Khammam district, we can find the similar trend during 2010-11. We can find that there is extension of area for oil palm in study districts in the first decade and, in the latter period, it became stagnant.

Table - 2.19
Emergence and Importance of Oil Palm and Cotton in Selected Districts: 1980-11

District	Targeted Crops	1980-82	1990-92	2000-02	2008-09	2009-10	2010-11
Wast Godavari	Oil palm(ha)	-	-	10301 (33.89)	42695 (46.19)	45941 (45.30)	49526 (45.67)
Khammam (Oil Palm)	Oil palm(ha)	-	-	792.76 (2.61)	4525 (4.89)	6160 (6.07)	6947 (6.40)
Guntur	Cotton (ha)	91034 (20.99)	162075 (24.17)	128987 (12.19)	166289 (11.89)	151488 (10.33)	170086 (9.53)
Khammam (Cotton)	Cotton(ha)	358 (0.08)	32267 (4.81)	87570 (8.27)	124516 (8.90)	131900 (8.99)	148609 (8.33)

Source**:** Season and Crop Report, Andhra Pradesh 2010-11

In case of study districts for cotton area, we find a paradoxical situation in selected districts. In Guntur district, the cotton reports deceleration during 2000-11, while an acceleration is traced between 1980-92. Some socio-economic problems cropped up during 2000-2011.There have been number of suicides among cotton crop growers. The high increase in cost of cultivation of cotton crop and the existing prices in the market have led to different critical situations in the farmer community in Guntur district and still there is a great deal of disheartening condition for cotton crop cultivation. In Khammam district, a gradual increase of cotton appeared in the entire study period 1980-2011. But the share of cotton crop in the district is low, when compared to Guntur district at any point of time. Nevertheless, one significant fact is that the cotton crop raised from 0.08% in 1982 to 8.33% in 2010-11 in Khammam district and it is only one per cent less to the area of Guntur district. In absolute figures also, Khammam district increased from 358 ha in 1982 to 1,48,609 ha in 2010-11 and it is less than 22 thousand ha area of Guntur district. Thus, these districts have become significant in the cotton cultivation in A.P.

2. 20. Emergence and Importance of Oil palm & Cotton in Selected Blocks:

The block/mandal level data is presented in Table-2.20. Oil palm crop was started in India in 1990s and it was first cultivated in West Godavari district. Therefore, the data could be available from late 1990s' onwards only. However, the data for late 1990s was not available at block level from West Godavari district. In Khammam district, oil palm crop was introduced only in early 2000s and the same

data became available here. At block/mandal level, Pedavegi mandal has shown declining trend for oil palm during 2000-11, as this crop stood by 10% in 2000-02 and declined to 8.6% by 2010-11. On the other, Lingapalem mandal reported nearly stable share of oil palm in the total cropped area of block/mandal. In Khammam district, oil palm crop had shown increasing trend during 2000-09 and latter, it displayed decline in the cropped area in both blocks/mandals. Thus, the oil palm shows a big leap in the first decade, while the following years exhibit deceleration in the total cropped area of the respective blocks in the selected districts.

For cotton cropped area, there has been cultivation in Guntur district since 1980s. But at the block level, the officials have given for recent years and in case of Khammam district also for cotton cultivation has been there from 1990s onwards, but officials gave the data for recent years. Therefore, with reference to the given data, it is estimated the 'trend of cotton cultivation in the selected blocks/mandals. From Guntur district, the selected mandals/blocks viz., Chilakaluripeta and Nadendla have shown acceleration of cotton-cropped area across selected mandals during 2003-11 and the similar trend appeared for sample blocks/mandals of Khammam district.

Table - 2.20

Emergence and Importance of Oil palm and Cotton in Selected Blocks: 1980-11

Blocks	Targeted Crops	1980-82	1990-92	2000-02	2008-09	2009-10	2010-11
West Godavari Oil Palm in ha							
Pedavegi	Oil palm	-	-	1039.49 (10.09)	3729.55 (8.73)	3814.53 (8.30)	4234.56 (8.55)
Lingapalam	Oil palm	-	-	395.50 (3.84)	1299.77 (3.04)	1328.16 (2.89)	1435.23 (2.90)
Khammam Oil Palm in ha							
Aswaraopet	Oil palm	-	-	198.3 (25.01)	1231.1 (27.21)	1385 (22.48)	1470.67 (21.17)
Dammapet	Oil palm	-	-	283.70 (35.79)	1657.96 (36.64)	2042.94 (33.16)	2272.43 (32.71)
Guntur –Cotton in ha							
Chilakaluripeta	Cotton	-	-	-	5946 (3.57)	6385 (4.21)	7952 (4.67)
Nadendla	Cotton	-	-	-	5114 (3.07)	5504 (3.63)	5897 (3.47)
Khammam –Cotton in ha							
Chintakani	Cotton	-	-	-	2311 (1.85)	3665 (2.78)	3076 (2.07)
Khammam (Rural)	Cotton	-	-	-	4550 (3.65)	5158 (3.91)	5635 (3.79)

Note: Parentheses referto share of cropped area to district**.** Source**:** Cotton Corporation of India, Mumbai, Guntur Branch,

Summary:

Oil palm has tendency of cropping much in higher size groups than for cotton crop. It is estimated that small and medium farmers' participation is higher than the other two groups. The growth

of NAS shows deceleration during 2001-11 for all the sample districts. At state level also, NAS has declined and it shows some negative trend. The marginal farmers are gradually increasing across state and in study districts. Comparatively, the semi-medium farm households reported declining trend during 2001-11, while the opposite appeared during 1991-2001. As a whole in the study area, the marginal and small farm households are in acceleration trend and for other farm households, there was decreasing trend. There is gradual acceleration for the use of tractors. There was a sea change for the tube well irrigation and it increased in leaps and bounds during 2001-11. The increase of bank offices has shown in study districts but post offices are stagnant in the study period. Out of the study districts, West Godavari has higher share of net irrigation in the state in all the study years followed by Khammam district. The 'other sources of Irrigation' has shown deceleration in state, despite study districts report high shares during study period except in West Godavari district. The Cropping viz**.** horsegram, sesamum, jowar, chillies and groundnut declined very sharply in the area during 1980-2002 and the new crops like maize, cotton, chillies and black gram came into picture. The land for non-agricultural uses was reported as first place by Pedavegi mandal and second place by Aswaraopeta mandal/block. Out of all six sample blocks, Nadendla mandal/block showed the least use of land for non-agricultural uses. Pedavegi and Aswaraopet mandals stood in first and second places for net area sown from all the sample blocks. The number of farm households under marginal size existed in large number in Khammam rural and Pedavegi blocks. The blocks from Khammam district show larger extent of farm group sizes compared to other blocks of study districts. All the selected blocks/mandals are 100% electrified and linked with roads. The number of commercial banks is high in chilakaluripeta block out of all the blocks. It is surprising that the blocks of Khammam district- Chintakani and Khammam (rural) do not have co-operative banks.

Pedavegi, lingapalem Aswaraopet and Dammapet are tube-well irrigated blocks. In the canal irrigation, chintakani mandal shows the highest out of all mandals followed by Khammam rural. Though paddy occupies first place in area, it reports declining trend in the both Aswaraopet and Dammapet blocks. For cotton, the demographic features report that two villages from Khammam district informed higher geographical area than the area of sample villages from Guntur district. Aswaraopet village shows the highest marginal farmers (19%) against the selected villages for oil palm. The sample villages of Khammam district report higher net area sown (NAS) for oil palm cropping and vegiwada village shows the lowest amount. All the four villages of oil palm crop are under tube well irrigation. Oil palm crop demands much irrigation for growing successfully and yielding at good level. For cotton crop cultivation, all the farmers of two sample villages from Guntur district are dependent on 'other sources' of irrigation and no other source is found for cotton cultivation in Guntur district. But in Khammam district, farmers of both villages are using different sources of irrigation and out of these sources. 'other sources' has major share in both villages. The Commercial banks are available in two market villages of Aswaraopet and Dammapet of Khammam district. The farm produce storage is available to Vegiwada (West Godavari

district), Aswaraopet (Khammam district) and the other market centres do not possess farm produce storage or Godown facility.

During 2000-11 oil palm reported acceleration and during 2008-09 and latter the increase in area became slow. We can find that there is extension of area for oil palm in study districts in the first decade and it became stagnant in the latter period. In Guntur district, the cotton crop reports deceleration during 2000-11, while an acceleration is traced between 1980-92. Some socio-economic problems cropped up during 2000-2011.There have been number of suicides over cotton crop growers. In Khammam district, a gradual increase of cotton appeared in the entire study period 1980-2011. At block/mandal level, Pedavegi mandal has shown declining trend for oil palm during 2000-11, as this crop stood by 10% in 2000-02 and declined to 8.6% by 2010-11. On the other, Lingapalem mandal reported nearly stable share of oil palm in the total cropped area of block/mandal. In Khammam district, oil palm crop had shown increasing trend during 2000-09 and latter, it displayed decline in the cropped area in both blocks/mandals. From Guntur district, the selected mandals/blocks viz., Chilakaluripeta and Nadendla have shown acceleration of cotton cropped area across selected mandals during 2003-11 and the similar trend appeared for sample blocks/mandals of Khammam district.

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CHAPTER – III

Results, Discussions and Summary and Policy Measures

Section-1: Oil Palm

3. 1.1 District Wise MIS and PSS in A.P.-2000-12:

The implementation of Market Intervention Scheme (MIS) and Price Support Scheme (PSS) in Andhra Pradesh (A.P.) for different districts and various commodities are given Table -3.1.1 MIS and PSS are examined for the period 2000-2012. In 2012, PSS is implemented for cotton crop and no other crop is given with either MIS & PSS in the state. The PSS is covered for Guntur, Khammam, Prakasam, Krishna, Nalgonda and Kurnool districts in 2012 and 2011 year also one crop i.e., Milling Copra is supported with PSS in two districts viz., West and East Godavari districts. Thus, these are covered under MIS and PSS in A.P. during 2000-2012.The highest number of districts were covered is 2009 for the crops – oil palm, copra, sunflower and cotton. MIS and PSS covered for many crops in 2000 with the implementation in seven districts. Out of the 13 years period, only one district Rangareddy was covered with sunflower and four crops. Out of 13 years, either MIS or PSS is covered across districts in A.P.

Table - 3.1.1 District Wise MIS and PSS in A.P.:2000-12

S.No	Year	District	Commodity procured
1	2000	West Godavari, Khammam, Ranga Reddy, East Godavari, Ananthapur, Kadapa, Srikakulam	Oil Palm, Copra, Groundnut, Safflower, Sunflower, Toor, Soybean
2	2001	West Godavari, Khammam, Ranga Reddy, East Godavari, Ananthapur, Srikakulam	Oil Palm, Copra, Groundnut, Safflower, Toor, Soybean
3	2002	Ranga Reddy	Safflower, Toor
4	2003	Khammam, Krishna, Ranga Reddy, Medak, Nalgonda	Moong, Urid
5	2004	Guntur, Khammam, Nizamabad,Medak, Prakasham, Mahabubnagar, Krishna, Nelgonda , Kurnool	Gram, Safflower, cotton
6	2005	West Godavari, Ananthapur, Srikakulam, Kadapa	Groundnut, Safflower, Soybean, Sunflower
7	2006	West Godavari, Ananthapur, Srikakulam	Safflower, Soybean, Sunflower
8	2007	West Godavari, East Godavari	Safflower, Copra
9	2008	Guntur, Khammam, Prakasam, Krishna, Nalgonda , Kurnool	Sunflower, cotton
10	2009	West Godavari, Khammam, Ranga Reddy, East Godavari, Ananthapur, Kadapa, Srikakulam Prakasam, Krishna, Nalgonda , Kurnool, Guntur	Oil Palm, Copra, Sunflower, cotton
11	2010	West Godavari, Khammam, Ranga Reddy, East Godavari, Srikakulam	Toor, Milling Copra
12	2011	West Godavari, East Godavari	Milling Copra
13	2012	Guntur, Khammam, Prakasam, Krishna, Nalgonda, Kurnool	Cotton

Source: 1) NAFED, Hyderabad, 2) A.P. Oil Fed, 3) CCI, 4) Mark fed, A.P.

3.1.2 Month Wise Arrivals of Oil Palm and Important Collection Centres in West Godavari & Khammam Districts:

Month-wise arrivals of oil palm from collection centres in West Godavari are given in Table-3.2. Out of the nine collection centers in the districts, Pedavegi stands as the biggest collection centre followed by T.Gokavaram. The least collection centre is Ramasingaram in West Godavari district for oil palm. After the arrivals examined, the peak harvest time is June, July, August and September months for oil palm, since in these months, it is found the higher arrivals of FFBs of oil palm to the collection centers. Therefore, whenever the government wants to execute MIS to oil palm, it would be better to implement during June–September period to give good price support to the farmer community. The lowest harvest season for oil palm is in January, February, and March months. In 2009, government implemented the MIS scheme in March and April when harvest of oil palm was low and the coverage of price support took place at lower level to the farmers. In Khammam district , the collection centres are given equal weight in the collection of oil palm produce and therefore, these collection centres show same percentage of collection in given month. As referred above, it is significant to note that higher harvest appears in the months of June to October months, instead of March, April and December months. Hence, the scheme may be implemented in those months to give higher coverage and benefit to cultivators.

3.1.3. Share of West Godavari and Khammam Districts to State Level Market Arrivals:

The market arrivals of selected districts for 2009 are given in Table - 3.1.3. The MIS scheme was implemented for two months only and hence, the data is available in the department for these two months only. In the referred two months (March and April), West Godavari district reports above 50% of the state market arrivals in A.P., whereas Khammam district shows below 7% in both March and April months in 2009. It indicates the sample districts are reliable as one district (West Godavari) is highly concentrated in oil palm crop and the other one (Khammam) is now taking the initiation for oil palm crop extension.

3.1.4 Details from APMC of MIS and PSS Operations 2011-12:

The details of MIS and PSS operations through the agriculture produce marketing committee (APMC) for the 2011-12 are given in Table-3.1.4. In West Godavari district, there is no available information with regard to implementation of MIS scheme. There is a proposal for paddy for MIS but the data is not available for the concerned crop. In Khammam district, there are two crops-cotton and paddy. The procuring agencies are C.C.I. and, I.T.D.A. and D.R.D.A. for cotton and paddy, respectively. These agencies are giving 1% commission to the concerned APMCs in the district and the price for procurement for cotton and paddy are Rs.3,900/- and Rs1,110/- in that order for the year 2011-12.

Table - 3.1.2

Month wise Arrivals of Oil Palm from Important Collection Centres of West Godavari and Khammam Districts:2011-12

Collection centre	TC	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
West Godavari District														
Pedavegi	Oil plam	1567.83 (7.72)	1958.69 (9.65)	2388.86 (11.77)	2311.96 (11.38)	2961.89 (14.59)	3063.62 (15.09)	2150.88 (10.59)	1184.20 (5.83)	798.72 (3.93)	529.13 (2.11)	443.11 (2.18)	936.32 (4.61)	20295.18 (100.00)
T.Gokavaram	Oil plam	1095.27 (7.41)	1535.27 (18.39)	1735.40 (11.75)	1708.84 (11.57)	2178.55 (14.75)	2385.72 (16.15)	1468.06 (9.94)	892.82 (6.04)	624.48 (4.22)	349.76 (2.36)	312.81 (2.81)	482.28 (3.26)	14768.25 (100.00)
Pedakadimi	Oil plam	195.00 (10.10)	181.20 (9.38)	243.67 (12.62)	217.09 (11.24)	256.28 (13.27)	270.54 (14.00)	181.20 (9.38)	90.79 (4.70)	79.60 (4.12)	41.66 (2.15)	64.56 (3.34)	108.63 (5.62)	1930.19 (100.00)
Vijayarai	Oil plam	375.15 (7.41)	424.42 (8.36)	544.54 (10.72)	480.88 (9.47)	781.76 (15.40)	803.12 (15.82)	510.78 (10.06)	321.91 (6.34)	191.60 (3.77)	161.09 (3.17)	149.92 (2.95)	330.28 (0.59)	5075.45 (100.00)
Ramasingaram	Oil plam	7.66 (9.60)	13.67 (17.13)	21.82 (27.35)	0.00 ()	22.16 (27.77)	12.02 (15.06)	2.45 (3.07)	0.00 (-)	0.00 (-)	0.00 (-)	0.00 (-)	0.00 (-)	79.78 (100.00)
Kalaraigudem	Oil plam	258.28 (9.95)	303.29 (11.69)	349.82 (13.48)	390.48 (15.05)	346.01 (13.34)	295.48 (11.39)	241.62 (9.31)	126.23 (4.86)	88.99 (3.43)	51.34 (1.97)	40.85 (1.57)	100.86 (3.88)	2593.23 (100.00)
Badarala	Oil plam	79.54 (8.71)	76.47 (8.37)	137.31 (15.04)	130.22 (14.26)	124.16 (13.60)	116.12 (12.70)	93.14 (10.20)	61.43 (6.72)	25.23 (2.76)	22.23 (2.43)	19.14 (2.09)	27.97 (3.06)	912.92 (100.00)
Bhogolu	Oil plam	26.12 (4.26)	52.75 (8.61)	106.62 (17.40)	114.56 (18.70)	116.60 (19.00)	82.39 (13.45)	44.79 (7.31)	20.67 (3.37)	16.07 (2.62)	9.68 (1.58)	9.92 (1.61)	12.24 (1.99)	612.40 (100.00)
Vemulapalli	Oil plam	64.35 (7.02)	96.08 (10.40)	117.89 (12.87)	111.30 (12.15)	146.58 (16.00)	121.79 (13.20)	81.42 (8.88)	38.61 (4.21)	21.12 (2.30)	19.77 (2.15)	23.37 (2.55)	73.66 (8.04)	915.92 (100.00)
Total		3669.19	4641.81	5645.92	54.65.32	69.33.98	7150.79	4774.33	2736.65	1845.79	1184.66	1063.67	2072.22	47184.33
Khammam District														
Direct(oil mill)	Oil palm	1680.15 (6.69)	235.21 (9.37)	2900.71 (11.55)	3797.29 (15.12)	4236.79 (16.87)	3046.37 (12.13)	2704.81 (10.77)	1537 (6.12)	863.93 (3.44)	660.51 (2.63)	479.68 (1.91)	853.89 (3.40)	25114.35 (100.00)
Sattupalli	Oil palm	205.46 (6.69)	287.76 (9.37)	354.71 (9.37)	464.35 (15.12)	518.09 (15.12)	372.52 (12.13)	330.76 (10.77)	187.95 (6.12)	105.65 (3.44)	80.77 (2.63)	58.66 1.91)	104.42 (3.40)	3071.10 (100.00)
Kallur	Oil palm	82.88 (6.69)	116.09 (9.37)	143.10 (9.37)	187.33 (15.12)	209.01 (15.12)	150.29 (12.13)	133.44 (10.77)	75.83 (6.12)	42.62 (3.44)	32.58 (2.63)	23.66 (1.91)	42.13 (3.40)	1238.99 (100.00)
Wyra	Oil palm	59.12 (6.69)	82.81 (9.37)	102.07 (9.37)	133.62 (15.12)	149.08 (15.12)	107.20 (12.13)	95.18 (10.77)	54.08 (6.12)	30.40 (3.44)	23.24 (2.63)	16.88 (1.91)	30.05 (3.40)	883.73 (100.00)
Medepalli	Oil palm	35.87 (6.69)	50.24 (9.37)	61.93 (9.37)	81.07 (15.12)	90.45 (15.12)	65.04 (12.13)	57.75 (10.77)	32.81 (6.12)	18.44 (3.44)	14.10 (2.63)	10.24 (1.91)	18.23 (3.40)	536.17 (100.00)
Khammam	Oil palm	6.05 (6.69)	8.48 (9.37)	10.45 (9.37)	13.68 (15.12)	15.27 (15.12)	10.98 (12.13)	9.75 (10.77)	5.54 (6.12)	3.11 (3.44)	2.38 (2.63)	1.73 (1.91)	3.08 (3.40)	90.50 (100.00)
PR Puram	Oil palm	80.79 (6.69)	113.15 (9.37)	139.48 (9.37)	182.59 (15.12)	203.72 (15.12)	146.48 (12.13)	130.06 (10.77)	73.90 (6.12)	41.54 (3.44)	31.76 (2.63)	23.06 (1.91)	41.06 (3.40)	1207.60 (100.00)
Polancha	Oil palm	20.27 (6.69)	28.39 (9.37)	35.00 (9.37)	45.81 (15.12)	51.12 (15.12)	36.75 (12.13)	32.63 (10.77)	18.54 (6.12)	10.42 (3.44)	7.97 (2.63)	5.79 (1.91)	10.30 (3.40)	303.00 (100.00)
Mulakalpalli	Oil palm	33.64 (6.69)	47.12 (9.37)	58.09 (9.37)	76.04 (15.12)	84.84 (15.12)	61.00 (12.13)	54.16 (10.77)	30.78 (6.12)	17.30 (3.44)	13.23 (2.63)	9.61 (1.91)	17.10 (3.40)	502.91 (100.00)
Total		2201.24	3087.26	3805.53	4981.79	5558.39	3996.63	3548.54	2016.44	1133.42	866.54	629.31	1120.24	32948.35

Source: A.P. Cooperative OIL Seeds Growers Federation Limited, West Godavari & Aswaraopet.

Table - 3.1.3
Ratio of Market Arrivals of Oil Palm in West Godavari and Khammam Districts

Sl.No	District	2000-01		March 2009		April 2009	
		Qty. (MTs)	Total market arrivals (MTs)	Qty. (MTs)	Total market arrivals (MTs)	Qty. (MTs)	Total market arrivals (MTs)
1	West Godavari	-	-	6798.57	6798.57 (51.07)	12866.43	12866.43 (54.79)
2	Khammam	-	-	877.05	877.05 (6.59)	1624.15	1624.15 (6.92)
3	Andhra Pradesh	171263.92	171263.92	13311.61	13311.61	23480.88	23480.88

Note: Parentheses refer to share of the state. Source: A.P.Cooperative OIL Seeds Growers Federation, Hyderabad

Table 3.1.4
Details from Agriculture Produce Marketing Committee (APMC) /Regulated Market about MIS/PSS Operations 2011-12

Crops procured under PSS	Procurement starting month for crop in MIS/PSS	Procuring agency	Total quantity of crops procured in metric tons under MIS	Price of crop in Rs. (MIS)	Charges, if any paid to APMC, if yes, by whom
West Godavari					
Paddy	N.A	N.A	N.A	N.A	N.A
Khammam District					
Cotton	March-April	CCI	854998	3900	1 %
Paddy	Nov	ITDA/DRDA	242666790	1110	1 %

Source: Cotton Corporation of India (CCI), District Rural Development Authority (DRDA)

3.1.5. Oil Palm in West Godavari and Khammam Districts:

Information of oil palm crop in selected districts is given in Table - 3.1.5. During 2006-11, the area of oil palm has shown increasing trend in West Godavari district, while in Khammam district also the similar trend exists. If we observe the absolute figures, West Godavari has very large area for oil palm and it is nearly 5.5 times high. The share of oil palm in the total cropped area ranged from 4% to 7% during 2006-11 in West Godavari, whereas in Khammam district, it ranged from 0.58% to 1.22% during 2006-11. One significant fact is that the farmers of Khammam district achieved the productivity level of West Godavari district in the referred period except in 2010-11 (7 MTs in West Godavari). As the state government follows uniform price to areas and to factories, there is no price variation between these two districts. The similar prices existed for all the years in question. There was higher price during 2009-10 compared to 2010-11 (Rs. 6428/- and Rs. 4576/-). It is felt that still there are good chances for extension of oil palm in Khammam district, as it is only 1.22% in 2010-11 in total cropped area of the district.

3.1.6. Oil Palm in selected Mandals/blocks:

The information of oil palm at block/mandal level is given in Table - 3.1.6. Pedavegi mandal/block had shown a little decreasing trend, as the share of area to district declined from 35% to 21% during

2009-11. However, if it is observed the absolute figures, there is raising trend in the area from 37 hundred ha to 42 hundred ha in the mandal/block. The similar trend appeared for lingapalem mandal for area during 2009-11. In case of productivity, both mandals exhibit the analogous trend of the district (West Godavari). The prices of oil palm in both mandals are the same of the district.

Table - 3.1.5
Oil Palm in West Godavari and Khammam Districts 2006-11

Particulars	West Godavari				
	2006-07	2007-08	2008-09	2009-10	2010-11
Area under targeted crop (ha)	28054	34594	43162	41882	49126
% of targeted crop in total cropped area in the district	4.52	4.89	5.89	7.43	6.80
Total production (Mts)	112216	207564	258972	251292	343882
Productivity (per ha)	4	6	6	6	7
Avg. price (Rs./ Mts)	4572	5040	4342	4376	6428
	Khammam				
Area under targeted crop (ha)	4424	5442	7412	6550	8818
% of targeted crop in total cropped area in the district	0.58	0.72	0.86	1.40	1.22
Total production (Mts)	17696	32652	44472	39300	52908
Productivity (per ha)	4	6	6	6	6
Avg. price (Rs./ Mts)	4572	5040	4342	4376	6428

Source: Statistical Abstract of Andhra Pradesh, Government of Andhra Pradesh, Hyderabad.

The information of oil palm for mandals of Aswaraopet and Dammapet is given in table 3.1.6 The productivity and prices of oil palm in Aswaraopet and Dammapet mandals are the same of the Khammam district. There is no variation in productivity. These blocks/mandals reported the same productivity (4 MTs to 6 MTs) during study period. For area extension of oil palm, Aswarapet mandal reports stagnancy (15%) in the study period, nevertheless Dammapet mandal exhibits acceleration in the area from 20% to 24% during 2008-11.

3.1.7. Marketing of Oil Palm through Collection Centres:

Based on the villages selected, there are four collection centres (Table - 3.1.7). Out of these four, Pedavegi stands as the highest one for cropped area followed by Dammapet. It is informed that there is 5% to 8% of wastage in oil palm produce due to pest and other crop doses. All the centres expressed that there would be loss nearly one kg per quintal during transportation to the factory from farm gate Pedavegi collection centre showed the highest marketing of oil palm produce and only one collection point is there. Under policy of allotment of area to each and every factory, it has become monopoly for the marketing of the produce of the oil palm crop and there is no other channel for oil palm produce to be sold by the cultivator for the area in question and thus, the farmer becomes price receiver. Therefore, the price prevailed as Rs. 4120/- to all the collection centres.

3.1.8. Costs Incurred in Marketing of Oil Palm under MIS:

In the marketing of oil palm produce by farmers, it is reported three aspects of marketing costs to farmers: 1) transport cost 2) loading and unloading charges and 3) commission. The first two costs are borne by cultivators with some little variation due to existence of distance variation to collection centre/factory and labour marketing conditions – available labour and demand for labour during the season in those villages under study. The market cess of one per cent of the farmers is being borne equally by state and central governments. Logically, based on the location, it is observed the variation of total marketing cost in four villages at different amounts as referred earlier. Nevertheless, the costs are higher in West Godavari district, where intensive cultivation is there, rather than in Khammam district. Hence, the labour charges are high in this district. Both costs are lower in Khammam district compared to West Godavari district. Thus, the farmers are found with different marketing costs in selected districts. In case of purchaser, the data for marketing costs is not available and therefore, the analysis is not made here. (Table-3.1.8)

3.1.9. Projected Cost of Cultivation of Oil palm:

It is given the projected cost of cultivation in Table- 3.1.9. Materials cost occupies 82% than operations cost (18%) during the gestation period of oil palm crop. This crop takes complete four years period to come to production stage. During this period, Manures and Fertilizers have reported higher shares of total costs during the gestation period. Further, the cultivators incur 54% cost in first year and in the following years, they will incur 13%, 5% and 18% for the remaining years in that order. To cultivate oil palm, the cultivator has to face high investment in the first year. Hence, it would be better to arrange some subsidy to manure and fertilizers in the first year along with the subsidy to drip irrigation.

3.1.10. Coverage of Oil Palm Farmers under MIS:

The coverage of farmers under MIS for oil palm is given in Table - 3.1.10. All the farmers from all the districts in A.P. are covered under MIS for oil palm, whenever it is implemented. There is no exception to any farmer size group or farmer community. The selected districts viz., West Godavari and Khammam have reported 100% coverage of MIS to oil palm. All the four villages from selected districts report the 100% coverage of the scheme. There are no impediments to the farmers to participate in the scheme and receiving the price fixed by the existing marketing channel.

Table - 3.1.6
Oil Palm Crop in Selected Blocks 2006-11

Particulars	West Godavari District					Khammam District				
	Pedavegi					Aswaraopet				
	2006-07	2007-08	2008-09	2009-10	2010-11	2006-07	2007-08	2008-09	2009-10	2010-11
Area under targeted crop (ha)	2512	3078	3729	3814	4234	776	933	1231	1385	1471
% of targeted crop in total cropped area in the district	-	-	35.34	24.21	21.23	-	-	15.25	15.48	15.80
Total production (MTs)	10048	18468	22374	22884	29638	3104	5598	7386	16620	17136
Productivity* (per ha)	4	6	6	6	7	4	6	6	6	6
Avg. price (Rs./ MTs)	4572	5040	4342	4376	6428	4572	5040	4342	4376	6428
	Lingapalem					Dammapet				
Area under targeted crop (ha)	826	997	1300	1328	1435	1030	1232	1658	2043	2272
% of targeted crop in total cropped area in the district	-	-	14.27	11.84	10.66	-	-	20.54	22.84	24.40
Total production (MTs)	3304	5982	7800	7968	10045	4120	7392	9972	12282	13656
Productivity* (per ha)	4	6	6	6	7	4	6	6	6	6
Avg. price (Rs./ MTs)	4572	5040	4342	4376	6428	4572	5040	4342	4376	6428

***** There is the measurement of productivity at district level and hence, the same is regarded for both blocks. Source: Hand books of West Godavari & Khammam District, Chief Planning Office, Eluru, Khammam.

Table-3.1. 7

Oil Palm Marketing through Collection Centres 2011-12

Collection center	Crop	Area under targeted crop (in ha)	Extent of loss through pest and disease	Transportation loss (to mandi/MIS procurement center)	Marketed through PSS/MIS (qtl)	Price received	Marketed through other channel (qtl)	Price received in each channel
Pedavegi	Oil palm	4234.56	5-8%	0-1 kg per qtl	-	-	20295.18	4120
Kalaraigudem		935.23			-	-	2593.23	4120
Aswaraopet		1939.96			-	-	9729.94	4120
Dammapet		3425.38			-	-	14469.41	4120

Source: The Chief Planning Office, Khammam, Khammam District.

Table-3.1.8

Costs Incurred in Marketing of Oil Palm under MIS

S. No	Functionary	Cost (Rs./qtl)			
		West Godavari district		Khammam district	
		Sample Villages			
		Vegiwada	Ayyaparaju gudem	Aswaraopet	Dhammapet
1	Marketing cost incurred by producer				
i	Transportation cost	146	120	103	92
ii	Labour charges for loading/unloading	196	182	162	167
iii	octroi	-			
iv	Cost of packing material	-			
v	Market fee	-			
vi	Commission	1 %*	1 %*	1 %*	1 %*
vii	Other, if any	-			
2	Market cost incurred by purchaser	-	-	-	-
i	Cost of purchase	-			
ii	Sale tax on value	-			
iii	Labour charges for filling and stitching bags	-			
iv	Market fee	-			
v	Weighing charges	-			
vi	Transportation cost	-			
vii	Loading/unloading charges	-			
viii	Commission				
3	Total cost (1+2)	-	-	-	-

Note:* The commission 1% is borne by state and central governments equally on 50: 50 bases.

Source : Field Survey -2013.

Table - 3.1.9

Projected Cost of Cultivation of Oil Palm

(Rs. Per ha.)

Sl. No.	Item of expenditure	Year 1	Year 2	Year 3	Year 4	Total	% Total cost
I	Material						
1	Planting material including 10% casualty replacement in second year	7865	787	--	--	8652	10.47
2	Manure and fertilizer	4228	6668	9358	9358	29612	35.85
3	Drip irrigation system for mono crop	26000				26000	31.48
4	Plant protection	800	800	1000	1200	3800	4.60
	Subtotal	38893	8255	10358	10558	68064	82.40
II	Operations						
1	Land preparation	2000	--	--	--	2000	2.42
2	Digging, filling and planting @Rs.15/palm	2145	215			2360	2.86
3	Manure and fertilizer application	640	640	640	640	2560	3.10
4	Pesticide application	160	160	160	240	720	0.87
5	Irrigation	400	400	400	400	1600	1.94
6	Intercultural operations	800	800	800	800	3200	3.87
7	Harvesting	--	--	--	600	600	0.73
8	Collection & Transportation	--	--	--	500	--	--
9	Watch and ward	--	--	--	1000	1000	1.21
	Subtotal	6145	2215	2000	4180	14540	17.60
	Total (rounded off)	45000	10500	12400	14700	82600	100.00
	Percentage share of yearly cost to matured stage	54.48	12.71	05.01	17.80	100	-

Source: Andhra Pradesh Co-operative Oil Seeds Growers Federation Ltd, Hyderabad

Table -3.1.10

Coverage of Farmers under MIS in the West Godavari and Khammam Districts

District	Village clusters	Total number of oil palm growers	MIS benefit availed
West Godavari	Vegiwada	53	100
	Ayyapurajugudem	41	100
Khammam	Aswaraopet	96	100
	Dammapet	74	100

Source: Field Survey, 2013

3.1.11. Assets of Sample Farmers from West Godavari and Khammam Districts:

Assets of sample farmers in selected districts are presented in Table - 3.1.11. All the farmer size groups display higher land sizes in West Godavari district compared to Khammam. The practice of leased-in land is at larger extent in Khammam district, as small, medium and large farmers have taken the land for cultivation. But this practice appears at lower level in West Godavari district. There is no practice of leased out for oil palm cropping in both study districts. The average level size for oil palm cultivation is high in Khammam district. The area under orchards becomes equal to the land holding size for all farmers size groups in West Godavari, while it is not there in Khammam district. Higher size farmer groups are engaging in other crops cultivation in sample villages in Khammam district.

Table - 3.1.11
Assets of Sample Farmers from West Godavari and Khammam Districts

S. No	Assets	Marginal		Small		Medium		Large		Average	
		West Godavari District									
		Vegi wada	Ayyaparaju gudem	Vegi wada	Ayyapa raju gudem	Vegi wada	Ayyapa raju gudem	Vegi wada	Ayyapa raju gudem	Vegi wada	Ayyapa raju gudem
1	Size of land (ha)	0.76	0.61	2.02	1.62	3.67	1.62	5.46	6.58	2.79	2.81
	Leased in (ha)	-	-		-		1.11	-	-	-	0.30
	Leased out (ha)	-	-	-	-	-	-	-	-	-	-
	Total (ha)	0.76	0.61	2.02	1.62	3.67	2.73	5.46	6.58	2.79	3.11
2	Total operational holding										
	Area under crop cultivation(ha)	-		-		-		-		-	-
	Area under orchard	0.76	0.61	2.02	1.62	3.67	2.73	5.46	6.58	2.79	3.11
3	Cropped area										
	Irrigated (ha)	0.76	0.61	2.02	1.62	3.67	2.73	5.46	6.58	2.79	3.11
	Unirrigated (ha)	-	-	-	-	-	-	-	-	-	-
4	Source of irrigation	Tube Well	Tube Well	Tube Well	Tube Well	Tube Well	Tube Well	Tube Well	Tube Well	Tube Well	Tube Well
5	Number of milch animals	11	5	7	12	25	11	8	20	51	48
6	Number of pump sets	4	2	3	5	10	6	2	10	19	23
7	Tractor	-		-		2		-		2	-
8	Home	4	2	2	5	8	4	1	4	1	1
		Khammam District									
		Aswarao pet	Dhammapet	Aswarao pet	Dhamma pet	Aswarao pet	Dhamma pet	Aswarao pet	Dhamma pet	Aswarao pet	Dhammapet
1	Size of land (ha)	0.71	0.71	1.16	1.52	3.24	3.41	3.24	5.06	2.35	2.77
	Leased in (ha)	-	-	0.40	-	0.61	-	3.08	3.64	1.29	0.49
	Leased out (ha)	-	-	-	-	-	-	-	-	-	-
	Total (ha)	0.71	0.71	1.56	1.52	3.85	3.41	6.32	8.70	3.64	3.26
2	Total operational holding										
	Area under crop cultivation (ha)	-	-	-	0.15	-	0.17	0.49	-	0.16	0.12
	Area under orchard	0.71	0.71	1.56	1.37	3.85	3.24	5.83	8.70	3.48	3.14
3	Cropped area										
	Irrigated (ha)	0.71	0.71	1.56	1.52	3.85	3.41	6.32	8.70	3.64	3.26
	Unirrigated (ha)	-	-	-	-	-	-	-	-	-	-
4	Source of irrigation	Tube Well	Tube Well	Tube Well	Tube Well	Tube Well	Tube Well	Tube Well	Tube Well	Tube Well	Tube Well
5	Number of milch animals	-	-	-	-	-	-	-	-	-	-
6	Number of pump sets	2	4	6	6	14	23	22	9	44	42
7	Tractor	-	-	-		2	1	4		6	1
8	Home	2	2	4	4	4	7	5	2	1	1

Source: Field Survey, 2013

There is no question of existing cultivation under un-interrupted area for oil palm, since the crop demands much water during cultivation. In both districts, all farmer size groups reported the cultivation under

irrigated area. In case of sources of irrigation also, all the farmers from both districts reported single source for irrigation i.e., tube well and no other source is used for the cropping of oil palm in the study area.

The milch animals are not with any sample farmer in Khammam district, while in West Godavari all the farmer size groups reported the possession of milch animals. Medium and large farmers have a little better edge in the number of milch animals in West Godavari district. For the possession of number of pump-sets, Khammam district shows a very higher number compared to its counterpart. In both districts, medium farmer size group is with lot of pump sets than other size groups of farmers. In the use of tractors, Khammam district shows higher average of tractors out of the total sample for both villages. For the asset of home, both districts show same average for the sample but marginal and large farmers from West Godavari reported higher number compared to the same group of farmers in Khammam district.

3.1.12. Sources of Borrowing for Sample Farmers:

Tables 3.1.12a and 3.1.12b present the sources of borrowing for sample farmers of oil palm. There is deviation with regard to the dependence of farmers over sources of borrowing within West Godavari and Khammam districts. There are only three sources for sample farmers in West Godavari viz., commercial banks, commission agents and friends and relatives, while Khammam district, along with the sources of West Godavari the other source is co-operative banks. Friends, relatives and commission agents ranged between 78% to 72% in the sample villages by average of the all farmers. Commercial banks generated the credit between 22% to 28% in the study villages. All the farmer groups in West Godavari are very much dependent on non-institutional credit. All the farmers have spent the taken borrowings for production and consumption purpose. As expected, the rate of interest is very high from commission agents, friends, and relatives with 24% and 18% in that order.

In Khammam district, cooperative banks have contributed in the total borrowings of sample farmers, but it stood at lowest average by 16% and 14% for the study villages. For oil palm, the generation of credit from institutional sources was very limited in between 26% and 29% of the total borrowing for all the farmers. Thus, there is a lot of requirement of credit to farmers from Institutional sources and farmers were burdened with exorbitant interest rates from non-institutional sources. Though the rate of interest is low from co-operative banks, the given credit is very limited and insufficient to meet the investments of the oil palm farmers in both study districts.

3.1.13 Cropping Pattern of Farmer Size Groups in Study Villages:

There is a crop specific cultivation among the oil palm farmers in Khammam district when compared to its counterpart. All the size groups of farmers in khammam district are in oil palm cultivation, while in West Godavari district, medium and large farmers are cultivating coconut in two sample villages during study period. It is observed that there is much concentration of oil palm in big farmer size groups than the lower ones (table-3.1.13).

3.1.14. Production Cost of Farmers in Sample Villages from Beneficiaries:

The Table-3.1.14 presents production cost per ha of farmers in the reference year 2011-12. Khammam district reports higher cost of production compared to West Godavari for oil palm. In both villages in West Godavari, the average cost is less than that of the villages in Khammam district. Further, all the size groups of West Godavari district report the lower production cost. However, in case of cost of labour, all the villages from West Godavari showed higher costs compared to the villages of Khammam district. The cost-effective production methods appear in West Godavari than in Khammam district, as the average of the total cost in sample villages is lower in both villages.

Out of the production cost, material cost (seed, fertilizers and chemicals), occupies lion's share in both districts. Cost of irrigation and cost of labour report second and third places in the total cost respectively. The cost appears higher to marginal and small farmers compared to medium and large farmers in all the four villages in the study. Out of all the size groups of farmers, marginal farmers have the highest production cost in all the four villages. Therefore, it would be better to give higher subsidy to marginal farmers compared to other size groups for oil palm cultivation in the districts.

3.1. 15. Crop Produced and its Disposal by Sample Farmers:

Table-3.1.15 presents the details of crop produced and its disposal during 2010-12 in the four sample villages. In case of oil palm, there is no question of home consumption, since the oil palm produce requires sophisticated machinery and factory to get edible palm oil. Therefore, whatever produced becomes marketable and there is no difference in between produced and marketed. There will not be any deviation in price from one village to another village and Government of A.P. fixes the price to all factories for a year to all the districts. However, the price fixed may vary from year to year based on the market. It is referred that the prices were Rs. 3,500/- and Rs. 5,600/- per MT for years 2010-11 and 2011-12, respectively. These prices were fixed based on the market conditions and consideration of cost of production of oil palm crop.

Table - 3.1.12a

Sources of Borrowing for Sample Farmers in West Godavari and Khammam Districts

Details of debt	Marginal		Small		Medium		Large		Average	
	West Godavari District									
	Vegiwada	Ayyaparaju gudem	Vegiwada	Ayyaparaju gudem	Vegiwada	Ayyaparaju gudem	Vegiwada	Ayyaparaju gudem	Vegiwada	Ayyaparaju gudem
	Commercial banks									
Amount of loan taken (Rs)	300000	200000	400000	550000	380000	105000	500000	155000	395000 (27.90)	252500 (21.86)
Rate of interest (per annum)	8	8	8	8	8	8	8	8	8	8
	Co-operative banks									
Amount of loan taken (Rs)	-	-	-	-	196000	-	-	-	13000 (0.92)	-
Rate of interest (per annum)	-	-	-	-	4	-	-	-	4	-
	Land Development Bank									
Amount of loan taken (Rs)	-	-	-	-	-	-	-	-	-	-
	Government programme									
Amount of loan taken (Rs)	-	-	-	-	-	-	-	-	-	-
	Commission agent /money lenders									
Amount of loan taken (Rs)	380000	450000	500000	480000	470000	520000	610000	490000	490000 (34.62)	485000 (41.99)
Rate of interest (per annum)	24	24	24	24	24	24	24	24	24	24
	Friends and relatives									
Amount of loan taken (Rs)	430000	390000	510000	440000	500000	390000	630000	450000	517500 (36.56)	417500 (36.15)
Rate of interest (per annum)	18	18	18	18	18	18	18	18	18	18
	Land lord/employer									
Amount of loan taken (Rs)	-	-	-	-	-	-	-	-	-	-
	Other Specify									
	-	-	-	-	-	-	-	-	-	-
Total loan amount									1415500 (100)	1155000 (100)
Purpose of loan	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption

Source: Field Survey, 2013.

Table - 3.1.12b
Sources of Borrowing for Sample Farmers in West Godavari and Khammam Districts

Details of debt	Marginal		Small		Medium		Large		Average	
	Khammam District									
	Aswaraopet	Dhammapet	Aswaraopet	Dhammapet	Aswaraopet	Dhammapet	Aswaraopet	Dhammapet	Aswaraopet	Dhammapet
	Commercial banks									
Amount of loan taken (Rs)	150000	120000	50000	200000	250000	307500	100000	128000	137500 (10.30)	188875 (14.90)
Rate of interest (per annum)	8	8	8	8	8	8	8	8	8	8
	Co-operative banks									
Amount of loan taken (Rs)	100000	150000	100000	100000	250000	350000	400000	100000	212500 (15.92)	175000 (13.81)
Rate of interest (per annum)	4	4	4	4	4	4	4	4	4	4
	Land Development Bank									
Amount of loan taken (Rs)	-	-	-	-	-	-	-	-	-	-
	Government programme									
Amount of loan taken (Rs)	-	-	-	-	-	-	-	-	-	-
	Commission agent /money lenders									
Amount of loan taken (Rs)	280000	350000	550000	400000	450000	507000	700000	628000	495000 (37.08)	471250 (37.18)
Rate of interest (per annum)	24	24	24	24	24	24	24	24	24	24
	Friends and relatives									
Amount of loan taken (Rs)	410000	360000	500000	460000	550000	490000	500000	420000	490000 (36.70)	432500 (34.12)
Rate of interest (per annum)	18	18	18	18	18	18	18	18	18	18
	Land lord/employer									
Amount of loan taken (Rs)	-	-	-	-	-	-	-	-	-	-
	Other Specify									
Amount of loan taken (Rs)	-	-	-	-	-	-	-	-	-	-
Total loan amount									1335000 (100)	1267625 (100)
Purpose of loan	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption

Source: Field Survey, 2013

Note: Parentheses refer to percent to the total of the column concerned.

Table - 3.1.13
Cropping Pattern of Sample Farmers in Sample Villages 2010-12

Crop	2010-11								Crop	2011-12							
	Area (hc)									Area (hc)							
	Marginal		Small		Medium		Large			Marginal		Small		Medium		Large	
	West Godavari District																
	Vegi wada	Ayyapa raju gudem	Vegi wada	Ayyapa raju gudem	Vegi wada	Ayyapa raju gudem	Vegi wada	Ayyapa raju gudem		Vegi wada	yyaparaju gudem	Vegi wada	yyaparaju gudem	Vegi wada	Ayyapa raju gudem	Vegi wada	Ayyapa raju gudem
Oil Palm	3.04	1.21	4.05	8.09	29.34	10.93	5.46	23.55	Oil Palm	3.04	1.21	4.05	8.09	29.34	10.93	5.46	23.55
Coconut	-	-	-	-	3.84	-	-	2.75	Coconut	-	-	-	-	3.84	-	-	2.75
	Khammam District																
	Aswaraopet	Dhammapet	Aswaraopet	Dhammapet	Aswaraopet	Dhammapet	Aswaraopet	Dhammapet		Aswaraopet	Dhammapet	Aswaraopet	Dhammapet	Aswaraopet	Dhammapet	Aswaraopet	Dhammapet
Oil Palm	1.42	1.42	6.27	5.46	15.38	22.66	29.14	17.40	Oil Palm	1.42	1.42	6.27	5.46	15.38	22.66	29.14	17.40
Coconut	-	-	-	-	-	-	-	-	Coconut	-	-	-	-	-	-	-	-

Source: Field Survey, 2013

Table 3.A.14
Cost of Production of Oil Palm of Beneficiaries in Sample Villages: 2011-12

Sl. No	Detail of cost items	Cost in Rs./ha											
		Marginal		Small		Medium		Large		Average			
		Guntur District											
		Vegiwada	Ayyaparaju gudem	Vegiwada	Ayyaparaju gudem	Vegi wada	Ayyaparaju gudem	Vegi wada	Ayyaparaju gudem	Vegiwada		Ayyaparaju gudem	
1	Land preparation cost/age of orchards	8816	9661	6877	8361	6885	7770	7326	8322	7476	11.37	8529	13.28
2	Cost of material (seed, fertilizers, chemicals)	22118	24926	22520	21632	21350	18590	19158	19424	21287	32.36	21143	32.92
3	Cost of irrigation	21942	22546	21396	20168	18329	19413	18155	16123	19956	30.34	19563	30.46
4	Cost of labour	10539	9058	10988	10250	13804	11619	14652	11568	12496	19.00	10624	16.54
5	Cost of hired equipment	5700	4840	4950	5335	5100	4450	2500	2840	4563	6.94	4366	6.80
6	Other cost (if any)	0	0	0	0	0	0	0	0	0	0	0	-
	Total	69115	71031	66731	65746	65468	61842	61791	58277	65776	100	64224	100
		Khammam District											
		Aswaraopet	Dhammapet	Aswarao pet	Dhammapet	Aswarao pet	Dhamma pet	Aswaraopet	Dhammpet	Aswaraopet		Dhammapet	
1	Land preparation cost/age of orchards	11127	14648	10255	9315	8131	7343	7277	7941	9198	13.53	9812	14.25
2	Cost of material (seed, fertilizers, chemicals)	31609	27062	21712	25111	21978	19936	22535	21127	24459	35.99	23309	33.85
3	Cost of irrigation	20352	22352	21159	20183	21465	19677	18843	19829	20455	30.09	20510	29.79
4	Cost of labour	6634	8746	9030	9829	8365	10604	12931	11299	9240	13.59	10120	14.70
5	Cost of hired equipment	6338	7042	5190	6396	4365	5692	2574	1264	4617	6.79	5099	7.41
6	Other cost (if any)	0	0	0	0	0	0	0	0	0	0	0	--
	Total	76060	79850	67346	70834	64304	63252	64160	61460	67968	100.00	68849	100.00

Source: Field Survey, 2013.

Table - 3.1.15
Crop Produce and its Disposal Pattern of Sample Farmers: 2010-12

Villages	Total production (Mts)		Kept for home consumption (Mts)		Marketed (Mts)		Price (Rs/ Mts)	
	2010-11	2011-12	2010-11	2011-12	2010-11	2011-12	2010-11 (factory price)	2011-12 (factory price)
Oil palm crop								
Vegiwada	810	1955	-	-	810	1955	3500	5600
Ayyaparaju-gudem	-	2580	-	-	-	2580	-	5600
Aswaraopet	1625	3340	-	-	1535	3340	3500	5600
Dhammapet	1525	2930	-	-	1525	2930	3500	5600

Source: Field Survey, 2013

3.1.16. Marketing Channels and Prices of Oil Palm of Sample Farmers:

In the study area, there are no different channels (Table 3.1.16). The A.P. Oil Federation fixed the price as Rs. 5,600/- in both districts. Only single channel for marketing for oil palm produce is existing to the sample farmers in both study districts. There is no possibility to sell the produce to other factory or channel by the oil palm cultivator in A.P. It could be seen the cropping area through allotted blocks to different factories across A.P. as discussed in the first chapter. Thus, the marketing of oil palm has single channel as prescribed by Government of A.P.

Table 3.1.16
***Different Marketing Channels and Prices for Sample Farmers of Oil Palm: 2011-12**

Selected Crop	Marketing channel	% of sold	Price (Rs/ MTs)
Oil Palm	AP. Oil Fed	100	5600

* there are no different market channels to oil palm produce in A.P. Source: Andhra Pradesh Co-operative Oil Seeds Growers Federation Ltd, Hyderabad.

3.1.17. Marketing Costs of Oil Palm for Sample Farmers-2011-12:

The marketing costs of sample farmers are shown in Table 3.1.17 for all the four sample villages. As referred above, the single channel existence is there and given in the marketing costs under MIS for oil Palm. The farmers are incurring only three types of marketing costs: i) Transport costs ii) Labour charges for loading and unloading and iii) Commission in the market. The first two costs are higher in Khammam district compared to West Godavari district. Other costs like picking, filling, octroi and depreciation of container are not incurred by the cultivators for marketing of oil palm produce. The market commission is one per cent and it is borne equally by Government of A.P. and Government of India. The net price received by farmers is high in the sample villages of Khammam. As there is one channel for marketing of oil palm to farmers, the MIS is implemented at factory level. The millers of oil palm implement the price fixed by Government of A.P. The millers of oil palm will add the subsidy in the price and pay the same to the farmer in the payment through bank cheque. Therefore, whatever the subsidy given through MIS is paid to the cultivators in A.P.

Table - 3.1.17
Channel Wise Marketing Cost of Oil Palm of Sample Farmers

S.No	Cost incurred	MIS			
		Sample Villages			
		West Godarvari district		Khammam district	
		Vegiwada	Ayyaparaju gudem	Aswarao pet	Dhammapet
1	Picking, filling in boxes/bags/container	-	-	-	-
2	Depreciation of container	-	-	-	-
3	Transportation costs(Rs/Qtl)	146	120	103	92
4	Labour charges for loading/unloading of produce (Rs/Qtl)	196	182	162	167
5	Octroi/marketing tax	0	0	0	0
6	Commission in market	1 %	1 %	1 %	1 %
7	Other expenses if any	0	0	0	0
8	Sub total (Rs./Qtl)	342	303	265	259
9	Price received (Rs. per qtl.)	5480	5480	5600	5600
10	Net Price Received (RS. per qtl.)	5138	5177	5335	5341

*0.5 percent market cess is born by Govt. of India and 0.5 percent market cess is born by Govt. of AP.
Source: Field Survey, 2013

3.1.18 Farmers' perception over MIS for Oil Palm:

Table-3.1.18 presents the perception of farmers in the selected districts. For oil palm produce, there is no question of rejection of any portion of produce by government agency or private traders. Either at field level or at market level, the MIS is fully given to the cultivators. All the farmers received the MIS in 100%. All the farmers are well aware of the MIS and further, every farmer is covered under MIS, whenever, it is implemented in the study area.

MIS is not a good catalyst to increase incomes of the cultivators of oil palm crop, as the farmers express the impact of MIS at lower level. The implementation of MIS over oil palm is very paltry and it has confined few months in few years. Many a time, market price has good dividends to farmers. Moreover, the price suggested by Government of A.P. was very often lower than the existing market price. Hence, the need of MIS becomes null and void to oil palm crop. The coverage of cost of production ranges between 15% and 25%, as expressed by farmers. In case of increase in incomes, farmers reported that the MIS helped in all the sample villages in the study area. There is some variation in the study area and in increase of incomes between the two study districts. It is lower in West Godavari district and vice-versa in Khammam district. Thus, it could be found some good impact over the increase in incomes of cultivators of oil palm rather than extension in area in the study area.

3.1.19. Problems Perceived by Sample Farmers:

The problems perceived by the farmers are given in the Table-3.1.19. All the farmers report the deficient market price, as it does not reflect the cost of production. There is need of higher price to meet the increased cost of production of oil palm. All the farmers reported that the price announced under MIS is not

adequate and only one buyer exists in the market, and there is no alternative channel. In receiving the payment, farmers met delay. MIS is also not implemented regularly and it was implemented occasionally for oil palm in A.P. The other constraints do not reflect any effect either on cultivators or on cropping area. Other aspects like, Packing, price volatility, Weighing, availability of transport, regulated market, and processing units do not show any impact on the marketing and cropping of oil palm. Nevertheless, weighing is taken by factory at factory sight with its weighing machine and how far it is genuine is a big question. The farmers do not show any other reasons over MIS for not to sell. Primarily, they express that MIS is to be implemented regularly and the price should be fixed based on the changed cost of production for oil palm. Interestingly, all the four sample villages hailing from different selected districts report unanimously the same problems over the MIS in A.P.

Table 3.1.18
Farmers Perception over MIS-2011-12

S. No	Perception items	% of sample farmers reporting particular problem			
		West Godavari district		Khammam district	
		Sample Villages			
		Vegiwada	Ayyaparaju gudem	Aswaraopet	Dhammapet
	Rejection of produce by buyers				
1	Output rejected (in Mts)	0	0	0	0
	By govt. agency	0	0	0	0
	By private traders	0	0	0	0
2	Rejection stage of produce				
	At the level of field	0	0	0	0
	In the market	0	0	0	0
3	Possible reasons for exclusion of farmers from MIS/PSS				
	Farmers not aware of MIS/PSS	0	0	0	0
	Farmers not interested in selling through MIS/PSS	0	0	0	0
	Others	-	-	-	-
4	Perception about the results/outputs of MIS/PSS				
	MIS/PSS helped in increasing area under targeted crop	50	30	40	30
	MIS/PSS covered cost of production of targeted crop	15-25%			
	Increase in farm income after implementation of MIS/PSS	15	20	40	30

Source: Field Survey, 2013

Table 3.1.19
Problems Perceived by Sample Farmers in Marketing of Oil Palm

S .No	Constraints	% of farmers reporting the problems			
		$CL_1 D_{1*}$	$CL_2 D_{1@}$	$CL_1 D_{2\sim}$	$CL_2 D_{2!}$
1	Existing market price of produce is not sufficient	100	100	100	100
2	Market intervention price announced is not adequate	100	100	100	100
3	Packaging material is costly	0	0	0	0
4	Packages/container not returned to the growers (as per agreement)	0	0	0	0
5	Price volatility of targeted crop in whole sale market	0	0	0	0
6	Cheating by middlemen				
	Price	0	0	0	0
	Weighing	0	0	0	0
	Other problem in selling produce	0	0	0	0
7	Non-availability of transport	0	0	0	0
8	High commission charges from middlemen	0	0	0	0
9	Non receipt of payment in time	100	100	100	100
10	MIS/PSS operation are irregular	100	100	100	100
11	Regulated market is too far	0	0	0	0
12	Non-availability of cold storage/ warehousing facility	0	0	0	0
13	Lack of processing units	0	0	0	0
14	Delay in payments	100	100	100	100
15	Extent of organized market of targeted produce	-	-	-	-
	Distance of regulated market	-	-	-	-
	Existence of village market/daily hat in nearby village	-	-	-	-
16	Reason for not sell to PSS/MIS				
	Long distance	0	0	0	0
	Low	0	0	0	0
	Moderate	0	0	0	0
	Long	0	0	0	0
	Delay in price received	0	0	0	0
	Discrimination on the basis of standard of produce/quality	0	0	0	0

* $CL_1 D_1$= Cluster 1 village in West Godavari District, @$CL_2 D_1$ = Cluster 2 village in West Godavari District
~$CL_1 D_2$ = Cluster 1 village in Khammam District and ! $CL_2 D_2$ = Cluster 2 village in Khammam District
Source: Field Survey, 2013.

Section-2: Cotton

3.2.1. District Wise PSS in A.P.-2000-12:

It is presented the glance of PSS in Andhra Pradesh at district level (Table - 3.2.1). During 2000-12, the implementation of PSS appears for different crops and districts. Cotton crop was found with only four years of the need of PSS across districts in A.P. During 2000-12, safflower has the highest number of years (nine) compared to all other crops followed by copra with six years. Moong and Urid have the need of only one year i.e., 2003 and followed by Soybean with two years. Groundnut required three years of PSS, while sunflower and Toor had PSS for four years in different districts across A.P. Based on the crops for PSS implementation, the districts of the concerned years will differ year to year. It is reported the existence PSS in A.P. in either district for a crop for all the study period (2000-12). In 2012, out all the crops, only one crop, cotton was taken for PSS in A.P.

Table - 3.2.1
District Wise PSS in A.P.-2000-12

S.No	Year	District	Commodity procured
1	2000	West Godavari, Khammam, Ranga Reddy, East Godavari, Ananthapur, Kadapa, Srikakulam	Copra, Groundnut, Safflower, Sunflower, Toor, Soybean
2	2001	West Godavari, Khammam, Ranga Reddy, East Godavari, Ananthapur, Srikakulam	Copra, Groundnut, Safflower, Toor, soybean
3	2002	Ranga Reddy	Safflower, Toor
4	2003	Khammam, Krishna, Medak, Nalgonda, Medak, Ranga Reddy	Moong, Urid
5	2004	Guntur, Khammam, Nizamabad, Medak, Prakasham, Mahabubnagar, Krishna, Nalgonda , Kurnool	Gram, Safflower, cotton
6	2005	West Godavari, Ananthapur, Srikakulam, Kadapa	Groundnut, Safflower, Soybean, Sunflower
7	2006	West Godavari, Ananthapur, Srikakulam	Safflower, Soybean, Sunflower
8	2007	West Godavari, East Godavari	Safflower, Copra
9	2008	Guntur, Khammam, Prakasam, Krishna, Nalgonda , Kurnool	Sunflower, cotton
10	2009	West Godavari, Khammam, Ranga Reddy, East Godavari, Ananthapur, Kadapa, Srikakulam Prakasam, Krishna, Nalgonda , Kurnool, Guntur	Copra, Sunflower, cotton
11	2010	West Godavari, Khammam, Ranga Reddy, East Godavari, Srikakulam	Toor, Milling Copra
12	2011	West Godavari, East Godavari	Milling Copra
13	2012	Guntur, Khammam, Prakasam, Krishna, Nalgonda , Kurnool	Cotton

3.2.2. Month wise Arrivals of Cotton of Important Collection Centres in Guntur and Khammam Districts-2011-12:

Monthly arrivals of cotton from the Collection centres of Guntur and Khammam districts for the year 2011-12 is given in Table - 3.2.2. The available collection centres for both districts are 10 in each study district., Three collection centres from Guntur district and five collection centres from Khammam district purchased the cotton and further these collection centres made purchases only one month i.e., March, 2012. No other month shows any purchase/procurement under PSS. Therefore, there has been big alarming voice from farmers for the number of months for purchases to avoid and reduce the role of the private traders in the purchases of cotton in both study districts. The portion of purchases of CCI is very limited compared to private traders. For the remaining months, the arrivals of both CCI and private traders are not given by the concerned data sources. However, the total quantity procured by CCI from the total market arrivals is available in Table - 3.3.

Table - 3.2.2
Monthly Arrivals of Cotton of Important Collection Centres in Guntur and Khammam Districts-2011-12

Collection centre	TC	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
	Guntur District													
Guntur	Cotton	-	-	-	-	-	-	-	-	-	-	-	217 (100.00)	217 (100.00)
Tadikonda	Cotton	-	-	-	-	-	-	-	-	-	-	-	382 (100.00)	382 (100.00)
Chilakaluripet	Cotton	-	-	-	-	-	-	-	-	-	-	-	-	-
Narasaraopet	Cotton	-	-	-	-	-	-	-	-	-	-	-	350 (100.00)	350 (100.00)
P.N.Padu	Cotton	-	-	-	-	-	-	-	-	-	-	-	-	-
Krosur	Cotton	-	-	-	-	-	-	-	-	-	-	-	-	-
Macherla	Cotton	-	-	-	-	-	-	-	-	-	-	-	-	-
Sattenapalli	Cotton	-	-	-	-	-	-	-	-	-	-	-	-	-
Piduguralla	Cotton	-	-	-	-	-	-	-	-	-	-	-	-	-
Phirangipuram	Cotton	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		-	-	-	-	-	-	-	-	-	-	-	949 (100.00)	949 (100.00)
	Khammam District													
Khammam	Cotton	-	-	-	-	-	-	-	-	-	-	-	1505 (100.00)	1505 (100.00)
Bhadrachalam	Cotton	-	-	-	-	-	-	-	-	-	-	-	1290 (100.00)	1290 (100.00)
Burugampadu	Cotton	-	-	-	-	-	-	-	-	-	-	-	359 (100.00)	359 (100.00)
Kothagudem	Cotton	-	-	-	-	-	-	-	-	-	-	-	200 (100.00)	200 (100.00)
Madhira	Cotton	-	-	-	-	-	-	-	-	-	-	-	-	-
Enkoor	Cotton	-	-	-	-	-	-	-	-	-	-	-	2875 (100.00)	2875 (100.00)
Chandragunda	Cotton	-	-	-	-	-	-	-	-	-	-	-	-	-
Nelaknodapalli	Cotton	-	-	-	-	-	-	-	-	-	-	-	-	-
Ellendu	Cotton	-	-	-	-	-	-	-	-	-	-	-	-	-
Wyra	Cotton	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		-	-	-	-	-	-	-	-	-	-	-	6229 (100.00)	6229 (100.00)

Source: The Cotton Corporation of India, Branch Office, Guntur

3.2.3. Share of Procurement under PSS in Market Arrivals of Cotton in Guntur and Khammam Districts-2008-11:

The proportion of procurement to total market arrivals of selected districts and A.P. is shown in Table - 3.2.3. During the study period, CCI in A.P procured only for one year (2008-09) large amount of cotton. In other years, the PSS stood at nominal level with the purchases of 11% and 6% in 2009-10 and 2010-11 in that order. The analogous trend was appeared for selected districts-Guntur and Khammam. In Guntur district, the procurement under PSS is very low compared to Khammam district in 2008-11. It might be ascribed due to the availability of large-scale private trader market in Guntur district against khammam district. In 2008-09, the procured data for Khammam district was not tallied with the total arrivals and hence it was not shown in the table. Thus, the presence of PSS might be much needed to the farmers, where the less competitive market prevails.

Table - 3.2.3

Share of Cotton Procurement under PSS in Market Arrivals of Guntur and Khammam Districts & A.P.

(Qtl.)

Sl. No	District	2008-09		2009-10		2010-11	
		Total market arrivals	Qty. Procured	Total market arrivals	Qty. Procured	Total market arrivals	Qty. Procured
1	Guntur	3063917 (100.00)	1542148 (50.33)	2270586 (100.00)	68746 (3.03)	3276437 (100.00)	116650 (3.56)
2	Khammam	664349 (100.00)	-*	750824 (100.00)	325015 (43.29)	1134993 (100.00)	228917 (20.17)
3	Andhra Pradesh	8829826 (100.00)	6456574 (73.12)	6516833 (100.00)	708564 (10.87)	9321735 (100.00)	608167 (6.52)

Source: CCI, Guntur, Note: Parentheses refer to percent of arrivals and procured. ***** Data is not tallied

3.2.4. PSS Operations from APMC-2011-12:

The details from APMC of PSS for different agriculture commodities are given in Table -3.2.4. There were two crops viz., Cotton and Paddy. The farmers were given the PSS for cotton crop during March-April months during 2011-12 in the study districts. The one percent cess was given by CCI to APMC to cotton crop, but for Paddy, Andhra Pradesh Civil Supplies (APCS) made payment in December-January in Guntur district, while in Khammam district, Integrated Tribal Development Agency (ITDA) or District Rural Development Authority (DRDA) implemented the PSS to paddy crop in November 2011. The CCI had higher purchases in Khammam district than in Guntur district for both crops. Because of lack of marketing availability in Khammam district, the variation in between these two districts took place.

Table 3.2.4
PSS Operations from APMC-2011-12

Crops procured under PSS	Procurement starting month for crop in PSS	Procuring agency	Total quantity of crops procured in MTs under PSS	Price of crop in Rs. (PSS)/qtl.	Charges, if any paid to APMC, if yes, by whom	Paid the amount. by govt. of India to APMC *
Guntur District						
Cotton	March-April	CCI	35110	3900	1 %	1369290
Paddy	Dec-Jan	APCS	6808 (m .t)	1110	1 %	75569
Khammam District						
Cotton	March-April	CCI	854998	3900	1 %	33344922
Paddy	Nov	ITDA/DRDA	242666790	1110	1 %	2693601369

* The one per cent cess to APMC is paid by CCI, Guntur. Source: Chief Planning Office, Guntur and Khammam.

3.2.5. Cotton in Selected Districts-2006-11:

The details of cotton cultivation in selected districts are given in Table 3.2.5 for the period 2006-11. During 2006-09 cotton showed increasing trend and latter it was nearly stagnant in Guntur district, nevertheless an acceleration appeared up to 2010 in Khammam district. The share of area under cotton is high in Khammam district under total cropped area in the district, compared to Guntur district in the entire study period. Though it

is there, the productivity of cotton is very much high in Guntur district rather than in Khammam district in all the years under study (2006-11) except in 2010-11. In absolute figures, the area under cotton is higher in Guntur district than in Khammam district during 2006-11.

Table 3.2.5
Cotton in Guntur and Khammam Districts-2006-11

Particulars	Guntur				
	2006-07	2007-08	2008-09	2009-10	2010-11
Area under targeted crop (ha)	132550	149627	166289	151490	170086
% of targeted crop in total cropped area in the district	16.49	17.99	19.99	19.03	19.63
Total production (MTs)	79662	689164	643636	524868	402203
Productivity (per ha)	601	783	658	589	402
Avg. price (Rs./ qtl)	N.A.	N.A.	N.A.	N.A.	N.A.
	Khammam				
Area under targeted crop (ha)	110101	118513	124516	131900	148609
% of targeted crop in total cropped area in the district	22.13	23.27	23.72	30.04	26.05
Total production (Mts)	42389	379242	317150	300266	406489
Productivity (per ha)	325	544	433	387	465
Avg. price (Rs./ Mts)	N.A.	N.A.	N.A.	N.A.	N.A.

Source: Statistical Abstract of Andhra Pradesh, Government of Andhra Pradesh, Hyderabad

3.2.6. Cotton in Selected Blocks-2006-11:

At block level, cotton crop details for the period 2006-11 is given in Table-3.2.6. Out of all blocks/mandals, Khammam rural block/mandal shows the highest share of targeted crop in the total cropped area of the block. Both blocks/mandals of Khammam district, report the higher shares of cropped area under cotton for all years compared to blocks/mandals of Guntur district. In case of yield also, Khammam rural and Chintakani mandal from Khammam district have better edge in the yield levels than that of the blocks/mandals of Guntur district. Khammam rural mandal/block has the highest area in absolute figures out of all blocks/mandals. In case of productivity of cotton, the district yields are applied to block level, since the productivity is not available to blocks.

3.2.7 Marketing of Cotton in Collection Centres:

Information of marketing of cotton through the collection centres is given in Table- 3.2.7. Guntur district has higher cropped area than Khammam district. The loss of produce through pests and diseases is reported as 10% to 15% in both districts and the transport loss (to reach commodity to mandals) is one kg to two kgs. per quintal. The marketed produce is greater in Khammam district than that of Guntur. The price received is high in Khammam district than in Guntur district. The marketed produce through other channels is not available from both districts.

Table - 3.2.6
Cotton in Selected Blocks-2006-11

Particulars	Guntur District					Khammam District				
	Chilakaluripet mandal					Khammam rural mandal				
	2006-07	2007-08	2008-09	2009-10	2010-11	2006-07	2007-08	2008-09	2009-10	2010-11
Area under targeted crop (ha)	3000	3947	6412	6385	7952	4127	4076	4550	5158	5635
% of targeted crop in total cropped area in the district	0.37	0.47	0.77	0.80	0.92	4.49	4.32	4.37	4.54	4.74
Total production (Mts)	1803	3091	75360	65612	56459	4866	6811	5979	5916	7562
Productivity* (per ha)	601	783	1175	1027	1070	1179	1671	1314	1147	1342
Avg. price (Rs./ Mts)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nadendla mandal					Chintakani mandal				
Area under targeted crop (ha)	5560	5436	5800	5504	5897	1796	2010	2311	3665	3076
% of targeted crop in total cropped area in the district	0.69	0.65	0.70	0.69	0.68	1.95	2.13	2.22	3.22	2.59
Total production (Mts)	3342	4256	68167	56559	41869	2117	3359	3037	4204	4128
Productivity* (per ha)	601	783	1175	1027	1070	1179	1671	1314	1147	1342
Avg. price (Rs./ Mts)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

***** There is the measurement of productivity at district level; hence the same is estimated for both blocks. Source: Hand books of Guntur District, Chief Planning Office, Guntur.

Table - 3.2.7
Marketing of Cotton Produce in Collection Centres

Collection center	Crop	Area under targeted crop (in ha)	Extent of loss through pest and disease	Transportation loss (to mandi/MIS procurement center)	Marketed through PSS/MIS (qtls)	Price received	Marketed through other channel (qtls)	Price received in each channel
Guntur	Cotton	170086	10-15%	1-2 Kgs per Qtl	306105	2892.80	NA	NA
Chilakaluripet		NA			181912	2947.00	NA	NA
Khammam *		148609			527928	2944.16	NA	NA

*In Khammam district, the concerned mandals have one Mandi only. Source: Field Survey, 2013

3.2.8. Costs Incurred in Marketing of Cotton Produce under PSS in APMC:

The marketing costs of targeted crop under PSS in APMC are given in Table - 3.2.8. Essentially, the market Cess is paid in all market centres by CCI and this Cess is not collected from the farmer in either market centre. The remaining marketing costs vary from one centre to another centre. The higher transportation cost is observed in Kodumuru centre (Rs.113 per quintal) and the cost exists at lower level in both centres in Guntur district than in Khammam district, while the labour charges are higher in Guntur district than in Khammam. In case of packing material, we find that the kodumuru centre reports the highest cost (Rs.287). Other costs show similar level in both districts. All these four APMCs reported the receiving of 1% market cess from CCI, Guntur branch for the purchases made by CCI in these market Centres. The lowest marketing cost appeared in Tallampadu centre from Khammam district.

Table - 3.2.8
Costs Incurred in Marketing of Cotton under PSS in APMC*

Sl.No	Functionary	Cost (Rs./qtl)			
		Guntur district		Khammam district	
		Sample Villages			
		Veluru	Appapuram	Thallampadu	Kodumuru
1	Marketing cost incurred by producer				
i	Transportation cost	76	75	84	113
ii	Labour charges for loading/unloading	181	175	92	109
iii	octroi	-	-	-	-
iv	Cost of packing material	219	249	171	287
v	Market fee	-	-	-	-
vi	Commission	-	-	-	-
vii	Other, if any (Deprecation)	92	95	94	88
2	Market cost incurred by purchaser				
i	Cost of purchase	-	-	-	-
ii	Sale tax on value	-	-	-	-
iii	Labour charges for filling and stitching bags	-	-	-	-
iv	Market fee*	Cess 1%	Cess 1%	Cess 1%	Cess 1%
v	Weighing charges	-	-	-	-
vi	Transportation cost	-	-	-	-
vii	Loading/unloading charges	-	-	-	-
viii	Commission	-	-	-	-
3	Total cost (1+2)	568	594	441	597

*The market cess of APMC is borne by Cotton Corporation of India, Guntur branch. Source: Field Survey, 2013.

3.2.9. Cost of Cultivation Estimates of Cotton from the Department of Agriculture, A.P.:

The details of cost of cultivation as per the Joint Director of Agriculture, Department of Agriculture, Guntur District, Guntur is given in Table - 3.2.9. There are nine items referred for cost of cultivation of cotton. Out of these costs, harvesting and other charges have lion's share followed by fertilizers and pesticides. Family labour share reports lower (4%) compared to hired labour. Weeding charges also report considerable costs against seed cost, hired labour and in-puts application. The cost per ha is Rs. 29,570.

Table -3.2.9
Cost Cultivation of Cotton from the Department of Agriculture, A.P

S.No	Item	Cost (Rs./ha)	% to total cost
1	Ploughing	2500	8
2	Seed cost	1800	6
3	fertilizer	4840	16
4	pesticides	4800	16
5	Inputs application (seed, fertilizer, pesticides)	2330	8
6	Family labour	1200	4
7	Hired labour	2000	7
8	Harvesting & others charges	7000	24
9	weeding	3100	10
	Total	29570	100

Source: Joint Director of Agricultural, Guntur district, Guntur.

3.2.10 Coverage of Farmers under PSS in Guntur and Khammam Districts:

Table - 3.2.10 gives coverage of farmers under PSS for cotton crop in selected districts. It is observed that the coverage of farmers under PSS is at large extent in Khammam district than in Guntur district. The total village clusters and number of growers or beneficiaries of CCI are higher in Khammam district. There is no variation between growers and beneficiaries.

Table 3.2.10
Coverage of Farmers under PSS in Guntur and Khammam Districts

District	Village clusters	Total number of Cotton crop growers	PSS benefit availed
Guntur	2500	2500	2500
	1800	1800	1800
Khammam	4840	4840	4840
	4800	4800	4800

Source: The Cotton Corporation of India Limited, branch office, Guntur

3.2.11. Assets of Sample Farmers in selected Districts:

The assets of sample farmers from sample villages from selected districts are shown in Table-3.2.11. The farmers are grouped in four size groups as marginal, small, medium and large. Further, on average, the asset level of farmers is estimated for all the villages. The size of the land for marginal and small farmers is large in Guntur district than in Khammam district, but in case of medium and large farmers, the opposite appears. The average size of land is greater than the sizes of marginal and small farmers in Khammam district, while Guntur district reports the higher sizes for both groups. The argument of leased-in land is low in Khammam district. For marginal and small farmers, it is high in Guntur district. For medium and large farmers, the leased-in land size is high, but for Guntur, it is at low level. Surprisingly, in both districts, there is no trace of leased-out land of cotton cultivation. It shows that how much the farmers are interested in cotton cultivation in the study districts.

In other studies also, the marginal and small farmers are engaged much with leased-in land. The total operational land holding size is high for marginal and small farmers in Guntur district compared to Khammam district and vice versa for medium and large farmers. Total operational land holding of all sample farmers in both districts is under cultivation for cotton. It is reported that the irrigated area under cotton cultivation is very limited and the land of 90% is under un-irrigated in both districts in both study districts. The number of milch animals is high in Khammam district compared to Guntur. The source of irrigation and number of pump sets are not there in selected districts. No farmer has own tractor in the cultivation of cotton crop in either district.

3.2.12. Sources of Borrowing for Sample Farmers:

The sources of loans of cotton farmers of sample villages for Guntur and Khammam districts are given in Table-3.2.12a and 3.2.12b. The purpose of loan from all sources, as expressed by respondents, is meant for both production and consumption of the farmers in all the sample villages. In both districts, the sources of commercial and co-operative banks have lower shares than the total share of all other sources. The share of all other sources is very high in Guntur district, as Commercial and co-operative banks contribute 36% out of all

the borrowing of sample farmers. It indicates the lot of dependence of cotton farmers on non-institutional sources. Because of this reason, the debt burden has led to number of farmer suicides in this district.

Table - 3.2.11
Assets of Sample Farmers in Guntur and Khammam Districts

Sl. No	Assets	Marginal		Small		Medium		Large		Average	
		Guntur District									
		Sample Villages									
		veluru	Appa puram	veluru	Appa puram	veluru	Appa puram	veluru	Appa puram	veluru	Appa puram
1	Size of land (ha)	1.62	1.42	5.27	2.05	7.08	11.92	1.21	6.07	1.01	1.43
	Leased in (ha)	0.81	0	2.88	3.44	3.65	5.86	4.05	0	0.76	0.62
	Leased out (ha)	0	0	0	0	0	0	0	0	0	0
	Total (ha)	2.43	1.42	8.08	5.46	10.72	17.79	5.26	6.07	1.77	2.05
2 Total operational holding											
	Area under crop cultivation(ha)	2.43	1.42	8.08	5.46	10.72	17.79	5.26	6.07	1.77	2.05
	Area under orchard	0	0	0	0	0	0	0	0	0	0
3 Cropped area											
	Irrigated (ha)	0	0	0	0	2.43	0	0	0	0.61	0
	Un-irrigated (ha)	2.43	1.42	8.08	5.46	8.29	17.79	5.26	6.07	6.01	7.69
4	Source of irrigation	0	0	0	0		0	0	0	0	0
5	Number of milch animals	2	2	0	3	4	8	0	0	0.4	0.87
6	Number of pump sets	0	0	0	0	0	0	0	0	0	0
7	Tractor	0	0	0	0	0	0	0	0	0	0
8	Home	3	2	6	4	5	8	1	1	1	1
		Khammam District									
		Sample Villages									
		Thallam padu	Kodu muru	Thallam padu	Kodu muru	Thallam padu	Kodu muru	Thallam padu	Kodu muru	Thallam padu	Kodu muru
1	Size of land (ha)	0.42	1.23	2.02	5.26	10.13	11.97	14.78	5.26	1.82	1.58
	Leased in (ha)	0	0	0.81	0	11.55	7.69	2.63	8.10	1.00	1.05
	Leased out (ha)	0	0	0	0	0	0	0	0	0	0
	Total (ha)	0.42	1.23	2.83	5.26	21.63	19.62	17.41	13.36	2.82	2.63
2 Total operational holding											
	Area under crop cultivation (ha)	0.42	1.23	2.83	5.26	21.63	19.62	17.41	13.36	2.82	2.63
	Area under orchard	0	0	0	0	0	0	0	0	0	0
3 Cropped area											
	Irrigated (ha)	0	0.81	1.62	5.26	13.34	12.74	12.15	3.66	6.78	5.62
	Unirrigated (ha)	0.42	0.42	1.21	0	8.29	6.88	5.26	7.68	3.80	3.75
4	Source of irrigation	0	0	0	0	0	0	0	0	0	0
5	Number of milch animals	0	2	2	6	6	18	2	10	0.67	2.4
6	Number of pump sets	0	0	0	0	0	0	0	0	0	0
7	Tractor	0	0	0	0	0	0	0	0	0	0
8	Home	1	2	2	4	9	7	3	2	1	1

Source: Field Survey, 2013

Except large farmers, all the other farmer groups borrowed higher amounts from commission agents/ moneylenders and friends and relatives. One significant fact appears that there are no borrowings from landlords by any lower size farmer group. This indicates that there is no possibility of attached labour or selling the produce to them (landlords) at lower prices. In agricultural loan generation, the farmers are very much dependent on four sources, as referred earlier in Guntur district. However, the rate of interest at non-institutional sources is very exorbitant by 24% to all 18% and the farmer is to borne much from the income derived from the cotton produce.

In Khammam district also, the similar picture appears for the sources of loans and its relative shares (as in Guntur district). Commission agents and moneylenders have 30% share in the total source of loan followed by friends and relatives with 29% and thus marginal, small and medium farmers are much dependent on non-institutional sources at higher rate of interests (24% and 18%).

3.2.13. Cropping Pattern of Sample Farmers-2010-12:

The cropping pattern of study villagers is given in Table- 3.2.13 for the selected districts during 2010-12. There is no shift of crops in the sample villages during 2010-12. Nevertheless, there is little variation in between two districts. In Guntur, along with cotton and paddy, chillies is cropped, whereas in Khammam along with cotton and paddy, pulses is cropped in 2010-12. Chillies is cropped much by large farmers and there is no cultivation of chillies by marginal farmers in Guntur district. Interestingly, all size groups of farmers are in cotton cultivation but it is absent in case of paddy, chillies and pulses. Once again it emphasizes the weight given to cotton cultivation by the farmer community in both study districts. In Guntur district, the farmers are able to engage the crops, which require much investment rather than in Khammam district.

3.2.14. Cost of Production of Cotton of Sample Farmers-2011-12:

The cost of cultivation is high in sample villages of Khammam district than that of Guntur district (table 3.2.14). Seed, fertilizers, and chemicals occupy the highest share of the total cost of cultivation as per the farmers' response in the study districts followed by land preparation cost. Cost of hired equipment shows high in Khammam district than in its counterpart. Since the cultivation of cotton is based on monsoons, there are no costs for irrigation in either district. Therefore, we may estimate the low level of income to all the farmers in the study districts. The cost of labour is very high in Guntur district than in its matching part. As anticipated, the labour cost for marginal farmers is low compared to other size groups in one sample village. The large farmers are not found with huge labour costs compared to medium and small farmers in Guntur district.

Table - 3.2.12a
Sources of Borrowing of Sample Farmers in Guntur and Khammam Districts

Details of debt	Marginal		Small		Medium		Large		Average	
	Guntur District									
	Veluru	Appapuram	Veluru	Appapuram	Veluru	Appapuram	Veluru	Appapuram	Veluru %	Appapuram%
	Commercial banks									
Amount of loan taken (Rs.)	85000	100000	210000	120000	150000	105000	450000	100000	223750 (27.62)	106250 (14.21)
Rate of interest (per annum)	8	8	8	8	8	8	8	8	8	8
	Co-operative banks									
Amount of loan taken (Rs.)	100000	60000	100000	100000	175000	300000	200000	200000	143750 (17.75)	165000 (22.07)
Rate of interest (per annum)	4	4	4	4	4	4	4	4	4	4
	Land Development Bank									
Amount of loan taken (Rs)	-	-	-	-	-	-	-	-	-	-
	Government programme									
Amount of loan taken (Rs.)	-	-	-	-	-	-	-	-	-	-
	Commission agent /money lenders									
Amount of loan taken (Rs.)	120000	150000	410000	325000	200000	530000	100000	100000	207500 (25.62)	276250 (36.96)
Rate of interest (per annum)	24	24	24	24	24	24	24	24	24	24
	Friends and relatives									
Amount of loan taken (Rs.)	160000	110000	550000	230000	180000	460000	50000	-	235000 (29.01)	200000 (24.76)
Rate of interest (per annum)	18	18	18	18	18	18	18	18	18	18
	Land lord/employer									
Amount of loan taken (Rs.)	-	-	-	-	-	-	-	-	-	-
	Other Specify									
	-	-	-	-	-	-	-	-	-	-
Total loan Amount in Rs.									810000 (100)	747500 (100)
Purpose of loan	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption

Source: Field Survey, 2013

Table - 3.2.12b
Sources of Borrowing of Sample Farmers in Guntur and Khammam Districts

Details of debt	Marginal		Small		Medium		Large		Average	
	Khammam District									
	Thallampadu	Kodumuru	Thallampadu	Kodumuru	Thallampadu	Kodumuru	Thallampadu	Kodumuru	Thallampadu	Kodumuru
	Commercial banks									
Amount of loan taken (Rs)	80000	50000	80000	100000	150000	280000	150000	280000	115000 (16.88)	177500 (18.56)
Rate of interest (per annum)	11	11	11	11	11	11	11	11	11	11
	Co-operative banks									
Amount of loan taken (Rs)	50000	100000	95000	110000	250000	350000	300000	400000	173750 (25.50)	240000 (25.10)
Rate of interest (per annum)	4	4	4	4	4	4	4	4	4	4
	Land Development Bank									
Amount of loan taken (Rs)	-	-	-	-	-	-	-	-	-	-
	Government programme									
Amount of loan taken (Rs)	-	-	-	-	-	-	-	-	-	-
	Commission agent /money lenders									
Amount of loan taken (Rs)	120000	100000	220000	290000	350000	780000	100000	200000	197500 (29.99)	342500 (35.82)
Rate of interest (per annum)	24	24	24	24	24	24	24	24	24	24
	Friends and relatives									
Amount of loan taken (Rs)	100000	155000	130000	100000	450000	430000	100000	100000	195000 (28.62)	196250 (20.52)
Rate of interest (per annum)	18	18	18	18	18	18	18	18	18	18
	Land lord/employer									
Amount of loan taken (Rs)	-	-	-	-	-	-	-	-	-	-
	Other Specify									
Amount of loan taken (Rs)	-	-	-	-	-	-	-	-	-	-
Total loan Amount									681250 (100)	956250 (100)
Purpose of loan	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption	Production &Consumption

Note: Parentheses refer to per cent to the total of the column concerned. Source: Field Survey,2013

Table - 3.2.13
Cropping Pattern of Sample Farmers-2010-12

Crop	2010-11								Crop	2011-12							
	Area (Ha)									Area (Ha)							
	Marginal Farmers		Small Farmers		Medium Farmers		Large Farmers			Marginal Farmers		Small Farmers		Medium Farmers		Large Farmers	
	Sample villages from Guntur District																
	Veluru	Appa puram	Veluru	Appa puram	Veluru	Appa puram	Veluru	Appa puram		Veluru	Appa puram	Veluru	Appa puram	Veluru	Appa puram	Veluru	Appa puram
Cotton	0.81	0.71	0.95	1.26	0.86	1.01	1.21	4.05	cotton	0.81	0.71	0.95	1.26	0.86	1.01	1.21	4.05
Paddy	-	-	0.67	0.42	0.82	0.98	1.62	2.02	Paddy	-	-	0.67	0.42	0.82	0.98	1.62	2.02
Chilies	-	-	0.42	-	0.54	0.77	2.43	-	Chilies	-	-	0.42	-	0.54	0.77	2.43	-
	Sample villages from Khammam District																
	Thallampadu	Kodumuru	Thallampadu	Kodumuru	Thallampadu	Kodumuru	Thallampadu	Kodumuru		Thallampadu	Kodumuru	Thallampadu	Kodumuru	Thallampadu	Kodumuru	Thallampadu	Kodumuru
Cotton	0.42	0.62	1.42	1.32	1.75	2.52	2.90	3.65	cotton	0.42	0.62	1.42	1.32	1.75	2.52	2.90	3.65
Paddy	-	-	-	-	0.98	0.68	3.95	3.04	Paddy	-	-	-	-	0.98	0.68	3.95	3.04
Pulses	-	-	-	-	-	-	0.81	-	Pulses	-	-	-	-	-	-	0.81	-

Source: Field Survey, 2013

Table 3.2.14
Cost of Production of Cotton of Sample Farmers-2011-12

Sl. No	Details of cost items in Rs.	Farmer size groups									
		Marginal		Small		Medium		Large		Average	
		Sample villages from Guntur District									
		Veluru	Appa puram	Veluru	Appa puram	Veluru	Appa puram	Veluru	Appa puram	Veluru	Appa puram
1	Land preparation costage of orchards	13992	14085	14638	12475	13486	12330	12097	11358	13650	12292
2	Cost of material (seed, fertilizers, chemicals)	17695	13380	12698	14257	11450	15697	12097	14198	12901	14804
3	Cost of irrigation	0	0	0	0	0	0	0	0	0	0
4	Cost of labour	3909	6690	5467	6832	6616	4809	5645	5679	5408	5690
5	Cost of hired equipment	1029	1408	1270	1208	1450	1073	1210	1235	1245	1170
6	Other cost (if any)	0	0	0	0	0	0	0	0	0	0
	Total	36625	35563	34073	34772	33002	33909	31049	32470	33204	33956
	Sample villages from Khammam District										
		Thallam padu	Kodu muru	Thallam padu	Kodu muru	Thallam padu	Kodu muru	Thallam padu	Kodu muru	Thallam padu	Kodu muru
1	Land preparation cost/age of orchards	11905	14634	12367	14829	11534	13799	12859	14129	12040	14081
2	Cost of material (seed, fertilizers, chemicals)	17857	17073	18905	19962	17490	17433	13203	17174	16294	17776
3	Cost of irrigation	0	0	0	0	0	0	0	0	0	0
4	Cost of labour	4762	3496	3887	3802	3042	3322	2411	2606	2030	3243
5	Cost of hired equipment	1905	1626	2120	1958	1806	2073	1550	1372	2686	1873
6	Other cost (if any)	0	0	0	0	0	0	0	0	0	0
	Total	36429	36829	37279	40551	33872	36627	30023	35281	33050	36973

Source: Field Survey , 2013

3.2.15. Cotton Production of Sample Farmers and its Disposal Pattern-2010-12:

The disposal pattern of cotton in the sample villages is given in Table -3.2.15. There is no home consumption for cotton in either district. There was trend of acceleration in marketed commodity (cotton) by farmers in the sample villages of both districts during 2010-12. The increase of price was reported from Rs. 3,800 per quintal to Rs. 4,200/- from 2010-11 to 2011-12 year with 10% change.

Table 3.2.15

Cotton Production of Sample Farmers and its Disposal Pattern-2010-12

Crops	Total production (MTs)		Kept for home consumption (MTs)		Marketed (MTs)		Price (Rs/ MTs)	
	2010-11	2011-12	2010-11	2011-12	2010-11	2011-12	2010-11	2011-12
Cotton crop								
Veluru	388	583	-	-	388	583	3800	4200
Appapuram	593	774	-	-	593	774	3800	4200
Thallampadu	644	791	-	-	644	791	3800	4200
Kodumuru	723	868	-	-	723	868	3800	4200

Source: Field Survey, 2013

3.2.16. Different Marketing Channels for Cotton of Sample Farmers-2011-12:

The details of different marketing channels for sample farmers of cotton are given in Table - 3.2.16. The major purchases are being done by private traders with 79% of total sold produce of cotton of the farmers. The CCI has only 21% purchases in the total sales of cotton. Thus, the PSS is executed to the sample villages with very limited coverage to the cotton crop. The price of private traders was lower at 4% of the CCI price during 2011-12.

Table - 3.2.16

Different Marketing Channels for Cotton of Sample Farmers-2011-12

Targeted crop	Marketing channel	% of sold	Price (Rs/ Mts)
Cotton	Private traders	79	3750
	CCI	21	3900

3.2.17. Channel Wise Marketing Costs of Cotton to Sample Farmers:

Table-3.2.17 presents marketing costs for cotton of the sample farmers in the study districts for different marketing channels. There are two channels-one is private traders, and the second one is PSS implemented by CCI. In both districts, except marketing cess, the remaining marketing costs report the same for both channels. Out of four villages, the lowest marketing cost is reported in Appapuram marketing centre with Rs. 436/- from Khammam district. The major share is from 'picking, filling incomes/bags/contained' followed by labour charges. The transportation cost reports the lower share out of all marketing costs. The depreciation of container is a cause of disagreement between farmers and traders in deciding the depreciation taken place in the packed commodity. Due to the price variation between private traders and PSS by CCI, farmers are receiving high 'net price' from PSS and the variation is Rs. 150/- per quintal. The private traders are not paying 'cess' to APMC in all referred centres. Only CCI is paying one per cent cess to the APMC in the study centres. The gunny bags are purchased at the cost of Rs. 29/- per bag but the CCI is giving subsidy only Rs. 9/- per bag.

3.2.18. Farmers Perception about PSS Operations:

The perception of farmers for PSS operations for cotton crop is given in Table-3.2.18. There is no rejection of commodity purchase for cotton either from government or from private agencies. All the produce reached to market is being purchased. Hence, the question of rejection does not arise in the market for cotton, as per the opinion of cotton cultivators. All the farmers are interested to sell their produce through PSS, but the scheme has not reached all the farmers due to distance of the market to the different villages under study. There is no incidence of exclusion of any farmers from PSS scheme. No farmer expressed any exclusion or stopping of his produce for sale through PSS in all the sample villages of selected districts. In case of awareness of PSS, there is some gap. In Guntur district, many farmers (40% to 58%) of sample villages do not know or they are unable to avail the scheme in the market and therefore they are in the habit of selling and getting immediate cash from private traders. This is also the basic reason of non-awareness/inaccessibility for some farmers of PSS, since the PSS scheme is not approaching all the villages except some market centre or mandis

in the district. Only the CCI availability is high among the farmers in Khammam district rather than that of Guntur.

Table - 3.2.17
Channel Wise Marketing Cost of Cotton of Sample Farmers

S.No	Cost incurred item	Channel 1 Private Traders(Rs./Qtl)				Channel 2* (MIS/PSS) (Rs./Qtl)			
		Veluru	Appa puram	Thallam padu	Kodu muru	Veluru	Appa puram	Thallam padu	Kodu muru
1	Picking, filling in boxes/bags/container	219	249	171	287	219	249	171	287
2	Depreciation of container	92	95	94	88	92	95	94	88
3	Transportation costs	76	75	84	113	76	75	84	113
4	Labour charges for loading/unloading of produce	181	175	92	109	181	175	92	109
5	Octroi/marketing tax	0	0	0	0	0	0	0	0
6	Commission in market	0	0	0	0	1 %	1 %	1 %	1 %
7	Other expenses if any	0	0	0	0	0	0	0	0
8	Sub total	568	595	436	597	568	595	436	597
9	Price received (per qtl.)	3750	3750	3750	3750	3900	3900	3900	3900
10	Net Price Received	3182	3155	3314	3153	3332	3305	3464	3303

*one percent market cess is borne by CCI, Guntur branch, A.P Source: Field Survey, 2013.

Table - 3.2.18
Cotton Farmers Perception over PSS

Sl. No	Perception items	% of sample farmer reporting particular problem			
		Sample villages from Guntur district		Sample villages from Khammam district	
		Veluru	Appapuram	Thallampadu	Kodumuru
1	Output rejected (in Mts)	0	0	0	0
	By govt agency	0	0	0	0
	By private traders	0	0	0	0
2	Rejection stage of produce				
	At the level of field	0	0	0	0
	In the market	0	0	0	0
3	Possible reasons for exclusion of farmers from MIS/PSS				
	Farmers not aware of MIS/PSS	40	50	45	30
	Farmers not interested in selling through MIS/PSS	0	0	0	0
	Others	0	0	0	0
4	Perception about the results/outputs of MIS/PSS				
	MIS/PSS helped in increasing area under targeted crop	20	10	15	10
	MIS/PSS covered cost of production of targeted crop	20	10	15	10
	Increase in farm income after implementation of MIS/PSS	20	10	15	10

Source: Field Survey, 2013.

Since the PSS has limitations in reaching farmer community, the area extension due to PSS, has also limited impact over the cotton cultivators in the selected districts for area expansion. Only 20% to 10% levels express that the price of PSS covers the cost of cultivation of cotton crop from the sample villages of selected districts. The increase in income is also partial to the farmers, as the only 20% to 10% of farmers report the increase in income. This fact confirms at large extent at village level. The whole perception of farmers indicates clearly over PSS operations with a limited coverage of farmers in the sample villages in the study villages.

3.2. 19 Farmers Perception over Problems in Marketing of Cotton:

The problems perceived by sample farmers in marketing of targeted crop i.e., cotton is given in Table - 3.2.19. Unanimously (100%) all the farmers from all sample villages report the insufficient market price. There is attribution of existence of syndicate of private traders in fixing prices in the cotton market. The price under PSS is also categorized as inadequate price by most of the farmers from all the four sample villages and the rate of this is high in the villages of Khammam district. The limited farmers (20% to 10%) express that packing material is costly and it is much costlier in Guntur district. There is no question of return of packing/containers to farmers in case of cotton produce. The price volatility is there in the wholesale market, as the sample farmers from all the villages inform with majority. During harvest season, the existence of low prices is the regular phenomenon in both selected districts. In all the villages, farmers are influenced by middlemen and concerned traders and it is high in Khammam district rather in Guntur district. In the price fixation, the private traders fix the price at lower level than the PSS prices in all the sample villages. Both the private traders and the officials of PSS have been practicing a lesser weight for payment than the original weight the farmers sold in the market. In case of fixation of quality of the product (cotton), both private traders and officials of PSS are using the wet condition of cotton to fix at lower quality and lower weight of cotton in the market. There is no problem for transport of the product to market. The private traders are directly in contact with cultivators for the purchase of cotton in the villages or in the market. Therefore, there is no existence of separate intermediaries, but the traders cheat the peasants in the price fixation as discussed earlier.

There is no existence of in-time payment in any sample village from the selected district. Though PSS operations in the selected centres in both selected districts are regular for the specified period in the study, the PSS officials are not covering the villages or at least big villages. They are confining to selected mandis and hence the marginal and small farmers are unable to bring their produce to mandies (where PSS operations are taken place). Majority of the farmers report that the mandies are far and the transport cost becomes much in the total market cost for their low level of produce. It is better to purchase at village level by CCI officials. Only limited farmers are able to have cold storage facility to store the cotton produce in the selected districts. There is no need of any processing, since kapas (cotton with seed) is purchased from the farmers in the market.

There is availability of extent of organized market to the farmers in the collection centres only and it is not at all village level. But cultivators demand purchase of cotton produce at village level. All the sample villages are at the distance between 8kms to 11 kms from organized market. All the sample villages possess village

market from the selected villages. The majority of farmers are not in a position to reach the mandies/collection centres, since their product is not sufficient to engage transport vehicle. These farmers hail from lower size farmer groups in the sample villages. Many farmers feel that there is much distance to sell the produce under PSS. Along with private traders, the officials of CCI are doing unholy market practices fixing much wet in cotton, low weight measurement, non-supply packing material etc.,

Table - 3.2.19
Farmers Perception over Problems in Marketing of Cotton

Sl .No	Constraints	% of farmers reporting the problems			
		$CL_1 D_{1*}$	$CL_2 D_{1*}$	$CL_1 D_{2*}$	$CL_2 D_{2*}$
1	Existing market price of produce is not sufficient	100	100	100	100
2	Market intervention price announced is not adequate	52	48	55	61
3	Packaging material is costly	20	10	15	10
4	Packages/container not returned to the growers (as per agreement)	0	0	0	0
5	Price volatility of targeted crop in whole sale market	70	65	60	75
6	Cheating by middlemen				
	Price	15	10	18	15
	Weighing	0	0	0	0
	Other problem in selling produce	0	0	0	0
7	Non-availability of transport	0	0	0	0
8	High commission charges from middlemen	0	0	0	0
9	Non receipt of payment in time	100	100	100	100
10	MIS/PSS operation are irregular	0	0	0	0
11	Regulated market is too far	0	0	0	0
12	Non-availability of cold storage/ warehousing facility	55	50	60	58
13	Lack of processing units	0	0	0	0
14	Delay in payments	100	100	100	100
15	Extent of organized market of targeted produce	-	-	-	-
	Distance of regulated market	-	-	-	-
	Existence of village market/daily hat in nearby village	-	-	-	-
16	Reason for not sell to PSS/MIS				
	Long distance	0	0	0	0
	Low	0	0	0	0
	Moderate	0	0	0	0
	Long	0	0	0	0
	Delay in price received	55	60	45	50
	Discrimination on the basis of standard of produce/quality	35	40	30	40

* $CL_1 D_1$= Cluster 1 village in Guntur District *$CL_2 D_1$ = Cluster 2 village in Guntur District

* $CL_1 D_2$ = Cluster 1 village in Khammam District * $CL_2 D_2$ = Cluster 2 village in Khammam District

Section-3 Stakeholders Perception

It is collected the opinion of stakeholders of MIS and PSS in A.P. For MIS, the officials opinion of AP Oil Seeds Federation, Hyderabad and for PSS, the officials of opinion of Branch Office, CCI, Guntur are taken. In addition to these, NAFED, Hyderabad is considered, as it is the common nodal agency for both programmes (MIS &PSS) in A.P.

3.3.1 Officials Opinion of A.P. Oilseed Federation- Hyderabad:

The opinion of stakeholder of oil palm is taken from A.P. Oilseeds Federation, Hyderabad (Box-3). A.P. Oil Fed. is following the guidelines given by government and other concerned nodal agencies for implementation of MIS in A.P. They have arranged the payment into individual farmers bank accounts and the MIS was for limited period of two months with the grading norms approved by government. All the incidental, transportation and other costs are borne by nodal agency. There is no time gap for the disposal of oil palm to the factory. It is suggested that the alternative channel for oil palm marketing would be NAFED. The government guidelines are followed for the price fixation. In case of losses, government will bear the same and it will be reimbursed within two months. Regarding problems, they want in time communication of price and clear grading standards. There is need of relaxation of MIS period up to seven months for oil palm and further, it was agreed for the revision of price in the lines of changed cost conditions of oil palm. It is felt that there is much need for standing orders to implement MIS and to meet the exigencies, like falling of market prices. Thus, there is urgent need of declaration of MIS price in advance, at least by March of the year in question.

Box-3

Officials Opinion of A.P. Oilseed Federation- Hyderabad

Question	Answer
1. How the state level agency is involved: through government notifications/orders/something else?	Guidelines given
2. Crops for which MIS/PSS operations have been done?	Copra & Oilpalm (PSS) (MIS)
3. In which District/blocks/mandi MIS was conducted?	Commissioner of Hyderabad ADH ,see annexure -II
4. How financial transaction through banks/other financial agencies is planned for procurement operations?	Payments are released to the farmers accounts directly through the nodal agency. On receiving the material received from ware houses (in case of PSS and processing units, in cases of Oilpalm MIS) the payments are released to each individual account farmers.
5. What is the duration of MIS operation for different crops?	MIS is for 2 months, PSS is till the prices stabilized
6. How quality of crop to be procured is checked? Are the crops procured under MIS/PSS is exactly on the MSP price or certain compounding/discounting is done over the MIS/MSP?	As per the grading norms approved by government.
7. What are the costs of procurement of a crop preferably on per quintal basis?	Implemented
8. In the cost structure item wise details; like who bears the cost?	Incidentals, transportation & other costs involved in logistics are borne by the government though nodal agency.
9. When and How procured commodities were disposed off?	In case of MIS (Oilpalm) it is disposed immediately & for copra (PSS) is stored in ware houses and disposed by NAFED repr., at state level duly following standard procedure of calling tenders

10. Alternate channels of disposal, like open market (wholesale/preagreed firms like kendriya Bandar) or processing units within state or to other states. Prices of commodities in each of the above channels?	NAFED
11. How you fix the disposal price? Cost-markup approach or market forces or some other basis for price fixation?	Norms for PSS & MIS operations (NAFED/GOI guidelines
12. How much they (Agencies) charge from government for procurement operation?	NAFED
13. If losses occur; are losses being shared by government or borne independently by them?	Government
14. If shared, do they (Agencies) get its loss reimbursed fully/partly?	Fully
15. An account of losses demanded and received from government separately for commodities over the years?	NAFED – 5100 Oil palm MIS Price 9300 X Qtls – disposalraly - FFS price
16. How much time is consumed in getting reimbursement of loss from government?	One month and sometime up to 2 months
17. Please provide audited balance sheet of receipts and expenditure of MIS/PSS for crops procured during last 15 years?	NAFED
18. Why loss occurs? Crop specific reasons for loss, some of the possible reasons can be: consumers prices are fixed arbitrarily, market is not found for certain commodities; losses in transportation are abnormally high due to inadequate infrastructure, losses due to perishability of crops/grains.	Glut → Imports → Convention (Food habits) Season → Festival, Religious, Adaptants
19. Problems faced during the operation of MIS/PSS?	• Communication of MIS/PSS prices in time. • State grading standards • Relaxation of MIS period for oil palm (7 months) • Revision of Price – based on cost of cultivation
20. Possible suggestions to improve efficiency of MIS/PSS operations?	• Standing orders need to be given for implementing MIS as and when price goes below the Market Intervention Price (MIP) • MIS price may be declared before the commencement of peak season for oil palm i.e., in the month of March itself like, how the price for PSs operations is declared in advance.

SOURCE: A.P. Oil Seeds Federation, Government of Andhra Pradesh, Hyderabad.

3.3. 2 Officials Opinion of Cotton Corporation of India- Guntur:

CCI conducts PSS for cotton in A.P. as per MSP declared by GOI (Box-4). To pay the farmers, CCI has tie up with the commercial banks to arrange payments. Generally, there is no duration for operating PSS. Cotton crop season starts from October and peak arrivals can be seen up to January and after that arrivals can come up to March end. During this time, CCI will procure kapas under MSP. The cotton procurement is done on parameters such as grade, Moisture, staple length, Micronnaire and strength based on the provided devices. Besides this, CCI at branch office level will periodically take the samples of kapas arrivals from different markets and give for testing at cotton Laboratories and based on this, the quality of arrivals to the market will be monitored.

Generally, in the MSP order, basic parameters will be given for MSP. For example, for Bunny/Brahma variety cotton MSP is 3900 per quintal and the parameters set by government for staple length is 29.5 to 30.5 and Mic should be in the range of 3.5 to 4.3 and moisture should be 8%. Instructions were given by

government for discounting the MSP, based on permissible limits in deviation in quality such as moisture can be acceptable upto l2% subject to proportionate deductions and lower Mic is also acceptable at deduction of Rs.25 per quintal for every 0.2 mic value. Likewise, incentives will be given proportionately if moisture content is less than 8%. Costs of procurement involve in several ways viz. kapas weighment charges at AMC, Loading of kapas to lorries at AMC, transportation to G&P factories, unloading at factories, Heaping of kapas, grading, ginning, pressing into bales (through hiring of ginning and pressing factories), labour charges involved in the process of ginning and pressing, loading, unloading, transportation of bales to various godowns, hamali charges in godowns, destocking and weighment of bales at the time of delivery at go downs.

The procured cotton will be processed i.e. the seed cotton will be separated in ginning factories. The seed is sold to seed crushing units based on daily market rates and lint is pressed into bales. The bales will be sold to spinning units including NTC and other co-operative mills through daily sale rates issued by head office CCI, Mumbai. Every day the DPS committee at head office will review the purchase and review the market rates of bales (which will be in per candy basis in trade equivalent to 2.09 bales). Based on the market rates, sale rates will be intimated and the interested spinning mills will give their offers and will be confirmed by Head Office. Open auction system is alternate channel for disposal of bales. In cotton, losses generally occur due to market fluctuations in the bale market. The trade of bales is done in candy basis, if the market rate is less than the cost incurred rate, the bales should be sold at market rate only, which results to loss. At Agricultural market committee level, there will be pressure from farmers to purchase below FAQ grade. The AMC officials should submit the purchase bills timely in order to release timely the payment to the farmers. The Labour shortage in ginning and pressing factories and the availability of only a few number of modern ginning and pressing factories are the major concerns for operating PSS. Most of the farmers are not bringing their produce to AMC yards due to constraints such as distant yards, transportation, waiting at AMC for their turn etc. As a result, PSS is not reaching to all the farmers.

Box - 4
Officials Opinion of Cotton Corporation of India- Guntur

Question	Answer
1. How the state level agency is involved: through government notifications/orders/something else?	Every year the Textile commissioner, Ministry of textiles, Government of India will issue order fixing the Support price and parameters of cotton to be purchased under minimum support price. In that order, they will also mention the nodal agencies for procurement of cotton under MSP. In cotton, CCI and NAFED are being appointed as nodal agencies for procuring seed cotton (kapas) since several years.
2. Crops for which MIS/PSS operations have been done?	Cotton Corporation of India has only done Price support scheme (Minimum support price operations) for cotton as per the yearly MSP rates issued by the government.
3. In which District/blocks/mandi MIS/PSS were conducted?	The details of districts and centres in a district for PSS operations conducted by CCI Andhra Pradesh is enclosed in Annexure-1.

4. How financial transaction through banks/other financial agencies is planned for procurement operations?	We have l4 banks in our consortium and we borrow money from them and arrange to release payments to the farmers.
5. What is the duration of MIS/PSS operation for different crops?	Generally, there is no duration for operating PSS. Cotton crop season starts from October and peak arrivals can be seen up to January and after that arrivals can come up to March end. During this time CCI will procure kapas under MSP.
6. How quality of crop to be procured is checked? Are the crops procured under MIS/PSS is exactly on the MSP price or certain compounding/discounting is done over the MIS/MSP?	Basically the cotton procurement is done on parameters such as grade, Moisture, staple length, Micronnaire and strength. The moisture can be checked through Moisture meters available with all the CCI buyers. Mic is checked through Micronnaire machines, which are available at all the centres. Grade, Staple length (Scale is available), grade and strength is checked by the buyers only by their experience. Besides this, CCI at Branch office level will periodically take the samples of kapas arrivals from different markets and give for testing at cotton Labs and based on this the quality of arrivals will be monitored. Generally, in the MSP order, basic parameters will be given for MSP. For example, for Bunny/Brahma variety cotton MSP is 3900 per quintal and the parameters set by government for staple length is 29.5 to 30.5 and Mic should be in the range of 3.5 to 4.3 and moisture should be 8%. Instructions were given by government for discounting the MSP based on permitted limits in deviation in quality such as moisture can be acceptable up to l2% subject to proportionate deductions and lower Mic is acceptable at deduction of Rs.25 per quintal for every 0.2 mic value. Likewise, incentives will be given proportionately if moisture content is less than 8%.
7. What are the costs of procurement of a crop preferably on per quintal basis?	Costs of procurement involves kapas weighment charges at AMC, Loading of kapas to lorries at AMC, transportation to G&P factories, unloading at factories, Heaping of kapas, grading, ginning, pressing into bales (through hiring of ginning and pressing factories), labour charges involved in the process of ginning and pressing, loading, unloading, transportation of bales to various go downs, hamali charges in go downs, destacking and weighment of bales at the time of delivery at godowns. All these factors are taken into consideration.
8. In the cost structure item wise details; like who bears the cost?	1. From village to AMC yards- farmers bring their kapas on their own cost, 2. Labour charges at AMC yard up to weighment after selling their kapas to CCI – farmer bears the cost. 3. After weighment, Loading of kapas, transportation to factories, unloading of kapas at factories- CCI bears. 4. Grading and heaping of kapas – CCI bears. 5. Processing of kapas including factory hiring charges, labour etc. – CCI bears 6. loading and transportation and handling of FP bales at godowns - CCI bears 7. destacking, sample cutting for selection of bales to buyers and after selection weighment charges to

	give delivery to buyers (spinning mills) - CCI bears the cost.
9. When and How procured commodities were disposed off?	The procured cotton will be processed i.e. the seed cotton will be separated in ginning factories. The seed is sold to seed crushing units based on daily market rates and lint is pressed into bales. The bales will be sold to spinning units including NTC and other co-operative mills through daily sale rates issued by head office CCI, Mumbai. Every day the DPS committee at head office will review the purchase and review the market rates of bales (which will be in per candy basis in trade equivalent to 2.09 bales). Based on the market rates, sale rates will be intimated and the interested spinning mills will give their offers and will be confirmed by H.O.
10. Alternate channels of disposal, like open market (wholesale/preagreed firms like kendriya Bandar) or processing units within state or to other states. Prices of commodities in each of the above channels?	Open auction system is alternate channel for disposal of bales.
11. How you fix the disposal price? Cost-markup approach or market forces or some other basis for price fixation?	Disposal price is fixed by the daily purchase & sales committee constituted at Head office. Based on the daily market rates of bales all over India, the sale rates will be fixed.
12. How much do they (Agencies) charge from government for procurement operation?	No separate charges are claimed by agencies from the government.
13. If losses occur; are losses being shared by government or borne independently by them?	The government is sharing losses. CCI will not bear independently.
14. If shared, do they (Agencies) get its loss reimbursed fully/partly?	Agencies get its loss reimbursed fully.
15. An account of losses demanded and received from government separately for commodities over the years?	This information can be had from our Head office, The Cotton Corporation of India Ltd., Sector 10, CBD Belapur, Navi Mumbai.
16. How much time is consumed in getting reimbursement of loss from government?	This information can be had from our Head office, The Cotton Corporation of India Ltd,, Sector 10, CBD Belapur, Navi Mumbai.
17.Please provide audited balance sheet of receipts and expenditure of MIS/PSS for crops procured during last 15 years	Enclosed as annexure-3 (Details of financial results from 2001 onwards displayed in our website)
18. Why loss occurs? Crop specific reasons for loss, some of the possible reasons can be: consumers prices are fixed arbitrarily, market is not found for certain commodities; losses in transportation are abnormally high due to inadequate infrastructure, losses due to perishable nature of crops/grains.	In cotton, losses generally occur due to market fluctuations in the bale market. The trade of bales is done in candy basis, if the market rate is less than the cost incurred rate, the bales should be sold at market rate only which results to loss.
19. Problems faced during the operation of MIS/PSS	At Agricultural market committee level, there will be pressure from farmers to purchase below FAQ grade kapas also which is not permissible. The AMC officials should submit the purchase bills timely, in order to

	release the payment to the farmers in time. Labour shortage in Ginning and pressing factories and availability of only a few number of modern ginning and pressing factories is a major concern for operating PSS. Most of the farmers are not bringing to AMC yards looking at constraints such as their village is far from yards, transportation, waiting at AMC for their turn etc. As a result, PSS is not reaching to all the farmers.
20.Possible suggestions to improve efficiency of PSS operations	---

3.3.3 Officials Opinion of NAFED-Hyderabad:

NAFED has its own history in the execution of MIS and PSS schemes in A.P. for pulses, oil seeds, cotton chillies, copra and other agricultural produce (See Box-5). It had conducted market operations in nearly 10 districts in A.P. in the study period for both seasons, as per the norms of GOI. It pays service charges to concerned mandies including AMC cess. In certain cases, it bears not only the cost of gunny bags but other costs like incidentals such as filling, weighing, stitching, loading, at AMC and unloading at warehouse and transportation charges to warehouses. The losses incurred under PSS are fully borne by GOI, while MIS losses are borne on 50:50 ratio between state and central governments. There is a lot of time to receive reimbursement of loss from GOI. NAFED enters the market when the market prices exist at lower level than the MSPs and the private traders do not come forward to purchase. Therefore, mini migration of losses depends on various market forces, which is mostly uncertain. It has identified certain problems in the market structure:1) Lack of sufficient infrastructure at district levels for procuring commodities in all the centres of A.P.,2) Unavailability of sufficient warehouses. To strengthen MIS/PSS operations in A.P., the officials of NAFED have suggested the Strengthening of co-operative network at grass root level and arranging sufficient storage. The farmers should be educated regarding accepted quality specifications. The MSP should reflect the cost of cultivation of the crop in question. The last suggestion, as per NAFED, is to increase service charges for procuring/ implementing agencies to meet administrative charges in a right way.

Box – 5
Officials Opinion of NAFED-Hyderabad

Question	Answer
1. How the state-level agency is involved: through government notifications/orders/ something else….	Through Government orders of A.P. State Government in certain cases like Cotton, if State Government agencies not willing to operate in the State due to various reasons nafed appoints any other agencies is there is no objection to State Government.
2. Crops for which MIS/PSS operations have been done? (Data preferably for the last 15 years)	Pulses, oilseeds, cotton and chillies (mis)
3. In which district/blocks/mandi MIS/PSS were conducted? (Data for crops across mandies/ procurement centres during the last 15 years)	Rangareddy, Medak, Prakasam, Karimnagar, Nizamabad, Mahaboobnagar, Krishna, Khammam, Nalgonda, Kurnool, 10 districts out of 22 in A.P.(see annexure-1 and annexure-II
4. How financial transaction through banks/ other financial agencies is planned for procurement operation?	Through cash credit limits obtained from SBI from our HO, New Delhi.

5. What is duration of MIS/PSS operation for different crops?	Based on crop seasons like Kharif (October-January), Rabi (April- June) calendar year for perennial crops like Coconut (Copra).
6. How quality of crop to be procured is checked? Are crops procured under MIS/PSS is exactly on the MSP price or certain compounding/discounting is done over the MIS/PSS?	Based on the FAQ specifications prescribed by GOI for respect crops at MSP rates declared for the season. Other discounting or compounding like in Cotton are strictly as per GOI institutions.
7. What are the costs of procurement of a crop preferably on per quintal basis?	a) Service changes to the SLA b) AMC cess c) Cost of gunny d) Incidentals such as Filling, Weighing, stitching, sketching, loading, at AMC and unloading at warehouse, transportation
8. In the cost structure item-wise details; like, who bears the cost?	All the costs incurred after weighment of stocks are loan by procuring agencies and the same is been reimbursed by implementing agencies.
9. When and how procured commodities were disposed off?	During off-season or as when the market rates rule above MSP.
10. Alternate channels of disposal, like open market (wholesale/pre-agreed firms like Kendriya Bhandar) or processing units, within state or to other states. Prices of commodities in each of the above channels?	
11. How you fix the disposal price? Cost-markup approach or Market forces or some other basis for price fixation,.....	Based on prevailing market prices & also based on demand and supply.
12. How much they (Agencies) charge from government for procurement operation?	2% on market value to be shared between the state level and other primary agencies (PACS/DCMs)
13. If losses occur; are losses being shared by government or borne independently by them?	PSS – Losses completely born by Central Government MIS – Losses mutually shares between Centre and State Government 50:50 basis.
14. If shared, do they (Agencies) get it loss reimbursed fully/partly?	NA
15. An account of losses demanded and received from government separately for commodities over the years?	Not given
16. How much time is consumed in getting reimbursement of loss from government? [Data of application for losses to Ministry and also date of receipt of losses from Ministry.	7 – 10 years
17. Please provide audited balance sheet of receipts and expenditure of MIS/PSS for crops procured during the last 15 years?	Not given
18. Why loss occurs? Crop-specific reasons for loss, some of the possible reasons can be: Consumers prices are fixed arbitrarily, market is not found for certain commodities; losses in transportation are abnormally high due to inadequate infrastructure, losses due to perishability of crops/grains.	PSS/MIS purchases are made only when rates rule below declared Minimum Support Price and Private traders do not come forward if there is no positive market sentiment. Therefore, mini migration of losses depends on various market forces which is mostly uncertain.
19. Problems faced during the operation of MIS/PSS.	➢ Lack of sufficient infrastructure at district levels for procuring commodities in all the centres of A.P. ➢ Unavailability of sufficient warehouses.
20. Possible suggestions to improve efficiency of MIS/PSS operations.	➢ Strengthening of co-operatives at grass root level ➢ Providing sufficient storage space. ➢ Educating the farmers regarding FAQ specifications ➢ Sufficient MSP based on cost of cultivation ➢ Increase in service charges for procuring/ implementing agencies so as to meet administrative charges

Source: Field Survey, 2013

Summary:

There are several crops for MIS in A.P**.** Out of 13 years, either MIS or PSS was implemented across districts in A.P. **Oil palm:** There was no need of regular MIS for the oil palm farmers due to existence of market price is higher than MSP in A.P. Hence, it is examined 2010-11, 2009, and 2000-01 of the implemented years of MIS for oil palm. There was much acceleration of crop in West Godavari district, but in other districts show slow in increasing trend. Khammam district informs a lot of scope for extension of oil palm crop. Cost of cultivation is high in Khammam district than in its counterpart. The coverage of farmers has been good during the study period and there is no bias or deletion of any farmer. Farmers are much crop specific in case of oil palm. Still non-institutional credit is predominant among farmers at higher rates of interest. All the produce of oil palm reaches to milling site and there is no wastage except some falling of oil return due to much delay in milling of produce. There are no different market channels for the farmers except the one allotted one by government and there is no question of rejection of produce. Farmers express that MIS is not a good catalyst to extend area but it worked out for the increase in incomes during the lower price period in market. The scheme reached all the farmers and they knew very well about the scheme. Price under MIS is very low and delayed payment and it does not cover the increased cost of produce. There are no other problems regarding packing and transport.

Cotton: During 2000-12, cotton had only four years under PSS, while safflower had the highest number of years (nine) under PSS. Share of PSS was very low with 3% to 4% in Guntur district and with 40% and 20% in Khammam district out of the total market arrivals and these purchases were not subjected to cess or commission of the market because of bearing by state and central governments. Near stagnancy appears for Guntur district in the area, while there is increasing trend in Khammam district. There is high productivity in Guntur district rather than its counterpart. The coverage of PSS is low and the prices of private traders are not available with mandies selected. The coverage of farmers is 100% for PSS in the sample villages. Still the non-institutional credit is high for the cotton cultivators in both districts at 24% interest rate or more. Large farmers cultivate cash crops along with cotton in both areas. There is no home consumption for cotton. Marketing costs are similar in both private and PSS channels, but the price variation has led to increase in net income under PSS channel. There is no discrimination over farmers during the purchases, but the low price fixation is prevailed under PSS through the means of wet of the produce by the purchase officials. Many marginal and small farmers are not covered. The insufficient market price of PSS and Cartel formation by Private traders is the basic problem for cotton produce along with lesser weight for the produce.

A.P. Oil Seeds Federation, CCI and NFAFED are executing the schemes of MIS and PSS in A.P. and these express the need of extension of period of seven months or so of MIS for oil palm and much storage and warehousing for cotton. The timely AMC bills to CCI will enable it to pay in-time payment to farmers. The additional incidental charges will make the schemes to be on right path.

3.4. Summary and Conclusions

Chapter I -Projection of Oil Palm and Cotton Crops and MIS and PSS in Andhra Pradesh and Methodology of the Project: Agricultural marketing has still several imperfections to establish a proper stream for the flow of reliable prices to the peasants in the nation. *Market Intervention Scheme (MIS):* The MIS is implemented for horticultural crops, which are perishable in nature and these are not covered under the Price Support Scheme. *Price Support Scheme (PSS):* The Department of Agriculture and Co-operation executes Price Support Scheme (PSS) through NAFED, in addition to Cotton Corporation of India (CCI), as per the Minimum Support Price (MSP) declared by the Government of India. *Commodity Specific Information on Production and Marketing and the Schemes:* ***Oil Palm*****:** There is a lot of potentiality for the oil palm crop in A.P. by 4.10 lakhs ha, but the oscillation in prices of oil palm is a negative element for crop extension in A.P. It is observed that the total area extension taken place in A.P. is 1.23 lakhs ha by 2011-12. ***Cotton*****:** A.P. occupies major marketing share of cotton in India and it signifies the role of production of cotton of A.P.in the cotton market across nation. The percentage share of area of A.P. to all-India had been above 10 per cent in all the study period and after 2006-07, it started increase of share and it reached 18 per cent by 2012-13. *Review of Literature:* the literature survey is available to cotton crop with reference to volatility of prices in the market and the same is reviewed. There are no studies on evaluation of PSS for cotton crop. The studies for oil farm are hardly available with reference to prices in the market. *The Problem and objectives of study*: Though, Government of India (GOI) has spent huge amounts on MIS and PSS, still farmers are left uncovered and facing lack of reliable supporting price in the concerned markets. ***Objectives of the Study****:* 1)To understand coverage of MIS and PSS across crops and regions of India, 2) To ascertain factors that influence coverage of crops across regions, 3)To understand levels and basis of participation of farmers in MIS and PSS, 4) To understand problems of different stakeholders in operation of MIS and PSS, 5) To study the effect of MIS and PSS on the market price of commodity in A.P., 6) To assess efficiency of Central Agencies in operation of MIS and PSS and to suggest policy measures to improve operations of MIS and PSS. ***Methodology****: There are two districts and each one has two blocks . From every block one village is selected with due weightage to mandi. Both secondary and primary are analyzed in the study, which consists three chapters.*

CHAPTER II- Study of West Godavari and Khammam Districts, Sample Blocks and Sample Villages**:**

Oil palm has tendency of cropping much in higher size groups than for cotton crop. It is estimated that small and medium farmers participation is higher than the other two groups. The growth of NAS shows deceleration during 2001-11 for all the sample districts. At state level also, NAS has declined and it shows some negative trend. The marginal farmers are gradually increasing across state and in study districts. Comparatively, the semi-medium farm households reported declining trend during 2001-11, while the opposite appeared during 1991-2001. As a whole in the study area, the marginal and small farm households are in acceleration trend and for other farm households, there was decreasing trend. There is gradual acceleration for the use of tractors.

There was a sea charge for the tube well irrigation and it increased in leaps and bounds during 2001-11. The increase of bank offices has shown in study districts but post offices are stagnant in the study period. Out of the study districts, West Godavari has higher share of net irrigation in the state in all the study years followed by Khammam district. The 'other sources of Irrigation' has shown deceleration in state, despite study districts report high shares during study period except in West Godavari district. During 1980-2002, horsegram, sesamum, jowar, chillies and groundnut declined very sharply in the area and the new crops like maize, cotton, chillies and black gram came into picture. The land for non-agricultural uses was reported as first place by Pedavegi mandal and second place by Aswaraopeta mandal/block. Out of all six-sample blocks, Nadendla mandal/block showed the least use of land for non-agricultural uses. Pedavegi and Aswaraopet mandals stood in first and second places for net area sown from all the sample blocks. The number of farm households under marginal size existed in large number in Khammam rural and Pedavegi blocks. Blocks from Khammam district show larger extent of farm group sizes compared to other blocks of study districts. All the selected blocks/mandals are 100% electrified and linked with roads. The number of commercial banks is high in chilakaluripeta block out of all the blocks. It is surprising that the blocks of Khammam district- Chintakani and Khammam (rural) do not have co-operative banks.

Pedavegi, lingapalem Aswaraopet and Dammapet are tube-well irrigated blocks. In the canal irrigation, chintakani mandal shows the highest out of all mandals followed by Khammam rural. Though paddy occupies first place in area, it reports declining trend in the both Aswaraopet and Dammapet blocks. For cotton, the demographic features report that two villages from Khammam district informed higher geographical area than the area of sample villages from Guntur district. Aswaraopet village shows the highest marginal farmers (19%) against the selected villages for oil palm. The sample villages of Khammam district report higher net area sown (NAS) for oil palm cropping and Vegiwada village shows the lowest amount. All the four villages of oil palm crop are under tube well irrigation. Oil palm crop demands much irrigation for, growing successfully and yielding at good level. For cotton crop cultivation, all the farmers of two sample villages from Guntur district are dependent on 'other sources' of irrigation and no other source is found for cotton cultivation in Guntur district. However, in Khammam district, farmers of both villages are using different sources of irrigation and out of these sources. 'Other sources' has major share in both villages. The Commercial banks are available in two market villages of Aswaraopet and Dammapet of Khammam district. The farm produce storage is available to Vegiwada (West Godavari district), Aswaraopet (Khammam district) and the other market centers do not possess farm produce storage or godown facility.

During 2000-11, oil palm reported acceleration and during 2008-09 and latter the increase in area became sluggish. We can find that there is extension of area for oil palm in study districts in the first decade and in the latter period, it became stagnant. In Guntur district, the cotton crop reports deceleration during 2000-11, while an acceleration is traced between 1980-92. Some socio-economic problems cropped up during 2000-2011.There have been number of suicides among cotton crop growers. In Khammam district, a gradual increase of cotton appeared in the entire study period 1980-2011. At block/mandal level, Pedavegi mandal has

shown declining trend for oil palm during 2000-11, as this crop stood by 10% in 2000-02 and declined to 8.6% by 2010-11. On the other, Lingapalem mandal reported nearly stable share of oil palm in the total cropped area of block/mandal. In Khammam district, oil palm crop had shown increasing trend during 2000-09 and latter, it displayed decline in the cropped area in both blocks/mandals. From Guntur district, the selected mandals/blocks viz., Chilakaluripeta and Nadendla have shown acceleration of cotton-cropped area across selected mandals during 2003-11 and the similar trend appeared for sample blocks/mandals of Khammam district.

Chapter III - Results, Discussions and Summary and Conclusions:

There are several crops for MIS in A.P**.** Out of the 13 years period only one district Rangareddy was covered with sunflower and four crops. During 13 years, either MIS or PSS was covered in districts in A.P. ***Oil palm:*** There was no need of regular MIS for the oil palm farmers due to existence of market price higher than MSP in A.P. Hence, it is examined 2010-11, 2009 and 2000-01 years for the implemented years of MIS for oil palm. There was much acceleration of crop in West Godavari district, but in other districts show slow increasing trend. Khammam district informs a lot of scope for extension of oil palm crop. Cost of cultivation is high in Khammam district than in its counterpart. The coverage of farmers has been good during the study years and there is no bias or deletion any farmer. Farmers are much crop specific in case of oil palm. Still non-institutional credit is predominant among farmers at higher rates of interest. All the produce of oil palm reaches to milling site and there is no wastage except some falling of oil return due to much delay in milling. There are no different market channels for the farmers except the one allotted one by government and there is no question of rejection of produce. Farmers express that MIS is not a good catalyst to extend area but it worked out for the increase in incomes during the lower price period. The scheme reached all the farmers and they knew very well about the scheme. Price under MIS is very low and the payment is delayed, and it does not cover the increased cost of produce. There are no other problems regarding packing and transport.

Cotton: During 2000-12, cotton had only four years under PSS, while safflower had the highest number of years (nine) under PSS. Share of PSS was very low with 3% to 4% in Guntur district and with 40% and 20% in Khammam district out of the total market arrivals and these purchases were not subjected to cess or commission of the market because of bearing by state and central governments. Near stagnancy appears for Guntur district in the area, while there is increasing trend in Khammam district. There is high productivity in Guntur district rather than its counterpart. The coverage of PSS is low and the prices of private traders are not available with mandies selected. The coverage of farmers is 100% for PSS in the sample villages. Still the non-institutional credit is high for the cotton cultivators in both districts at 24% interest rate or more. Large farmers along with cotton in both areas crop cash crops. There is no home consumption for cotton. Marketing costs are similar in both private and PSS channels, but the price variation has led to increase in net income under PSS channel. There is no discrimination over farmers during the purchases, but the purchase officials use the wet of the produce to fix low price. Many marginal and small farmers are not covered. The insufficient market price of PSS and Cartel formation by Private traders is the basic problem for marketing the cotton produce along with lesser weight fixation to cotton produce of the farmer in the market.

A.P. Oil Seeds Federation, CCI and NFAFED are executing the schemes of MIS and PSS in A.P. and these express the need of extension of the period to seven months of MIS for oil palm and much storage and warehousing for cotton. The timely AMC bills to CCI will enable it to pay in-time payment to farmers. The additional incidental charges will make the schemes to be on right path.

Conclusions/Policy Measures

I Oil Palm:

1) Cost of Cultivation:

Cost of cultivation is not reflected in the fixation of price in the MIS, though the cost of cultivation of government research centre gives at higher level. Hence, it is better to encourage the cultivator of oil palm through the realty of changing cost conditions in the cultivation.

2) Need of Regular MIS:

As the irregular scheme and the lower price fixation of MSP are the basic elements in the turn out of the level of market price. It is better to arrange the MIS to oil palm on a regular basis, as the scheme, in any case, is very much limited to lower period. There would be very much good impact over the market price or miller price fixation, if the scheme is in force in the peak season.

3) Avoiding Power of Monopsony and Need of Institutional Body in Marketing:

The market structure is 100% monopsony for oil palm farmer. There is no say to farmer and he stands as 'price receiver'. It would be better to establish some market structure which should set the competition in the market. There are no instances as the mill owners have followed any competitive price in the market. There will be much existence of surplus to 'Monopsonist' in case of oil palm milling and therefore, it is imperative to establish any institutional body to reduce the power of 'Monopsonist'/ Miller to give good price or justice to the peasant of the oil palm. This body, having consisted of representatives from mill owners, farmers and the government nominated officials, could do successfully the proper price fixation to the farmer community of oil palm on a regular basis.

4) Proper Weighing and in-time Payment:

It is also very important segment of the oil palm marketing. There is weighing by factory owners only and it could hardly be reliable. Subsequently, it is important to erect the alternative weighing machines to farmers to check the produce. It is better to arrange payments in time to avoid undue interest payments by farmers, as the private factory owners are in practice of delay the payment of all farmers in all areas across study districts.

II Cotton:

1) Cost of Cultivation:

All the farmers express unanimously the need of MSP reflecting the changed cost of cultivation. They quote the increase in wages of labour and material charges at large extent. In such a dire context, the MSP for cotton is to be declared to meet the changed cost of production.

2) Institutional credit:

There is big claim for increase of institutional credit, though there is considerable rise in it (as the recent data informs). Cotton cultivation takes much investment within a short period for fertilizers, pesticides and weedisides. Most of the suicides are among the cotton cultivators across A.P. due to indebtedness arisen from the exorbitant interests and low price to their produce.

3) Need of Fair Market Structure:

i) Weighing: There is lot of criticism over the method of weighing either by private traders or by the officials of PSS. The farmers attribute malpractices of weighing through the wet aspect of 'Kapas' in the market. Calculation and weighing is very much corruption oriented and it leads to falling of net income to the farmer in the market site. In case of quality fixation also, the methods adopted by private traders and officials of PSS are non-acceptable for the proper price fixation. There is a cry with distress from farmers for the change of scenario.

ii) Quality: All the cultivators under PSS say that there is a lot of practice of lowering the quality of their produce in the market by both private traders and the officials of PSS. To this end, they use pretext of 'Mosisture and colour '. Thus the farmer is being cheated at the mandi by the both private traders and the officials of CCI.

iii) Packing Material: The packing material is supplied at subsidy price (gunny bags) to farmers, but this amount is not fully reached the respondents and further the whole produce could hardly be covered under this subsidy of packing material.

iv) Storage facility in Mandi: No sufficient space is available for the storage of cotton produce in the mandis. Many a time unseasonal rains have given trouble to farmers in the market in storing the produce in the market.

v) Rejection of Farmer produce and milakat with private trader:

Farmers blame the PSS officials for the practice of rejection of their produce and the same quality is being purchased from private traders. This practice gives lower price to farmer by private trader and in return, the private trader gets high price for same produce from the CCI officials by selling the same quality of cotton.

vi) Misappropriation of Farmer Card/Passbook by Private Traders: Private traders are misappropriating the farmers' passbooks or landholding record for the purpose of selling their

produce under PSS, and getting higher price to their produce, which was bought from the farmers at lower prices.

vii) **Delayed Payment**: CCI officials are not paying in time to the cultivators for the purchases done, while the private traders pay on the same day. Therefore, the farmers, who are at dire need of cash, are selling their produce at lower prices to the private traders. It could be avoided, if the payment from CCI is done at an earlier instant.

4) Coverage of Marginal and Small Farmers:

A very important aspect is the coverage of PSS for marginal and small farmers, as these farmer size groups are covered at lower ebb under the scheme. Location, transport, and quantum of produce with these groups are the factors for uncovering by CCI officials in the implementation of PSS. Hence, it is imperative to change policy of the CCI or Government of India to confine to the designated mandi or collection centres. The collection centres may be increased to cover these farmer size groups and further, these farmers may be arranged with sub-collection centres at some nearest villages, then marginal and small farmers may transport their produce to the proximate collection centre, which should not be a necessarily a mandi of the concerned state government.

5) Removal of Price Syndicate and CCI Purchases:

As per the farmers, there is allegation of existence of common price fixation by all the private traders during harvest season. To avoid this, it would be better to increase the purchases of CCI during harvest season, instead of confining to very limited period. Otherwise, the storage facilities could much be enhanced to the farmers coupled with bank loans over the stocks.

*****

Annexure – I

Purchase Centres/Mandis for Cotton under PSS in A.P.

Under the jurisdiction of B.O. Guntur		Under the jurisdiction of B.O. Warangal		Under the jurisdiction of B.O. Adilabad	
Name of the District	Name of the Centre	Name of the District	Name of the Centre	Name of the District	Name of the Centre
1. Guntur	1. Pedanandipadu 2. Tadikonda 3. Guntur 4. Krosur 5. Sattenapalli 6. Narasaraopet 7. Phiragapuram 8. Pidugurulla	1. Warangal	1. Warangal 2. Warangal"A" 3. Nekkonda 4. Narsampet 5. Jangoan 6. Parkal 7. Ghanpur	1. Adilabad	1. Adilabad 2. Gudihatnoor 3. Indervally 4. Bela 5. Jainoor 6. Boath 7. Narnoor 8. Neradigonda 9. Mancherial 10.Bhainsa 11.Kubeer 12.Asifabad 13.Wankidi 14.Luxattepet 15.Chennur 16.Sonala 17.Kondapalli 18.Pochera 19.Echoda
2. Khammam	9. Khammam 10. Kothagudem 11. Bhadrachalam 12. Burgampadu 13. Madhira 14. Enkoor 15. Nellakondapalli 16. Chandragunda	2. Mahbubnagar	8. Shadnagar		
3. Prakasam	17. Inkollu 18. Pusapadu 19.Parchur	3. Karimnagar	9. Karimnagar 10.Jammikunta 11. Vemulawada 12.Peddapally 13. Manthani 14. Choppadandi 15.Gangadhara 16. Husnabad		
4. Krishna	20. Jaggiahpet 21. Gampalagudem 22. Mylavaram	4. Medak	17. Gajwal 18. Siddipet		
5. Nalgonda	23. Nakrekai 24. Tirumalagiri 25.Valigonda 26. Bhongir 27. Mallepalli				
6. Kurnool	28. Nandyal 29.Adoni				
Total Centres in A.P.:66					

Note**:** Besides these, based on the pressure of cotton arrivals, CCI will open the new centres and operate PSS.
Source**:** Cotton Corporation of India, Mumbai**.**

Annexure – II

Collection Centres of FFBs of Oil Palm in West Godavari and Khammam Districts: 2012

Sl. No.	Name of the Centre
West Godavari district	
1	Pedavegi
2	T. Gokavaram
3	Vijayaraj
4	Pedakadimi
5	Mundur
6	Koppuavarigudem
7	Ramasingaram
8	Kalaraigudem
9	Badarala
10	Bhogolu
11	Vemulapalli
12	Royannapalem
Khammam district	
1	Aswaraopeta
2	Dammapeta
3	Allipalli
4	Sathupalli
5	Nagupalli
6	Palavancha
7	Wvra
8	Khammam

Source: Department of Horticulture, West Godavri and Khammam Districts.

ACTION TAKEN

As per the comments of the Coordinator of the Study, the final report is primed and submitted.

Agro - Economic Research Centre
Andhra University, Visakhapatnam.

Office Phone : 0891-2755873
Fax : 0891-2755873
Director's Phone : 0891-2755874
e-mail : ggrao333@gmail.com