2.1. Crop Husbandry

Agriculture

2.1.1. Rapid growth in agriculture is essential not only to achieve self-reliance at nation/state level but also for household food security and to bring about equity in distribution of income and wealth resulting in rapid reduction in poverty levels. Tamil Nadu has a total geographical area of 130 lakh ha. with 6% of the country's population. But it has only 4% of land area and 3% of water resources of the country. Of the total Gross Cropped Area only 47% of the area is under irrigated condition. Around 52% of the area is under dryland farming. The fallow lands have increased from 17.6 lakh ha. in the 50's to 24.35 lakh ha in 2001-02 and it is hovering around 25 lakh ha in the recent years. The Gross Cropped Area which was 70.20 lakh ha (including area under Horticulture crops) during 19995-96 has come down to 63.38 lakh ha. in 2000-01 which got further reduced to 58.89 lakh ha in 2004-05. The reasons attributed for the increase in fallow lands and reduction of gross cropped area are: urbanization and industrialisation, inadequate water availability and depletion of ground water, failure of monsoon rains, uncertainty in release of water in Cauvery, rising cost of cultivation, scarcity of agricultural labour and uneconomic returns.

Tenth Plan performance:

2.1.2. The State had aimed at achieving 4% growth rate in Agriculture and 8% in Horticulture and allied sector during the Tenth Five Year Plan. The task became difficult in view of the constraints viz:- Erratic and inadequate monsoon rain leading to severe drought situation, depletion of ground water, uncertainty in release of water from Mettur reservoir, deterioration of soil health and increase in fallow lands. Due to scanty rainfall and drought situation, there was a steep fall in the growth of Agriculture sector by (-) 21.93% in 2002-03. There was only a marginal improvement in 2003-04, when the growth was (-) 2.69%. The situation improved in 2004-05 with a growth of 15.09%.

2.1.3. Area under cereals was 57% of the total cultivated area during 1980-81 and decreased to 46% in 2004-05. Area under pulses is found

increasing from 8% during 1980-81 to 10% during 2004-05. Area under fibre crops and oilseed is found to be declining over the period. Except maize, sugarcane, chillies, turmeric and onion, the production of other crops declined over the period of time in the state. Area and production of maize have recorded 10.35 and 10.23% rate growth rate during nineties and 16.57% during 1994-95 to 2004-05 due to increase in demand from poultry and other livestock feed industries. With regard to pulses production the state has to depend on imports due to huge demand and supply gap. Production of major pulses such as red gram, green gram and black gram showed increasing tendency over the period though there was a production shortfall in 1990s. However, during the period from 1999-2000 to 2004-05, the area under total pulses has decreased 14%. Major oilseeds such as groundnut and gingelly exhibited declining tendency in terms of area and production. While higher growth rate in the productivity of groundnut and gingelly could not compensate decline in area resulting in marginal rate of decline in production.

2.1.4. Tamil Nadu has done well in irrigated agriculture particularly in rice, sugarcane and groundnut, the major crops of the state. Foodgrains production registered a growth rate of 2.31% beginning green revolution period until 1980, thereafter it rose further to 3.71 until 1990. During the period 1994-95 to 2004-05, the food grain production declined at -3.94 % per annum due to the declining growth in both area and productivity. Except paddy and maize most of the cereal crops especially the coarse cereals recorded negative growth in production and productivity during this period. In general however, the foodgrains production was much ahead of population growth till the end of 1990s. The sharp decline in rice area from the peak 28 lakh hectares to about 21 lakh hectares is mainly caused by Cauvery water disputes. Lesser profitability of sorghum, cumbu and ragi due to poor demand for these grains, as the underlying factor, caused the significant decline in the area of these crops. However, impressive performance in yield rates of foodgrains has more than compensated the decline in production due to fall in area. Technology, expansion in irrigation and market development paved the way for perceptible growth in yields of

rice, sugarcane and groundnut. In pulses also, the growth of the productivity is high in Tamil Nadu. At present, Tamil Nadu stands in first position in terms of productivity of rice.

2.1.5. One of the main cash crops grown in the state is sugarcane giving greater scope for the growth and development of the sugar and alcohol-based industries. Area and production of sugarcane in the state witnessed higher growth over the above period registering a growth rate of 3.70 and 4.51% during 1990s. However, the growth of the productivity rate was only 0.78%. Cotton production in the state was declining at the rate of 2.38% per annum mainly due to decline in area by 2.57%. The productivity growth of cotton was marginal (0.20%) and average productivity of cotton in the state is lesser than the national average particularly due to large scale cultivation under rainfed conditions.

2.1.6. As against the outlay of Rs.1350 crore for Crop husbandry, an amount of Rs.526.22 crore is expected to be spent during Tenth Five Year Plan period.

Target set for 2007-08:

2.1.7. For year 2007-08, the State aims at producing 96.17 LMT of food grain. Various targets have been set for individual crops including oilseeds and horticulture crops.

2.1.8. To achieve these, the following strategies are proposed during 2007-08.

- ? Conduct of intensive Pre-season campaign for one month each for Kharif and Rabi prior to peak sowing season to provide technologies
- ? Bringing every piece of cultivable land under cultivation and to bring considerable area of fallow lands under cultivation.
- ? Timely stocking and distribution of quality inputs and special thrust to achieve enhanced Seed Replacement Radio (SRR)
- ? Bringing more area under contract farming to ensure remunerative price
- ? Involving Tamil Nadu Women in Agri Business and Extension (TANWABE) groups in extension activities, seed production,biocontrol

agent,owning agricultural machineries for hiring activities and distribution and seedlings production.

- ? Effective use of Information and Communication technology in Agriculture for speedy transfer of information like technology, weather forecast, Market trend and assistance extended to farmers through various Government schemes.
- ? Promotion of Jatropha and establishing proper linkage with the industrial entrepreneurs.
- ? Formation of more Farmers Interest Groups (FIGs) and federating them upto the State Level. Involving them in extension and planning activities.
- ? Implementation of programmes under Rainfed Mission by establishing Model Water Conservation Park, establishment of Rainfed Academy, establishment of Nuclear watersheds and training programmes
- ? Intensifying crop diversification activities
- ? Promotion of micro irrigation in a large extent under coconut, pulses, groundnut, oilpalm and horticultural crops.

2.1.9. The State is implementing several schemes for the development of agriculture including horticulture.

Seed Component

2.1.10. Under Seed Multiplication Scheme, quality and viable Certified Paddy seeds are to cover 17% of the area and Millets are to cover 7% of the area. A total quantity of 17000 MTs. of paddy and 400 MTs. of Millets Seeds are to be produced and distributed to the farming community at reasonable price in time. A sum of Rs.1543.45 lakh is expected to be spent during 2006-07 and a sum of Rs.1790.36 lakh has been proposed for 2007-08 of which an amount of Rs.485.82 lakh is earmarked for SCP component.

2.1.11. Under the scheme Development of Foundation Seed Production Centres for Groundnut the required quantity of Breeders Seeds of oilseed crops are supplied by TNAU and ICAR Centres and multiplied as Foundation Seeds in 5 State Oilseed Farms. A sum of Rs.86.48 lakh is expected to

spent during 2006-07 and a sum of Rs.94.27 lakh has been proposed in the for 2007-08.

2.1.12. To build up the microbial load water holding capacity and soil health the green manure Seeds like Sunnhemp, Daincha etc., are produced and distributed Under the scheme 'Procurement and distribution of Green Manure Seeds. During 2006-2007, 250 MTs of green manure seeds will be procured and distributed to the ryots at 25% subsidy. A sum of Rs.25.00 lakh is expected to be spent during 2006-07 and a sum of Rs.25.00 lakh has been proposed for 2007-08.

2.1.13. Under this scheme Multiplication and Distribution of Pulses Seeds, the provision made is towards the cost of seeds, gunnies, transport, and fumigation etc., for SCP only. Totally, 1600 tonnes of Certified Pulses seeds are produced and distributed to cover 12.5% of the total area under pulses. A sum of Rs.117.60 lakh has been spent during 2006-07 and a sum of Rs.148.11 lakh has been proposed for 2007-08 for SCP component.

Crop and Plant protection:

2.1.14. Under crop and plant protection scheme the funds sanctioned under this scheme will be utilised for the procurement of bio-control agents and bio-pesticides to distribute to the farmers. A sum of Rs.95.48 lakh is expected to be spent during 2006-07 and a sum of Rs.100.26 lakh has been proposed for 2007-08 of which an amount of Rs.23.39 lakh is earmarked for SCP component.

2.1.15. With a view to enforce the Insecticide Act and rules, pesticide samples are drawn from the retail and whole sale trade points and analysed in 9 notified Pesticide Testing laboratories functioning in the State with an analysing capacity of 13860 samples per annum. Under this Scheme, 14500 Pesticide samples will be drawn and analysed during 2007-08. A sum of Rs.56.34 lakh is expected to be spent during 2006-07 and a sum of Rs.12.36 lakh has been proposed for 2007-08.

2.1.16. Under the scheme Biological control of pest on oilseeds and coconut:, NPV are produced through 4 NPV Production Centres for the Biological control of prodenia on groundnut to cover 600 Ha. Further, for

the control of rhinocerous beetle in Coconut, green muscardine fungus are produced in 2 centres at Cuddalore and Nagercoil (11000 vial).

Commercial Crops

2.1.17. Under' Sugarcane Development scheme, the parasites are multiplied in 21 Parasites Breeding Centres functioning near sugar mills area. The provision made is towards recurring cost of production of parasites. A sum of Rs.3.75 lakh is expected to be spent during 2006-07 and a sum of Rs.3.35 lakh has been proposed for the year 2007-08.

2.1.18. Under Cotton Development scheme, quality certified cotton seeds are produced as per SRR of 10% for Rainfed cotton area and 15% for Irrigated area under cotton. During 2007-08, it has been proposed to procure and distribute 250 MT of cotton seeds. A sum of Rs.120.32 lakh is expected to be spent during 2006-07 and a sum of Rs.111.76 lakh has been proposed for 2007-08.

2.1.19. Under 'Integrated Coconut Development scheme', quality tall and tall X dwarf hybrid coconut seed nuts will be procured from the selected mother palms and seedlings will be raised in the Government coconut nurseries and distributed to the coconut growers. A sum of Rs.139.14 lakh is expected to be spent during 2006-07 and a sum of Rs.150.45 lakh has been proposed for 2007-2008.

2.1.20. The objective of the scheme Increasing the production of Oilseeds (IPOS) is to procure and supply quality oilseeds to the required quantity as per the SRR (Groundnut 5%, Gingelly 15%, Sunflower 50%, Castor 30%, Soya 20%) and also providing latest technologies to increase the productivity. A sum of Rs.636.93 lakh is expected to be spent during 2006-07 and a sum of Rs.648.23 lakh has been proposed for 2007-08 of which an amount of Rs.264.77 lakh is earmarked for SCSP component.

Centrally Sponsored Schemes With 100% Assistance

Integrated Farming in Coconut Holdings for Productivity Improvement

2.1.21. This is a centrally sponsored scheme and the entire expenditure is borne by the Government of India, through the Coconut Development Board. Removal of senile and diseased trees, lay out of demonstration plots and organic manure pit have been taken up under this programme in order to improve the productivity of coconut. An amount of Rs.569.46 lakh is expected to be spent during 2006-07 and Rs.600.00 lakh has been proposed for the year 2007-08.

Agricultural Information System Network Project (AGRISNET)

2.1.22. Use of information and communication technology is gaining rapid progress in the field of agriculture. The linkage through website is of more use to develop better and faster communication between the various levels of the Department, University, Research Laboratory, Women Groups, Farmers Interest Groups and also the farmers. To facilitate the above object, a sum of Rs.831.40 lakh have been approved by the GOI during 2006-07 out of which GOI released Rs.302.40 lakh. Under this project purchase of computers to provide network facilities, establishing linkages, data entry and human resources development training activities are proposed to be taken up. The scheme is in progress.

Centrally Sponsored Scheme Shared Between Centre And State

Macro Management Mode

2.1.23. Under the Cereals Development Programme-Rice is being implemented under Macro Management Mode programme. The sharing pattern is 90:10 between Centre and State. Under this scheme,15,000 MT of certified paddy are distributed at the rate of Rs.2/- Kg. and 400MT millet seeds are distributed with a subsidy of Rs.4/- per kg. 3500 SRI demonstrations and 417 Nos. of Farmers Field Schools are conducted throughout the crop duration to popularize the Integrated Further Bio fertilizers and MN mixture are distributed at 25 % subsidy. An amount of

Rs.503.87 lakh is expected to be spent during 2006-07 and Rs.494.65 lakh has been proposed for the year 2007-08, which includes Rs.196.36 lakh for SCP.

2.1.24. Under this scheme Sustainable Development of Sugarcane Based Cropping System (SUBACS) release of parasites for the control of Internode borer, field demonstration and farmers training are under taken. Further demonstration of Participatory Research and Technology for drip fertigation system for yield maximization and Drip fertigation under pit method of planting in Sugarcane are also done. An amount of Rs.130.22 lakh is expected to be spent during 2006-07 and Rs.131.80 lakh has been proposed for the year 2007-08,

2.1.25. Under the scheme 'Balanced and Integrated Use of Fertilisers', Orientation Training Programme will be given to research wing personnels. An amount of Rs.126.20 lakh is expected to be spent during 2006-07 and Rs.51.23 lakh has been proposed for the year 2007-08,

2.1.26. Under this Innovative Scheme, Commodity Group Network, Tamil Nadu Women in Agri Business and Extension (TANWABE), Strengthening of Irrigation Infrastructure in State Seed Farms, Promotion of Sugar beet, Production of Bio Agents through Women Self Help Groups, Demonstration on Crop Diversification are implemented. During 2006-07, 600 Farmers Interest Groups (FIG) have been formed and it has been programmed to form another 600 FIG during 2007-08. Under TANWABE, 22600 Farm Women Groups were formed during 2006-07. Of these, 6000 viable groups will be idendified for giving training on identified EDP training skills.

2.1.27. As a part of promotion of biofuel crops, the promotion of Sugarbeet scheme is included in the Macro Management Mode Scheme. During 2006-07, 80 Field demonstrations, 2 State level trainings for extension personnel and 15 farmers' trainings will be conducted to explain the cultivation techniques of Sugarbeet.

2.1.28. There are more initiatives for empowering the farm women socially, economically and technically. The Women Self Help Groups as revolving fund for production of bio control agents.

2.1.29. Integrated farming system approach is highly remunerative to have sustained income in the farm. Hence demonstration on crop diversification is implemented as an innovative scheme at a cost of Rs.58 lakh.

2.1.30. A scheme for distribution of farm machineries like power tiller, fertilizer-cum-seed drill, power thrasher etc., to Women Self Help Groups at 25% subsidised cost is being implemented. This will help the women self help groups for carrying out their own farm operations and earning profit by hiring them out.

Integrated Scheme for Oilseed, Pulses, Oilpalm and Maize (ISOPOM:

2.1.31. Under this scheme ISOPOM-Maize, it is proposed to distribute subsidized seeds. Block demonstrations and IPM demonstrations are conducted. Production subsidy is also contemplated for seeds produced by the department and private producers. An amount of Rs.49.15 lakh is expected to be spent during 2006-07 and Rs.49.70 lakh has been proposed for the year 2007-08.

2.1.32. Under the scheme ISOPOM-Pulses, thrust is given to increase the productivity of pulses by providing essential inputs at subsidised cost. Subsidies are extended for production and distribution for a quantity of 16000 quintals of pulses certified seed. 40 Nos. of Compact Block Demonstrations and 40 IPM demonstrations are conducted. Other inputs like Gypsum, Biofertilizers, Bio agents, NPV virus, Plant Protection chemicals are distributed at subsidized cost. Plant Protection equipments and sprinkler sets are also distributed. An amount of Rs.493.40 lakh is expected to be spent during 2006-07 and Rs.516.25 lakh has been proposed for the year 2007-08,

2.1.33. This ISOPOM-oilseeds scheme encourages oilseed growers to adopt latest production technologies by providing essential inputs like seeds, PP equipments, biofertilisers, biopesticides, gypsum and infrastructure development for irrigation facilities and storage godown. Block demonstration on Polythene Mulch Technology in Groundnut and IPM demonstration are also conducted. An amount of Rs.1275.57 lakh is

expected to be spent during 2006-07 and Rs.1622.17 lakh has been proposed for the year 2007-08,

2.1.34. The scheme ISOPOM-Oilseeds aims to encourge the cultivation of oil palm so as to meet the edible oil demand of the State. The cost provided is for the procurement of Oil palm sprouts, raising of seedlings, cultivation maintenance subsidy upto 4 years, provision of Drip Irrigation, Orientation training for officials and training of farmers under the Oil Palm Development Programme. An amount of Rs.108.04 lakh is expected to be spent during 2006-07 and Rs.145.77 lakh has been proposed for the year 2007-08.

Technology Mission on Cotton Mini Mission II :

2.1.35. It aims to increase the production of cotton by providing key inputs like seeds and through technology demonstration, training and plant protection. An amount of Rs.311.48 lakh is expected to be spent during 2006-07 and Rs.370.00 lakh has been proposed for the year 2007-08.

Horticulture

2.1.36. Tamil Nadu is one of the leading Horticulture States in India contributing 7.7 % to the National Horticultural production with 5.7 % of the National level area. Tamil Nadu has been blessed with diversified agro-climatic conditions, suitable for a wide range of horticulture crops like fruits, vegetables, spices, plantation crops, flowers and medicinal plants. A large extent of wastelands and under-utilized lands are available in the State for horticulture development. Tamil Nadu has a long coastal belt of 1000 km. suitable for crops like cashew, coconut, tropical orchids etc. The southern part of Tamil Nadu has the potential for growing off-season mangoes and grapes.

Integrated Horticulture Development Scheme:

2.1.37. This scheme is being implemented in 29 districts excluding Chennai. Under this scheme elite planting materials, high yielding / hybrid vegetable seeds are distributed to the horticultural farmers at 50% subsidised cost.

2.1.38. There are 51 State Horticulture Farms ,4 Parks (including Government Botanical Garden, Udhagamandalam) and 4 Training centres are mainted.

Integrated Tribal Development Programme :

2.1.39. Under this scheme, planting materials, seeds etc. are distributed to tribal farmers at 75% subsidised cost in Salem, Namakkal, Dharmapuri, Tiruvannamalai, Vellore, Trichy and Villupuram districts. The scheme is proposed to be implemented at an outlay of Rs.45.10 lakh to cover an area of 900 ha. during 2007-08.

Western Ghats Development Programme :

2.1.40. Under this scheme, quality planting materials of mango, nelli, sapota etc. and other inputs are being distributed to the horticultural growers at 25% subsidised cost .The scheme is proposed to be implemented at a total cost of Rs.62.65 lakh to cover an area of 1500 ha taking into consideration the implementation of the National Horticulture Mission in many districts.

Hill Area Development Programme

2.1.41. Under this scheme, pedigree fruit plants, high yielding vegetable seeds, spices plants are distributed to the horticultural growers of The Nilgiris district at 25% subsidy. As The Nilgiris district has been included under National Horticulture Mission, the scheme is proposed to be implemented with an outlay of Rs.345.55 lakh during 2007-08 to cover an area of 2000 ha.

Tamil Nadu Precision Farming Project

2.1.42. Tamil Nadu Precision Farming Project is being implemented in the districts of Dharmapuri and Krishnagiri to cover an area of 400 Ha. of farmers' holdings at an outlay of Rs.720.60 lakh over a period of 3 years. Under this scheme, high value crops like gherkins, hybrid tomato, capsicum, chillies, baby corn, white onion, bhendi, cabbage and cauliflower are cultivated adopting precision farming technologies. The beneficiaries selected during the first year are provided with 100% subsidy, second year

the beneficiaries are provided with 90% subsidy and in the third year with 80% subsidy. The scheme is implemented by Tamil Nadu Agricultural University on a Turnkey basis. An amount of Rs.120.85 lakh is expected to be spent during the year 2006-07.

2.1.43. Tamil Nadu Precision Farming Project is to be implemented in Vellore, Erode, Madurai, Theni, Tirunelveli, Kancheepuram and Tiruvallur districts involving 90% subsidy for which an amount of Rs.992.950 lakh was sanctioned. Under this scheme, annual fruits, vegetables and flowers will be cultivated in an area of 735 Ha. adopting precision farming technologies. It is expected that an amount of Rs.1000 lakh is likely to be spent during 2006-07.

Promotion of Alternate Crops in The Nilgiris District:

2.1.44. Under this scheme multi-tier cropping viz. cultivation of silver oak, pepper, cardamom, mandarin orange, etc., along with tea is being popularized among growers. Efforts will be taken to introduce new crops like Macadamia and Pecan nuts in farmers' holdings of selected pockets of the district. This scheme will be implemented during 2007-08 with an outlay of Rs.50.00 lakh as done during last year.

Micro Irrigation:

2.1.45. Micro Irrigation schemes aims at increasing the area under efficient methods of irrigation i.e. drip and sprinkler irrigation. Micro Irrigation for the entire horticultural crops was introduced in a massive scale during 2005-06 and now being extended to sugarcane also during 2006-07. 50% subsidy to all categories of farmers is envisaged in this programme. Maximum area per beneficiary family is limited to 5 Ha. only. This scheme is implemented on a Centrally shared schemes 80:20 basis.

National Horticulture Mission :

2.1.46. This scheme aims at holistic development of Horticulture involving appropriate cultivars, good agronomical practices, post harvest handling, processing and marketing with an end to end approach. Under this scheme, focus crops viz., mango, nelli, banana, cashew, chillies, turmeric,

aromatic plants and flowers are promoted adopting cluster approach. This scheme is being implemented in the districts of Coimbatore, Erode, Salem, Dharmapuri, Krishnagiri, Cuddalore, Madurai, Theni, Dindigul, Trichy, Sivagangai, Tirunelveli and Ramanathapuram incurring an expenditure of Rs.2462.67 lakh out of Rs.3891.67 lakh released by the Government of India during 2005-06. An amount of Rs.9805 lakh is expected to be spent during 2006-07, this scheme will be implemented with a financial outlay of Rs.9304.72 lakh in 14 districts (including The Nilgiris district) during 2007-08. This scheme is a Government of India funded scheme.

Agricultural Engineering

Replacement of Old Pump sets scheme:

2.1.47. It was therefore proposed to replace the old inefficient electrical pump sets with an aim of saving electricity. Subsidy assistance is provided to the farmers for replacing their old pump sets and renewal of electrical accessories. It is proposed to provide Rs.9.00 crore as subsidy for replacing 18000 old pumpsets with new energy efficient pumpsets during 2007-08.

Agricultural Mechanisation programme:

2.1.48. This is a shared scheme being implemented with financial assistance from both the Centre and the State on 90:10 basis. Under this programme, subsidy assistance is provided to farmers for procuring farm equipments so as to supplement the available "farm power", to reduce the drudgery of agricultural labourers, to ensure timeliness in carrying out various farm operations and to increase agricultural production. A sum of Rs.100 lakh is proposed as State share for the year 2007-08.

Insurance Scheme:

2.1.49. Under the scheme Assistance to small and marginal farmers enrolled under Crop Insurance Scheme,Food Crops like Paddy, Ragi, Cholam, Oil seed crops like Groundnut, Gingelly and Commercial crops like cotton and potato are covered. The sum insured will be upto 100% value of the threshold yield on normal coverage and upto 150% on additional coverage. Moreover, apart from the loanee farmers, non-loanee farmers are

also covered under this scheme. The small & marginal farmers insuring their crop are given 50% of premium subsidy under this scheme. The burden of premium subsidy to small farmer / marginal farmer is shared by Government of India and the State Government on 1:1 basis. A sum of Rs.24.65 lakh was incurred during 2005-06. An amount of Rs.25.00 lakh is proposed for 2007-08.

2.1.50. Under National Agricultural Insurance Scheme the claims are approved by the General Insurance Corporation of India. When the claims approved by General Insurance Corporation exceed 100% of the premium collected for food crops, the claims in excess of premium can be settled only on receipt of respective share from the Government of India and the State Government. In other words, if the claims approved by the General Insurance Corporation exceeds 100% of the premium collected, the Government of India and the State Government have to contribute the excess amount on 50:50 basis. A sum of Rs.1647.25 lakh was incurred during 2005-06. An amount of Rs.2160 lakh is expected to be spent during 2006-07 and Rs.2000 lakh is proposed for the year 2007-08.

Plan Outlay-Crop Husbandry:

2.1.51. An amount of Rs.100.27 crore was spent during 2005-06. A sum of Rs. 111.81 crore is expected to be spent during 2006-07. The agreed outlay for the Crop Husbandry sector is Rs. 161.10 crore for the for the year 2007-08. Of this, the outlays earmarked for Scheduled Caste Sub Plan and Tribal Sub Plan are Rs.32.22 crore and Rs.10.18 crore respectively.