

## CHAPTER II

### AGRICULTURE

#### 1. Introduction:

Agriculture, as a primary sector provides livelihood to 56% of the population and contributes around 13% of the State GDP. The Government is taking efforts to achieve targeted growth rate of 4% in Agriculture during XI Plan period. Though fertile soil, good quality water and long period of sunlight which are the basic requirements for Agriculture available in abundance in Tamil Nadu, still the productivity has not been enhanced to its potential level.

The **System Rice Intensification (SRI) technology** in rice has proved to achieve a productivity level of more than 10 tons paddy per hectare if done scientifically. The highest productivity upto 13 metric tons per hectare was recorded by adopting this technology. Hence Government will give greater emphasis to bring more area under SRI to enhance the productivity of paddy in the State.

The precision farming methods integrating all technologies with drip fertigation can help to achieve very high productivity in agricultural and horticultural crops like sugarcane, cotton, banana, vegetables and also flowers. By adopting precision farming technology the productivity could be increased more than 2 to 3 times than the present level of productivity, besides quality enhancement. The Government will take steps to promote this technology on cluster basis for large scale adoption.

Application of more of organic manure is essential to restore the soil health and hence, production of organic manure using crop residues at farm holdings and composting of municipal waste at local bodies are also aimed at. Application of macro and micro nutrients based on the soil test analytical report will certainly help to increase the productivity and in this regard all the districts have been provided with Soil Testing Laboratories with sophisticated equipments. Efforts will be taken to establish Agri Clinics with mini Soil Testing Laboratories at block level to strengthen the extension, inputs and soil testing activities with public private partnership. Promotion of farm machineries like paddy transplanter, paddy harvester, sugarcane harvester etc will also be given prime importance.

The Agriculture and sister departments have been restructured by converting the three tier system to two-tier system by positioning more technical staff at block and village level for effective transfer of technologies. Massive promotion has been given to the technical officers and positioned to take up extension work with agility.

#### 2. Seasonal condition

The rainfall received during 2007-08 is normal. However, during September 2007, against the normal rainfall of 112.5 mm, only 77.3 mm rain have been received with a deficit of 31% which had adverse impact on rainfed crops like maize, groundnut etc. During December 2007, due to severe rain flood occurred in 20 districts namely Kancheepuram, Thiruvallur, Cuddalore, Thiruvannamalai, Dharmapuri, Coimbatore, Erode, Namakkal, Trichy, Perambalur, Karur, Pudukottai, Thanjavur, Nagapattinam, Thiruvarur, Madurai, Dindigul, Ramnad, Virudhunagar, and Thoothukudi.

**2.1 Flood Damage** - Due to heavy downpour of northeast monsoon during December 2007, considerable crop damages has been noticed in most of the districts in Tamil Nadu. The details of crops damages reported in the State are as follows:-

Sl. No.	Crop	Extent of damage (in Ha.)			
		Rainfed Crops (More than 50%)	Irrigated Crops (More than 50%)	Perennial Crop	Total
1	Paddy	381.00	119118.12	--	119499.12
2	Millets	1998.00	25.30	--	2023.30
3	Pulses	12840.00	275.00	--	13115.00
4	Oilseeds	2308.00	21136.00	--	23444.00
5	Cotton	19.00	19.00	--	38.00
6	Sugarcane	--	20.27	--	20.27
7	Tobacco	--	24.00	--	24.00
8	Coconut	--	--	0.28	0.28
	Total	17546.00	140617.69	0.28	158163.97

As per Government of India norms, the relief assistance is provided @ Rs.2000/-per hectare for rainfed crops, Rs.4000/-per hectare for irrigated crops and Rs.6000/-per hectare for perennial crops. The flood relief assistance are extended to the affected farmers through Primary Agricultural Co-operative Banks. To compensate the farmers for the losses in an extent of 1,58,163.97 Ha, the loss has been estimated to the tune of Rs.59.76 crores, the fund released to the tune of Rs.57.106 crores and a sum of Rs.56.50 crores has been disbursed to 3,60,954 farmers as compensation. The disbursement is in progress.

Due to inadequate water position, the Mettur reservoir was opened on 18<sup>th</sup> July against the scheduled date of 12<sup>th</sup> June. The water level in Mettur reservoir reached full capacity 8 times during this year has helped to harvest good samba crop. Most of the Reservoirs and tanks in the State have good storage position because of the copious rains received in December 2007 which also helped to recharge ground water level substantially. In general, the production of food grain crops is estimated to cross the targeted level, despite drought and flood situation prevailed in certain pockets.

The rainfall received during the year season wise is as follows.

(in mm)

Season	Normal Rainfall	Actual Rainfall		Deviation % w.r.to Normal	
		2006	2007	2006	2007
<b>2007</b>					
Winter Season (January – February)	36.8	15.6	11.4	(-) 57.6	(-) 69.0
Summer season (March- May)	129.7	150.4	100.9	(+) 16.0	(-) 22.2
South West Monsoon (June - Sept.)	332.8	264.6	341.6	(-) 20.5	(+) 2.6
North east Monsoon (Oct. – December)	431.4	496.3	515.4	(+) 15.0	(+) 19.5
<b>Total</b>	<b>930.7</b>	<b>926.9</b>	<b>969.3</b>	<b>(-) 0.4</b>	<b>(+) 4.2</b>
<b>2008</b>		<b>2007</b>	<b>2008</b>	<b>2007</b>	<b>2008</b>
Winter Season (January - February)	36.8	11.4	46.2	(-) 69.0	(+) 25.5

## 2.2 Area Coverage and Production 2007-08

The crop coverage and production during 2007-08 are as follows:

Crop	Area (L.Ha.)		Production (L.MT)	
	Target	Achievement (Provisional)	Target	Achievement (Provisional)
Paddy	21.50	21.00	78.00	75.60
Millets	12.00	12.00	13.80	19.80
Pulses	8.50	9.00	3.70	4.95
<b>Total food grains</b>	<b>42.00</b>	<b>42.00</b>	<b>95.50</b>	<b>100.35</b>
Oilseeds	10.00	9.00	17.00	15.30
Cotton (L.Bales)	1.50	1.30	3.50	3.10
Sugarcane (Gur)	3.50	3.80	41.00	46.36
<b>Total</b>	<b>57.00</b>	<b>56.10</b>		

## 2.3 Area Coverage and Production Target 2008-09

The Target fixed for crop coverage and production for the year 2008-09 are as follows:

Crop	Area (L.Ha.)	Production (L.MT)
Paddy	21.50	80.00
Millets	12.00	21.00
Pulses	12.00	7.00
<b>Total food grains</b>	<b>45.50</b>	<b>108.00</b>
Oilseeds	10.00	17.50
Cotton (L.Bales)	1.50	4.00
Sugarcane (Gur)	3.50	47.25
<b>Total</b>	<b>60.50</b>	

## 3. System Rice Intensification (SRI )

During 2007-08, the System Rice Intensification Technology (SRI) was demonstrated in an extent of 11,320 hectares under Cereals Development Programme by extending subsidy of Rs.2000/-per hectare and imparting training to 56,600 farmers. This technology helped to achieve the productivity of 10,000 kgs per hectare which leads to adopt this technology to an extent of 4.20 lakh hectares during 2007-08. Considering the productivity achieved by adoption of this technology, the area under SRI will be increased to 7.50 lakh hectares during 2008-09.

### 3.1 Major strategies to achieve the production target for 2008-09

- ❖ Soil Health care through application of more organic manure, green manuring, biofertiliser and application of macro / micro nutrients based on soil test analysis.
- ❖ Maximising the area coverage with Pulses, Maize and Groundnut with available water through crop diversification.
- ❖ Quality seed distribution and promotion of Seed Village concept to produce quality seeds in farm holdings.
- ❖ Scientific cultivation by adoption of all technologies with drip fertigation through precision farming.

- ❖ Promotion of SRI technologies to maximize rice production.
- ❖ Promotion of Bt cotton with micro irrigation.
- ❖ Promotion of Seed Treatment practices
- ❖ Dryland development and popularisation of minor millets.
- ❖ Promotion of organic manure production and organic farming.
- ❖ Development of clusters of Horticultural crops / Bio mass tree plantation in dry lands.
- ❖ Promotion of usage of farm machineries like paddy transplanter, Paddy harvester, Sugarcane harvester etc.
- ❖ Providing integrated advice on scientific cultivation of Agricultural and Horticultural crops at block / village level.
- ❖ Intensive extension activities and training to farmers at village level.
- ❖ Private extension through establishment of Agri clinics with mini Soil Testing Laboratories.
- ❖ Involvement of TANWABE groups and Farmers Interest Group (FIG) in Agricultural Development

#### 4. STATE SCHEMES

##### 4.1 Supply of quality seeds

Seeds with genetic and physical purity standards certainly help to increase the productivity. The Government is very keen in making available good quality seeds of preferred varieties in time to the farmers through Public and Private outlets.

As per Government of India norms, the desirable Seed Replacement Rate (SRR) is 25% for self-pollinated crops, 35% for cross-pollinated crops and 100% for hybrids. The details of quality seeds distributed to the farmers and the Seed Replacement Rate (SRR) achieved during 2007-08 are indicated below:

(Metric tonne)

Sl. No	Crop	Details	100% Seed Reqmt.	2007-08 (Seed Distributed)			% of SRR achieved	Recommended SRR
				Govt.	Pvt.	Total		
1.	Paddy	Self - pollinated	107500	17828	47169	64997	62%	25%
2.	Millets	Cross-pollinated (except Ragi)	11310	400	5862	6262	55%	35%
3.	Pulses	Self-pollinated	24000	1800	3019	4819	20%	25%
4.	Oil-seeds	Self-pollinated (except Sunflower and Castor)	162375	4500	20815	25315	16%	25%
5.	Cotton	Cross-pollinated	1000	156	798	954	95%	35%

Regarding Maize, Sunflower and Cotton, hybrid seeds are supplied to cover 100% SRR.

In respect of Oilseeds and Pulses, special efforts will be taken to increase the SRR to more than 25% through public private partnership.

The Department of Agriculture is directly involved in producing seeds by getting breeder seeds from TNAU. The foundation seeds are produced in 43 Government farms which are further multiplied as Certified seeds in farmer's holdings. The Private Seed producing companies are also organizing seed farms in the farmer's holdings. The seed farms organized both by the Department as well as Private seed producers are registered with the Seed Certification Department to ensure quality of seeds. The certified seeds produced by the Department are distributed through 379 main Agricultural Extension Centres and 501 sub Centres and the seeds produced by Private companies are sold through 5,313 No. of seed retail outlets.

The Government is very keen in providing quality seeds and planting materials to the farmers and greater efforts will be taken to produce and distribute hybrids of different crops to increase the productivity. To this effect, the Government has proposed to establish a separate

**Tamil Nadu State Seed Production Agency** to strengthen all the activities related to seeds.

In addition, the following programmes are under implementation.

- Seed Village Scheme for Paddy, Oilseeds and Pulses at the cost of Rs.2.00 crores. 50% seed subsidy for 1930 MTs of Paddy, 220 MTs of Oilseeds and 40 MTs of Pulses and training of 15,000 farmers on seed production technology. An additional amount of Rs.2.00 crores has been obtained from Government of India to intensify the scheme further.
- During 2007-08, Rs.28.00 lakhs was allotted and utilized for purchase of Mini Seed Processing Units and repairing of existing units and purchase of 50 bag closures under Part-II Scheme.
- In the case of Pulses and Oilseeds, the SRR is less than 25%. Special efforts will be taken to increase the SRR to the recommended level by extending financial assistance to women groups / FIGs to take up seed production under National Agricultural Development Programme in the focused nine districts of Coimbatore, Dharmapuri, Dindigul, Krishnagiri, Namakkal, Perambalur, Ramanathapuram, Salem and Villupuram.

#### **4.2 Restoration of Soil Health and Management**

The organic matter content in most of the soils of Tamil Nadu is low and widespread deficiency of micronutrients is also noticed all over the State. Hence the Government endeavors to distribute Soil Health Card to all the farm holdings to adopt the practice of application of Macro and Micro Nutrients based on the Soil Test report. With this view, 11 new Soil Testing Labs have been established during 2007-08 in the districts of Thiruvallur, Villupuram, Thiruvannamalai, Namakkal, Krishnagiri, Perambalur, Karur, Nagapattinam, Thiruvarur, Virudhunagar and Ariyalur districts. All the districts have been provided with Soil Testing Laboratories to accelerate the work of distribution of Soil Health Card. More sophisticated equipment namely Atomic Absorption Spectro Photo Meter is also made available in all the Labs for analysis of micronutrients. Under National Agricultural Development Programme, it is proposed to establish 224 Nos. of Agri clinics with mini Soil Testing facilities at block level so that the farmers could easily access and get the soil tested.

During 2007-08, the Government is implementing the following programmes for restoration and maintenance of soil health.

- 4.2.1. Production and distribution of Green Manure Seeds** Scheme is implemented to rejuvenate the practice of cultivating Green Manure crops to increase the organic content of the soil and 250 MTs of Green Manure seeds are produced and distributed at 25% subsidy at a cost of Rs.50 lakhs. During 2008-09, 250 MTs of Green Manure seeds will be produced and distributed at subsidised cost at an allocation of Rs.50 lakhs.
- 4.2.2. Composting of Farm waste through pleurotus** is promoted by distributing kits at free of cost, each containing one kg of pleurotus, five kgs of urea and a leaflet containing technical information at a cost of Rs.120 per kit. 5,000 kits at a cost of Rs.6.00 lakhs have been distributed. During 2008-09, this scheme will be implemented to distribute 5,000 kits at an outlay of Rs.6 lakhs.
- 4.2.3. Vermi Compost production** scheme is implemented to conduct demonstration and training to farmers. 122 demonstrations have been conducted and 6,100 farmers have been trained at an outlay of Rs.4.71 lakhs. During 2008-09, this scheme will be continued for conducting 150 demonstrations and giving training to 15,000 farmers at an allocation of Rs.11.55 lakhs.
- 4.2.4. Integrated Nutrient Management practices** promote the use of biofertilizers like Rhizobium, Azospirillum and Phosphobacterium. The biofertilizers packets are produced in six Biofertilizer Production Centres located at Cuddalore, Ramanathapuram, Salem, Kudumiyamalai, Sakkottai and Trichy and distributed through Agricultural Extension Centres. During 2007-08, 79.25 lakhs packets have been produced and 74 lakh packets have been distributed till February 2008 as against the programme of 80 lakh packets. During 2008-09, 80 lakhs biofertiliser packets will be produced and distributed.
- 4.2.5.** 525 Metric Tonnes of **Blue Green Algae** and 500 Metric Tonnes of **Azolla** have been produced and distributed during 2007-08. During 2008-09, this scheme will be continued.
- 4.2.6.** Most of the soils are deficit in **Micro Nutrient** content and the farmers are advocated to apply Micro Nutrient based on the soil test recommendation and also based on the tract specific recommendation of the Tamil Nadu Agricultural University. The Micro Nutrient Production Centre at Kudumiyamalai is producing 1,400 metric Tonnes of Micro Nutrient Mixtures of 14 types for different crops annually. The Micro Nutrient Mixtures are distributed through the Agricultural Extension Centres. During 2008-09, 1,400 MTs of Micro nutrient mixtures will be produced and distributed.
- 4.2.7.** The Government is taking efforts to distribute **Soil Health Cards** to all the 80 lakhs farm holdings in a phased manner. In order to distribute Soil Health Cards in a comparatively shorter period of time, 11 new labs established during 2007-08 at a cost of Rs.0.77 crores. Establishment of 224 Agri Clinics with Mini Soil Testing Lab at a cost of Rs.7.16 Crores and replacing of 13 Mobile Soil Testing Labs by new vans and strengthening of existing Soil Testing Laboratory at a cost of Rs.3.40 crores is contemplated under National Agricultural Development Programme. During 2006-07, 4.12 lakhs numbers of Soil Health Cards have been distributed. 5.06 lakhs numbers of Soil Health Cards have been distributed during 2007-08 till February 2008. During 2008-09, action will be taken to distribute 10 Lakh Soil Health Card to the farmers.
- 4.2.8.** 4,000 acres of **problem soils are reclaimed** every year in the districts of Nagapattinam, Tiruvarur, Vellore, Kancheepuram, Tiruvallur, Tiruvannamalai, Salem and Namakkal districts@ of 500 acres per district. Gypsum and Zinc Sulphate are supplied at 50% subsidy and Rs.1,000/- per acre is extended as

assistance to provide drainage facilities. This scheme will be continued during 2008-09.

**4.3 FERTILIZER SUPPLY** - Need based application of fertilizers is recommended to get maximum productivity and any excess (or) inadequate application will result in productivity loss. During 2007-08, considering the favourable situation for extensive cultivation, the Government has taken efforts to provide adequate quantity of quality fertilizers to the farmers in time. The availability of inorganic fertilizers like Urea, DAP and MOP are being monitored constantly by this department by enforcing FCO 1985. The progress on supply of chemical fertilizer during

2007-08 and programme for 2008-09 are as follows:-

(L.MT)

Nutrient	2007-08		2008-09 programme
	Target	Achmt. upto February 2008	
Nitrogen	5.55	4.70	5.55
Phosphorous	2.38	2.08	2.38
Potash	2.32	2.48	2.50
<b>Total</b>	<b>10.25</b>	<b>9.26</b>	<b>10.43</b>

During this year the availability and supply is monitored by Government of India through Fertilizer Monitoring System (FMS). This can easily be accessed in the public domain module in the Web site ([www.urvarak.co.in](http://www.urvarak.co.in)). During 2007-08 the supply of Urea, Potash was satisfactory and the demand of the farmers was well met. With regard to DAP, due to price escalation of raw materials like phosphoric acid, the production was stopped by some of the manufacturers. Adding to that there was reduction of import of DAP due to which there was acute shortage in all the states. In order to cater to the needs of the farmers of Tamil Nadu, earnest steps were taken and the Government of India was also approached for allocation of required DAP. The Hon'ble Chief Minister has also written to Government of India in this regard. With all these efforts Government of India has directed to constitute a state agency for purchasing DAP from the importers. Accordingly, the DAP is procured by TANFED and distributed through Primary Agricultural Co-operative Banks (PACBs). A sum of Rs.30.00 crores was released to TANFED by the State Government for giving advance payment to the importers like M/s. Indian Potash Limited & Rastriya Chemicals and Fertilizers. TANFED has purchased 75,266 MTs of DAP / MAP ( Mono Ammonium Phosphate) and distributed 66,000 MTs through Primary Agricultural Co-operative Banks. Due to this support extended by the State Government to TANFED, the demand of the farmers was fulfilled at appropriate time without missing the season.

Under Precision Farming, use of drip and fertigation is recommended extensively to increase the productivity. Since the cost of water soluble fertilizer is high, Government of India has been approached for extending the subsidy to water soluble fertilizers like other inorganic fertilizers.

**4.3.1 Quality Control on Fertilizers** - There are 14 Fertilizer Control Laboratories (FCL) functioning in the State with an analyzing capacity of 17,500 samples annually for enforcing quality control. During 2007-08, 16,654 Nos. of samples were analyzed till February 2008. It is proposed to establish 16 new Fertilizer Control Laboratories in the districts where there is no FCL at present utilizing the National Agricultural Development Programme funds. During 2008-09, 17,500 fertiliser samples will be analysed.

**4.4 Plant Protection** - Protecting the crops from pests and diseases is vital to get potential productivity of crops. Constant monitoring of pests and diseases through pest surveillance and adoption of Integrated Pest Management (IPM) technologies have brought down the

pesticide consumption to a considerable extent. The IPM concept is being promoted through Farmers' Field School wherein season long training has been extended to the farmers to

understand and adopt the technology. The major efforts taken for the management of pests and diseases are indicated below:-

- 10 Bio Control Agent Production Centres, 2 Integrated Pest Management Centres and 59 Parasite Breeding Centres functioning in the State to cover around one lakh hectare with bio control agents to control Internode Borer in Sugarcane, Black Headed Caterpillar and Rhinoceros Beetle in Coconut, Red Hairy Caterpillar and Prodenia in Groundnut.
- 590 nos. of Farmers' Field School for Paddy, 100 nos. of IPM demonstrations for Oilseeds, 200 nos. of IPM demonstrations for Pulses, 34 IPM demonstrations for Maize and 700 nos. of Farmers' Field School for Cotton are conducted and totally 48,720 farmers have been trained.
- Special programme to control Eriyophid mite in Coconut is programmed to be implemented with an outlay of Rs.2277.40 lakhs to cover 94.892 lakhs coconut trees.
- Bt. Cotton cultivation are popularized and largely adopted by the cotton growers to manage the problems of Boll Worms attack with in-built mechanism. 45% of the cotton area have been brought under Bt. Cotton during 2007-08. The State Level and District Level Bt. Cotton Monitoring Team have been constituted to assess the performance of the Bt. Cotton cultivated and tried in Tamil Nadu. Further, the National Level Pre release and Post release monitoring teams on Bt. Cotton have also been constituted to monitor the field trials with the experts drawn from Tamil Nadu Agricultural University and State Agriculture Department.

**4.4.1 Pesticide Testing Laboratory** - To ensure supply of quality pesticide to the farmers, 9 Pesticide Testing Laboratories are functioning at Kancheepuram, Cuddalore, Salem, Coimbatore, Erode, Thanjavur, Trichy, Madurai and Thoothukudi with an annual analyzing capacity of 14,700 samples. During 2007-08 six new Pesticide Testing Laboratories are established at Vellore, Dharmapuri, Nagapattinam, Theni, Sivaganga and Tirunelveli at a cost of Rs.300 lakhs. During 2008-09, 21,800 pesticide samples will be analysed.

#### **4.5 EXTENSION:**

**4.5.1 Restructuring of the Department** - As announced by the Hon'ble Minister for Agriculture in the assembly, the extension activities of the Department of Agriculture, Horticulture and Plantation Crops, Agricultural Marketing & Agri Business, Seed Certification and Organic Certification Departments have been integrated and brought under one roof, so as to offer integrated extension and inputs support to the farmers at block and village levels. The two tier system has been introduced by restructuring the Agriculture Department to provide technological assistance and subsidy to the farmers at one point. At block level one Assistant Director of Agriculture and one Assistant Director of Horticulture are positioned. There is great shift in scenario of agricultural department and focus on scientific cultivation gets priority to achieve considerable development in Agriculture and Horticulture. The input driven priorities of Green Revolution shifted towards scientific cultivation like precision farming, SRI cultivation, production and use of quality seeds and planting materials, tissue culture, soil health care, pit method of planting in Sugarcane, Bt. Cotton



cultivation with drip irrigation, etc. The restructuring of the department brings more number of technical officers to block / village level to educate and advise farmers on advance scientific method of cultivation to increase the productivity.

By restructuring the department, 509 Agricultural Officers / Horticultural Officers have been promoted as Assistant Directors of Agriculture / Assistant Directors of Horticulture, 512 Assistant Seed Officers have been promoted as Deputy Agricultural Officers and 512 Assistant Agricultural Officers promoted as Assistant Seed Officers. Besides, action is being taken to recruit 520 Agricultural Officers, 47 Horticultural Officers and 1707 Assistant Agricultural Officers to fill up the existing vacancies.

IT enabled extension activities are aimed at by providing computers upto block level with networking facilities linking Agriculture, Horticulture and Plantation Crops, Agricultural Engineering, Agricultural Marketing & Agri Business, Seed Certification and Organic Certification departments and also Tamil Nadu Agricultural University. Tamil Nadu is the first State at National level in providing such facilities to take up all the extension, input and scheme activities with agility. Under AGRISNET, it is planned to supply two computers with UPS, Printer, Web Camera and other accessories to each of the block besides supplying five computers with accessories to each of the district headquarters and State headquarters with a total outlay of Rs.8.31 crores. These computers will be supplied through ELCOT and online reporting can be done utilizing the TNSWAN facilities available at block level. Further, an amount of Rs.6.31 crores approved for this programme under National Agricultural Development Programme.

Consequent of the restructuring of the department the following programmes are approved under Part-II Scheme 2008-09.

- At block level the officers of Agriculture, Horticulture, Agricultural Marketing & Agri Business, Seed Certification and Organic Certification Departments have been positioned at the Agricultural Extension Centres. Out of 379 Agricultural Extension Centres, 77 Agricultural Extension Centres will be repaired at an outlay of Rs.291.50 lakhs including Lavatory facilities to 220 Agricultural Extension Centres.
- To provide furniture to the officers positioned at the Agricultural Extension Centres an amount of Rs.74.46 lakhs has been approved.
- Telephone connection will be provided to 265 Agricultural Extension Centres where there is no telephone connection at a cost of Rs.68.90 lakhs.

#### 4.6 FARMERS TRAINING CENTRES

There are 22 Farmers Training Centres functioning at Kancheepuram, Tindivanam, Vellore, Salem, Dharmapuri, Erode, Lalgudi, Kudumianmalai, Sakottai, Paramakudi, Palayamkottai, Nagercoil, Thiruvannamalai, Namakkal, Karur, Perambalur, Dindigul, Theni, Sivagangai, Virudhunagar, Tuticorin and Krishnagiri. Village based training and Peripatetic training are being conducted through Farmers Training Centre besides training to farmers

discussion groups. The details of training extended during 2007-08 are as follows.

S. No	Component	Unit	2007- 08			
			Physical (Nos.)		Financial (Rs.in Lakhs)	
			Target	Achmt.	Target	Achmt.

1.	Village Based Training	Nos.	484	448	10.36	8.763
2.	Conveners' Training	Nos.	220	202		
3.	Method Demonstration	Nos.	968	892		
4.	Peripatetic Training	Nos.	2420	2310		
<b>Total</b>					<b>10.36</b>	<b>8.763</b>

The programme for 2008-09 is as follows:-

S. No	Component	Unit	2008-09	
			Physical (Nos.)	Financial (Rs.in Lakhs)
			Target	Target
1.	Village Based Training	Nos.	484	10.36
2.	Conveners Training	Nos.	220	
3.	Method Demonstration	Nos.	968	
4.	Peripatetic Training	Nos.	2420	
<b>Total</b>				<b>10.36</b>

#### 4.7 STATE AGRICULTURAL MANAGEMENT INSTITUTE (STAMIN)

With the objective to provide Refresher training on technological development and managerial ability, training courses are conducted for the staff of Agriculture Department, Sister Departments, students and also NGOs at STAMIN, Kudumianmalai.

430 officers were trained in administration, management and computer with a financial expenditure of Rs.2.884 lakhs.

#### 4.8 NATIONAL AGRICULTURAL INSURANCE SCHEME (PROVISION OF 50% PREMIUM SUBSIDY TO NON-LOANEE AND LOANEE FARMERS)

During the year 2006-07, a sum of Rs.8 Crores have been sanctioned towards 50% premium subsidy to non-loanee and tenant farmers and an amount of Rs.1.16 crores has been spent. Totally Rs.8.241 crores have been extended to the farmers as compensation out of which compensation to the farmers of Sivagangai district is to the tune of Rs.4.86 crores towards the crop loss.

During 2007-08, an amount of Rs.15 crores was sanctioned by the Government to extend 50% subsidy on premium at Rs.10.00 crores for non-loanee farmers and Rs.5.00 crores for loanee farmers. The farmers have realized the benefit of the scheme and volunteered themselves to enroll under this scheme, especially in Ramanathapuram and Sivagangai districts where the high risk rainfed crops are cultivated. So far, an amount of Rs.8.97 crores has been spent towards 50% premium subsidy to loanee / non-loanee farmers till February 2008 and the scheme is in progress. During 2008-09, this scheme will be implemented to cover 25 lakh farmers with an outlay of Rs.40 crores.

#### 4.9 CROP YIELD COMPETITION

Crop Yield Competitions are conducted at the State level as well as at the District level to motivate the farmers to optimize crop yield through adoption of advanced scientific techniques in crops like paddy, groundnut, cholam, cumbu, greengram and blackgram.

Cash prizes are awarded to the farmers who have achieved the highest productivity as indicated below:-

(Rs.)

Crop	State Level		District Level	
	1 <sup>st</sup> place	2 <sup>nd</sup> place	1 <sup>st</sup> place	2 <sup>nd</sup> place
Paddy and groundnut	25000	15000	15000	10000
Other crops	15000	10000	10000	5000

The enrolment fee for paddy and groundnut crops for State level competition is Rs.100 and for other crops is Rs.50/-. Similarly, the enrolment fee for paddy and groundnut crops for District level competitions is Rs.50/- and for other crops it is Rs.25/-.

During 2007-08, this scheme is under implementation with the allocation Rs.14.05 Lakhs. This programme will be continued during 2008-09 also.

## **5 Centrally Sponsored Schemes -**

### **5.1 National Food Security Mission (NFSM)**

As decided by the National Development Council, in order to ensure food security and to meet the food demand during the Eleventh Plan (2007-12), the 'National Food Security Mission' programme has been launched from 2007-08 onwards for rice, wheat and pulses crops. The programme on rice and pulses have been taken up in Tamil Nadu. This mission aims at increasing the production of rice and pulses through increase in area and productivity on mission mode approach.

In Tamil Nadu, NFSM Rice scheme is implemented in 5 districts viz., Nagapattinam, Thiruvarur, Pudukottai, Ramanathapuram and Sivagangai.

The NFSM Pulses Scheme is implemented in 12 potential districts viz., Coimbatore, Cuddalore, Erode, Nagapattinam, Namakkal, Thiruvarur, Thiruvallur, Thoothukudi, Thiruvannamalai, Vellore, Villupuram and Virudhunagar.

To give fair price to the pulses produced during 2008-09, the Tamil Nadu Civil Supplies Corporation and Tamil Nadu Co-operative Marketing Federation will procure the pulses at the minimum support price fixed by the Central Government.

As per Government of India guidelines, the State Food Security Mission Executive Committee has been constituted under Chairmanship of Chief Secretary and District level committee headed by the district Collector. A Project management team at State level and district level headed by the Commissioner of Agriculture and the district Joint Directors of Agriculture have also been formed respectively for project preparation and to foresee the other activities of the programme. Tamil Nadu Watershed Development Agency (TAWDEVA) and Agriculture Technology Management Agency (ATMA) have been nominated as Nodal Agency to implement NFSM both at State and District level.

The programme on rice contemplates demonstration on improved technologies, SRI techniques and Hybrid rice cultivation besides extending subsidy for quality high Yielding varieties and Hybrid seed, Micro nutrients, distribution of conoweeder / other implements farmers' field school, Publicity etc. An amount of Rs.7.095 crores has been allotted by Government of India and the scheme is under implementation since December 2007.

Under NFSM Pulses, incentives for production and distribution of quality seeds, distribution of gypsum, micro nutrients, sprinkler sets and Integrated Pest Management demonstration and farmers' training are extended. The Government of India have allotted an amount of Rs.1.66 crores and the scheme is under implementation.

A state level Food Security Mission publicity Sub-Committee has been formed to give wide publicity about National Food Security Mission through various publicity media, pamphlets, leaflets, cultural programmes etc. An amount of Rs.25 lakhs has been sanctioned by Government of India for this purpose.

During 2008-09, this scheme will be implemented after getting higher allocation from Government of India.

## 5.2 National Agricultural Development Programme - Rashtriya Krishi Vikas Yojana (RKVY)

The National Development Council resolved that a special additional central assistance scheme namely **National Agricultural Development Programme - (RKVY)** be launched during 11<sup>th</sup> Five Year Plan to achieve 4% growth rate in agricultural sector. This programme provides greater flexibility and autonomy to the states to develop and pursue on the basis of their priorities through State and District agricultural plan. The objective of the scheme is to increase public investment in agriculture, reducing yield gap in key crops through focused interventions, maximize returns to the farmers and bringing quantifiable changes in the production and productivity of agriculture and allied sectors. The pattern of funding is 100% grant by Government of India. Among the other States, Tamil Nadu got the highest allocation of Rs.185.31 crores. The projects relating to Agriculture, Animal Husbandry, Dairy, Fisheries and also minor irrigation are focused under this programme.

During 2007-08, nine districts namely Coimbatore, Dharmapuri, Dindigul, Krishnagiri, Namakkal, Perambalur, Ramanathapuram, Salem and Villupuram have been identified as focused districts for implementing agricultural programmes. The programme on precision farming, establishment of 224 agri clinics with mini soil testing laboratories, distribution of machineries, establishment of automatic weather station in 224 blocks, land resources inventory and GIS data base for farm level planning in 10 blocks in 10 focussed districts, dryland development and popularization of minor millets in 40 blocks, promotion of organic manure production and organic farming by establishing municipal compost and bio inputs production units, strengthening quality seed production and distribution, development of 50 acre clusters of horticultural crops and bio mass tree plantation on dry lands will be taken up for agricultural development. The State Level Sanctioning Committee has approved the project and will be implemented shortly. During 2008-09, schemes will be prepared by District Planning Cell and implemented.

**5.3 Macro Management Mode** - The Macro Management Mode scheme is under implementation since the year 2000 and the expenses is shared by Government of India and State Government on 90:10 ratio. The various programmes implemented under Macro Management Mode Scheme are as follows:-

**5.3.1. Cereals Development Programme** - This programme aimed at to increase the productivity of rice with an intervention of distribution of quality seed supply, SRI technology demonstrations and farmers' training on cluster basis, Integrated Pest Management through Farmers' field

school and publicity. The componentwise details for 2007-08 are furnished below:-

S. No.	Components	Financial (Rs. In Lakhs)		Physical		
		Outlay	Utilisation	Unit	Target	Achmt.
1	Certified Paddy Seed Distribution with subsidy @ Rs.2/kg.	300.00	240.00	MT	15000	12000
2	Farmers Field School (FFS) for paddy @ Rs.17000/ Demn	100.30	99.28	Nos.	590	584
3	Contingency expenditure @ Rs.30,000/- per district	9.00	6.00			
4	Promotion of SRI Technology through	283.00	283.00	Clus- ters	1132	1132

	Technology through Cluster approach ( 10 ha each)			ters		
	<b>TOTAL</b>	<b>692.30</b>	<b>628.28</b>			

Action has been taken to implement this scheme as follows during 2008-09.

S. No.	Components	Unit	Target	Financial (Rs. in lakhs)
1.	Certified Paddy Seed Distribution with subsidy @ Rs.5/kg.	MT	12000	600.00
2.	Farmers Field School (FFS) for paddy @ Rs.17000/ Demn	Nos.	966	164.22
3.	Promotion of SRI Technology through Cluster approach (10 ha each) / Training	Clusters	3220	805.00
4.	Preseason campaign / Publicity			146.90
	<b>Total</b>			<b>1716.12</b>

**5.3.2. Balanced and Integrated Use of Fertilizers** - This scheme contemplates provision of analytical instruments for establishment of new Soil Testing Laboratories (STLS) and Pesticide Testing Laboratories (PTLS) purchase of atomic absorption spectrophotometer (AAS) for analysis of micro nutrients and the distribution of soil health card. Details of programme for the year 2007-08 is given below:-

S. No	Components	Financial (Rs. In Lakhs)		Physical		
		Outlay	Utili-sation	Unit	Tar.	Ach
a.	Purchase of Analytical instrument to establish new PTL in 6 districts @ Rs.50.00 lakhs per lab	300.000	300.00	Centres	6	6
b.	Purchase of Analytical instrument to establish new STL in 11 districts @ Rs.7.00 lakhs per lab	77.000	77.000	Centres	11	11
c.	Strengthening of MSTL through purchase of AAS @ Rs.10 lakhs per lab	80.000	80.000	No	8	8
d.	Printing of soil health card	10.000	10.000	Lakh Nos.	10	10
	<b>BIUF – Total</b>	<b>467.000</b>	<b>467.000</b>			

This scheme will be implemented during 2008-09.

**5.3.3. Farmers' Interest Groups** – The group based extension plays a major role in dissemination of latest technologies to the farmers and paves way for bottom up approach in planning and implementation of the scheme. So far 2,400 Farmer's Interest Groups have been formed for various crops including rained crops. These groups generate demand for new technologies for adoption in the village level besides, input requirement, information on market intelligence by following the participatory approaches. During 2007-08, 1200 new Farmers' Interest Groups are formed and activities for strengthening the existing Farmers' Interest Groups are also carried out through issue of Identify card, training and conduct of district level and state level meeting. The details of programme upto February 2008 are as follows:-

S. No.	Components	Financial upto Feb' 2008 (Rs. In Lakhs)		Physical		
		Outlay	Utilisation	Unit	Tar.	Ach.
a	Formation of New FIGs for Paddy, Millets, Pulses Cotton and Oilseeds (Rs.5000/- per group for office automation and library)	60.000	50.700	Group	1200	1154
b	Training to Farmers (Rs.4000/- per group)	48.000	40.000	Group	1200	1000
c	Issue of ID cards (Rs.400/- per group)	4.800	4.300	Group	1200	1075
d	District level meeting (Rs.20,000/- per meeting (60 participants per meeting)	14.800	10.000	Nos.	74	50
e	State Level Meeting (Rs.50000 per meeting)	2.000	0.500	Nos.	4	1
f	Contingency / Documentation / Communication (Rs.1500/- per group)	18.000	10.000	Group	1200	667
	<b>Total</b>	<b>147.600</b>	<b>115.500</b>			

During 2008-09, 1,000 Farmers Interest Groups will be formed at an outlay of Rs.176.80 lakhs.

**5.3.4. Tamil Nadu Women in Agri Business and Extension (TANWABE)** - This scheme is programmed for the empowerment of Farm Women socially, economically and technically by way of capacity building in farm and non-farm activities. During 2006-07, 7366 groups were trained in various entrepreneurial activities and imparted with the financial assistance of Rs.3500/- for each group. During 2007-08 this financial assistance has been enhanced to Rs.10,000/- for each group for 724 groups. So far 620 groups were extended with financial assistance at a total cost of Rs.62.00 lakhs.

During 2008-09, this scheme will be implemented by extending assistance to 4000 women groups @ Rs.10,000/- per group and training to start entrepreneurial activity at a cost of Rs.482.80 lakhs and distribution of farm machineries to 379 women groups at 25% subsidy with an allocation of Rs.113.70 lakhs.

**5.3.5. Training to Extension Staff** - As learning is a continuous process, the officers working in the department of agriculture need to be trained on latest technologies for disseminating among the officers and farmers. 150 master trainers and 1000 Agricultural Officers and 2500 Assistant Agricultural Officers are given training at a total cost of Rs.50.00 lakhs.

**5.4 Intensive Cotton Development Programme under Technology Mission** - The demand for cotton is high when compared to the present production level. Hence there is an urgent need to increase the yield level besides increase in area by adoption of new varieties / hybrid, training and Integrated Pest Management technologies. This scheme aims at fulfilling the above objective and implemented during 2007-08 with an outlay of Rs.525.03 lakhs with a sharing pattern of 75 : 25 ratio by Central and State Governments.

Distribution of quality seeds, seed treatment chemicals, pheromone traps, Bio-agents, Bio-pesticides, Plant Protection equipments, Bio fertilizers, Micro Nutrients, Drip and

Sprinkler system are the major components, besides training farmers through FFS and intercropping with pulses.

During 2008-09, this scheme will be continued with an outlay of Rs.537.18 lakhs.

**5.5 Integrated scheme for Oilseeds, Pulses, Oilpalm and Maize(ISOPOM)** From the year 2004-05 Government of India have launched an integrated scheme of Oilseeds, Pulses, Oilpalm and Maize by integrating different programmes such as Oilseeds Production Programme (OPP), National Pulses Development Programme (NPDP), Oilpalm Development Programme (OPDP) and Accelerated Maize Development Programme (AMDP) to provide flexibility and focussed approach for implementation of the programme. The expenditure is shared between Government of India and State at 75:25 basis.

Under this scheme, essential inputs like Seeds, Biofertilizers, Gypsum, Biopesticide, Plant Protection equipments are provided at subsidised rate to encourage farmers to adopt latest technologies to increase the production in Oilseeds, Pulses, Oilpalm and Maize.

The crop wise expenditure upto February 2008 is as follows:

(Rs. in Lakhs)

Crop	2007-08		
	Approved Outlay	Amount sanctioned so far based on the release by GOI	Achmt. upto Feb.2008
Oilseeds	1190.696	724.711	701.148
Pulses	681.688	360.379	358.394
Oilpalm	773.742	423.852	251.940
Maize	97.541	89.176	89.030
<b>Total</b>	<b>2743.667</b>	<b>1598.118</b>	<b>1400.512</b>

During 2008-09, this scheme will be implemented in clusters to achieve higher productivity.

#### 5.5.1 Oilpalm

To increase the oil production by cultivation of oilpalm, five entrepreneurs have signed a Memorandum of Understanding with Government to establish Oil Crushing Unit in the districts of Villupuram, Tirunelveli, Theni, Thoothukudi and Vellore. During 2007-08, Oilpalm has been cultivated in an extent of 1300 hectares upto February 2008. During 2008-09 this crop will be cultivated in an extent of 5000 hectares.

#### 5.6 Coconut Development Board Schemes (CDB)

Coconut Development Board scheme aims at improving productivity of coconut and to promote coconut based industries in Tamil Nadu through area expansion and technologies adoption. Subsidies are extended for establishment of private coconut nurseries, management of diseased palms and laying out demonstrations besides improving the soil status through organic manure units. The progress under this scheme during 2007-08 is as follows:-

S. No	Components	Physical		Financial (Rs. in lakhs)	
		Target	Achmt. (Feb' 08)	Target	Achmt. (Feb' 08)
1.	Integrated farming in Coconut holding for Productivity Improvement				
a)	Management of disease affected Palms	25766 Nos.	23674	64.42	59.185
b)	Laying out Demonstration	980 No.	850	171.50	148.750
c)	Organic Manure Unit	25 Nos.	25	5.00	5.00
2.	Production and Distribution of Tall X Dwarf Hybrid seedlings at Navlock	0.75 lakhs	0.44 lakhs	18.75	16.78
3.	Area Expansion	950 Ha.	364.05 Ha.	Directly implemented by CDB	
4.	Establishment of Regional Coconut Nursery – seedlings distribution	2.00 lakh	1.50 lakhs	80.74	62.00

Apart from the above, new projects have been approved by Coconut Development Board as detailed below and steps have been taken to implement the scheme early.

(Rs. in lakhs )

S.No.	Project	Cost
1.	Establishment of Product diversification of Coconut and strengthening of Farmers Training Centres (FTC)	41.35
2.	Control of Redpalm Weevil	5.00
3.	Conduct of Root Wilt Survey ( Initial and Post ) in 10 districts	8.00
4.	Control of Black headed Caterpillar	11.695
5.	Control of Eriyophid mite	2277.40

During 2008-09, this scheme will be implemented as follows:

	Component	Physical	Financial (Rs. in lakhs)
1.	Management of diseased Palms (Nos.)	50000	125.00
2.	Laying out of demonstration (Nos.)	1000	175.00
3.	Organic Manure Pit (Nos.)	25	5.00
4.	Production and distribution of Tall x Dwarf coconut seedlings at Navlock (Nos.)	75000	20.00
5.	Regional Coconut Nursery – Distribution of coconut seedlings (L.Nos.)	2.00	80.00

**5.7 Support to State Extension Programme for Extension Reforms through ATMA** – In order to involve farmers' groups in planning and implementation and empowering them to achieve best results in transfer of technology, a centrally sponsored scheme to support State Extension Reforms has been implemented in Tamil Nadu on Pilot basis in 9 districts covering 133 blocks through **Agricultural Technology Management Agency (ATMA)** with funding pattern of 90:10 between Government of India and State Government. In addition, the Government of India has accorded permission to extend the ATMA scheme to the remaining 19 districts covering remaining 248 blocks except Nilgiris and Chennai districts. TAWDEVA (Tamil Nadu Watershed Development Agency) has been nominated as State Nodal Agency for all 28 ATMA districts. Tamil Nadu Agricultural University, Coimbatore has been nominated as State Agricultural Management Extension Training Institute (SAMETI)

The pilot scheme of ATMA in 9 districts has been implemented from September 2006 after creation of administrative structure at Block level exclusively for ATMA represented by officials of all the departments, farmer representatives, women and NGO representatives.

Farmer representatives representing Agriculture and 9 line departments formulating block action plans to fulfill their local needs and farmer representatives at block level representing Farmer Advisory Committee is monitoring the implementation of Block Level ATMA activities

ATMA is fulfilling the needs of training, demonstrations, Farmer interest Group formation, Capacity Building and Revolving funds, Interstate and Inter-district exposure visits. The best performing farmers and the district ATMAs are felicitated with awards at Block, District and State Levels.



So far, 1575 trainings were conducted at village and district level, 4877 demonstrations were laid, 45 interstate and 77 inter district exposure visits were arranged, Out of 351 Commodity Interest Groups formed, training for capacity building for the empowerment of the members was conducted and 327 groups were disbursed with seed money / revolving funds. Nearly 28,200 farmers were directly benefited and more than 55,000 farmers were indirectly benefited. The Government of India released Rs.391.00 lakhs for the years 2005-07 out of which a sum of Rs.322.419 lakhs has been utilized.

During 2007-08, a sum of Rs.399.14 lakhs has been released for 9 ATMA districts and a sum of Rs.280.00 lakhs for the remaining 19 districts.

During 2008-09, this scheme will be implemented in 28 districts at a cost of Rs.2019.30 lakhs.

**5.8 Seed Village Scheme** - Seed is the vital input in Agriculture, which decides the production and productivity of crops. Major efforts have been taken in the supply of quality seeds to the farmers. The Government and private seed companies are contributing substantially in supply of quality seeds. However, the supply of quality seeds is not adequate to meet requirement especially under Pulses / Oil seeds.

Hence the farmers were trained on scientific method of seed production so as to improve quality of seeds produced by them in achieving 100% seed requirement. Hence Government of India have introduced a 'Seed Village Scheme' during 2006-07 with an aim to improve the quality of farmer saved seeds.

Under this Scheme, Foundation/Certified seed of Paddy, Oilseeds, Pulses are distributed with 50% subsidy to the farmers besides training. The progress is as follows:-

S. No.	Component	2007-08 ( upto February 2008)			
		Physical		Financial ( Rs. in lakhs )	
		Target	Achmt	Target	Achmt.
1	Distribution of Seeds (50% Subsidy) in MT.				
	a. Paddy	1500	1920	105.00	105.00
	b. Pulses	50	40	10.00	10.00
	c. Oil seeds	400	220	40.00	40.00
	<b>Total</b>	<b>1950</b>	<b>2160</b>	<b>155.00</b>	<b>155.00</b>
2	Training (in Nos.)				
	Paddy/ Pulses/Oilseeds	300	300	45.00	45.00
	<b>Grand Total</b>	--	--	<b>200.00</b>	<b>200.00</b>

Because of the efforts taken by the Government, the Government of India have released another Rs.2 crores for this scheme and the programme is being implemented.

This scheme will be continued during 2008-09.

**5.9 TN IAMWARM PROJECT - Irrigated Agriculture Modernization and Water Bodies Restoration and Management (IAMWARM) Project** in Tamil Nadu is being implemented with the assistance of World Bank over a period of six years (2007-08 to 2012-13) through water Resources organization (WRO) and Agricultural, Horticulture, Agricultural Engineering, Animal Husbandry and Fisheries along with Tamil Nadu Agricultural University.

The IAMWARM Project aims to improve the service delivery, productivity in irrigated agriculture with effective integrated water resource management in selected 63 sub basins in

Tamil Nadu. Activities like agricultural Intensification and diversification, enhancing market access and agri business opportunities, strengthening institutions and instruments dealing with water resource management thereby improving the conveyance efficiency are being practised in the project areas.

Regarding the activities connected with Agriculture Department, this project is implemented in 63 sub-basins with a projected cost of Rs.98 crores to achieve the goal of increased productivity of crops through effective management of water and land resources. Totally an area of 6.17 lakh hectares is programmed to be treated under this project during the plan period.

During 2007-08, the scheme is implemented in 9 sub-basins Varaganathi (Villupuram and Tiruvannamalai), Upper Vellar (Salem), Palar(Coimbatore & Erode), Aliyar (Coimbatore) South Vellar (Pudukottai & Trichy), Pambar (Pudukottai and Sivagangai), Kottakaraiyar (Sivagangai & Ramnad), Manimuthar (Sivagangai, Ramnad and Madurai), Arjunanathi (Virudhunagar) at a cost of Rs.4.52 crores for various activities like:-

1. Demonstration on various crops and organic farming
2. Distribution of critical inputs-like Bio-fertilizers, M.N. mixture, Gypsum, Blue Green Algae etc.
3. Distribution of Farm Implements like Hand operated Sprayers, Power Sprayers, Seed Drills and Green manure tramples and
4. Information,/Education and Communication activities (IEC) like Publicity and Capacity Building through training, exposure visits to farmers.

The progress made upto February 2008 are as follows:-

S. No.	Components	Physical		Financial (Rs. in lakhs)	
		Target	Achmt.	Target	Achmt.
1.a	Crop Demonstration (Ha)	13808	12835	202.178	175.951
1.b	Other Demonstration (No)	1192	960	118.583	93.802
	Total Demonstration	15000	13795	320.761	269.753
2	Input Distribution (Ha)	49068	44009	69.796	45.971
3	Agricultural Implements (No)	3461	2075	32.645	15.010
4	IEC Activities	--	--	23.000	15.519
5	IAMWARM CELL	--	--	6.000	1.877
	<b>Grand Total</b>			<b>452.205</b>	<b>348.130</b>

In 2008-09, it is proposed to implement the scheme in 16 Sub-basins, Poiney (Vellore), Koundinyanadi (Vellore), Ponnaiyar upto Krishnagiri( Krishnagiri), Swethanadhi (Salem, Namakkal and Perambalur), Anaivari Odai (Perambalur), Chinnar (Perambalur), Agniar (Thanjavur and Pudukottai), Ambuliyar (Thanjavur and Pudukottai), Upper Vaigai (Theni), Varattar-Nagalar (Theni), Nichabanadhi (Tirunelveli), Kalinagalar (Tirunelveli), Sindapalli-Uppodai (Virudhunagar),Sinkottaiyar (Virudhunagar), Upper Gundar (Madurai) and Therkar (Madurai).

The project cost of Rs.3.85 Crores for 25 Sub-basins is to be incurred during 2008-09 after getting approval from World Bank, for various activities like demonstration and Information Education and Communication components. The farmers through water user's association in the respective sub-basin are benefited under this scheme.

## DEPARTMENT OF SUGAR

### 1. Sugarcane

Sugar is one of the most essential commodity of our food. The farmers of Tamil Nadu are encouraged to cultivate sugarcane, which is normally cultivated in an area of 2.75 to 3.00 Lakh hectare. It constitutes about 2% of total cultivated area of the State. The average annual production of cane is 320 LMT. The productivity of sugarcane ranges from 95 MT/Ha to 105 MT/Ha. Tamil Nadu ranks first in productivity of sugarcane for the past several years.

During 2006-2007 crushing season the Cooperative, Public and Private Sector sugar Mills in Tamil Nadu had registered 3.03 lakh hectare of sugarcane and crushed 274.49 LMT of sugarcane. During 2007-2008 crushing season all the sugar mills in Tamil Nadu are expected to crush 255.08 LMT of cane from 2.89 lakh hectare of registered cane area.

The area registered, cane crushed, sugar produced and recovery percentage for the past five years in Tamil Nadu is given below:

Year	Area registered (Lakh Hectare)	Sugarcane crushed (LMT)	Sugar produced (LMT)	Recovery %
2003-04	1.40	92.80	9.20	9.92
2004-05	2.56	114.92	11.09	9.65
2005-06	2.97	231.46	21.38	9.24
2006-07	3.03	274.49	25.39	9.25
2007-08 (Estimate)	2.89	255.08	24.25	9.50

The water requirement of sugarcane crop is high and to sustain the production and productivity of sugarcane in the State, without reducing the food crops area, the Tamil Nadu Agricultural University has developed pit method of planting, wider row planting and fertigation through Drip irrigation technology for sugarcane crop. This technology proved to yield around 140 MTs of cane per hectare which is nearly 30-40% more over the present productivity level. Hence, the Government is keen in promoting the above technologies in clusters to achieve higher production in sugarcane.

### 2. Performance of sugar mills in Tamil Nadu

There are 40 sugar mills in Tamil Nadu comprising of 16 sugar mills in cooperative sector, 3 sugar mills in public sector and 21 sugar mills in private sector. Presently 37 sugar mills are functioning while 3 mills viz. Madurantakam Cooperative sugar mills, Madura sugars and Arunachalam sugar mills are not functioning. During the 2006-07 sugar season (from 1.10.2006 to 30.9.2007) 274.49 LMT of cane was crushed and 25.39 LMT of sugar was produced with an average recovery of 9.25%.

During 2007-08 crushing season all the sugar mills in Tamil Nadu, including those in private sector are estimated to crush 255.08 LMT of sugarcane and produce 24.25LMT of sugar with an average recovery of 9.50%.

During 2007-08 crushing season as on 29-02-2008, the Co-operative, Public and Private sector sugar mills in Tamil Nadu have crushed 90.17 LMT of cane and have produced 6.53 LMT of white sugar and 1.88 LMT of raw sugar with an average recovery of 9.33%.

### 3. Fixation of cane price and cane transport charges

The Government of India announced Statutory Minimum Price of Rs. 811.80 per MT of cane linked to 9.0% recovery with a premium of Rs. 9/- per MT for every 0.1% increase in recovery for the 2007-08 crushing season. The Government of Tamil Nadu announced State Advised Price of Rs. 1034/- per MT with an increase of Rs 222.20 over and above SMP linked to 9.0% recovery with a premium of Rs. 9/- per MT for every 0.1% increase in recovery. Besides, the entire cane transportation charges are borne by the Cooperative and Public sector sugar mills from 2006-07 sugar season onwards.

#### **4. Drip irrigation and fertigation through 50% subsidy**

Micro irrigation along with fertigation are laid out in pit method and paired row method of planting in sugarcane. By this method 40% water can be saved, besides increasing cane yield by 35 to 40 MTs per hectare. Hence, in order to encourage installation of Drip irrigation among the farmers during 2007-08 crushing season, an area of 20,000 hectare is proposed to be covered in Cooperative sugar mills and Public sector sugar mills with an outlay of Rs. 42 crores. 50% subsidy not exceeding Rs. 28,800/- per ha. will be given and the expenditure is shared between Centre and State at 80:20 ratio. About 12,000 cane growers will be benefited under this scheme.

#### **5. Guidelines for setting up of new sugar mills in Tamil Nadu**

Except few sugar mills, all the co-operative and public sector sugar mills in Tamil Nadu are producing only white sugar and when the sugar price falls the debt burden of the sugar mills increases. So it becomes impossible for the sugar mills to go for expansion, Co-generation, installation of distilleries and Ethanol production. The Banks and financial institutions do not come forward for grant of loans for mills failing to make profits. So it is essential for the Co-operative and Public sectors sugar mills to go for expansion, setting-up of Co-generation plant, modernization, establishment of distilleries and Ethanol plant to as to provide cane payment in time to the farmers.

Apart from production of white crystal sugar by the sugar mills, the Government has taken policy decision that the new sugar mills should have an integrated sugar complex comprising of Co-generation plant, Distilleries, Ethanol Plant and Bio-composting facility and hence issued Government Order fixing guidelines for setting up of new sugar mills in Tamil Nadu.

More over the sugar mills which want to start Co-generation plant should apply and get license from the Energy Department. Similarly the sugar mill which want to start Ethanol plant should get license from Prohibition and Excise Department.

The Statutory Minimum Price (SMP) cane payment should be made to the cane growers within the stipulated time of 14 days as per the Sugarcane (Control) Order 1966. The State Advised Price (SAP) announced shall be paid to the cane growers within a period of 3 months.

To increase the productivity of cane cultivation, the new sugar mills should establish of Bio-technology laboratory with Tissue Culture Plants Production facility. The mill should also produce Bio-pesticides and Bio-fertilizer. Re-cycling of press mud as value added manure like enriched press mud and Bio-compost has to be taken up by new mills.. The new sugar mills should ensure the supply of Pest & disease free quality seed material by adopting clean seed nursery programme. It should establish soil testing laboratory at mill level and prepare soil health card to the growers. Further, the mill would also develop cane area with micro irrigation and fertigation for the requirement of 100% capacity utilization of the new sugar mill within a span of 5 years and propagate of all agronomic practices for cane cultivation with effective monitoring system to control pest and diseases. The cane extension wing of the new sugar mills should develop a net work of demonstration plots, conduct frequent village meetings, crop seminar etc. and impart training to cane growers for transfer of latest technology. The entire transport cost from the field to the factory will be borne by the new sugar mills.

## **6. Cogeneration**

Tamil Nadu is the pioneer in the establishment of co-generation plants in sugar mills. Out of 21 Private Sector Sugar Mills, 18 Sugar Mills have already established co-generation plants to the total capacity of 366.60 MW. In Co-operative sector, 3 sugar mills viz., Cheyyar CSM, MRK CSM (Sethiathoppu) and Subramaniya Siva CSM (Harur) have co-generation plants with the total capacity of 20 MW. The erection of 29.60 MW co-generation plant at Sakthi Sugars, Sivagangai and 20.0 MW plant at E.I.D. Parry (I) Limited, Pettavaithalai is under progress. The Government of Tamil Nadu has decided to establish co-generation plants in all the 17 Co-operative and Public Sector Sugar Mills during 2008-09 at a cost of Rs.925 Crores through the Tamil Nadu Electricity Board and the proposed additional capacity would be to the tune of 185 MW.

The Government is taking efforts for establishing sugar complexes in a phased manner, consisting of co-generation and distillery units along with production of sugar to improve the financial viability of sugar industry.

## **7. Ethanol**

Based on the technology of producing Ethanol directly from cane juice, the Ethanol plants are being established in each of the Salem CSM and Amaravathy CSM, by utilizing their own funds at a cost of Rs.350 lakhs with a capacity of 30 KLPD.

Action is being taken for the establishment of Ethanol cum distillery plant at MRK CSM and Cheyyar CSM with a capacity of 45 KLPD, at a cost of Rs.36 crores each with the financial assistance of NCDC, Sugar Development Fund and farmers contribution.